

**MARVIN ELEVATE™ COLLECTION**

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ORDERING

Each product section offers product codes for ordering under each unit. Codes do not necessarily indicate product size. Metric millimeter measurements are in parentheses.

You'll notice four measurements for each window or door: masonry opening, rough opening, frame size and day light opening size. The masonry opening (MO) is for a home built with brick or stone; rough openings (RO) are for houses with wood, vinyl or metal siding. Frame size (FS) measures from edge to edge of the unit; Daylight Opening (DLO) indicates the dimensions of the total visible area in a single sash or panel.

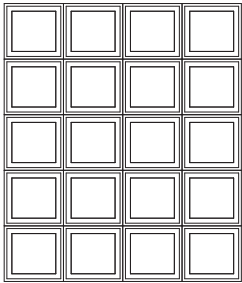
|                                                                    |                                                                                                |                                                                                                |                                                                                                |                                                                                                |                                                                                                  |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| MO (mm)                                                            | 2-0 1/2 (622)                                                                                  | 2-4 1/2 (724)                                                                                  | 2-8 1/2 (826)                                                                                  | 3-0 1/2 (927)                                                                                  | 4-0 1/2 (1232)                                                                                   |
| RO (mm)                                                            | 2-1 (635)                                                                                      | 2-5 (737)                                                                                      | 2-9 (838)                                                                                      | 3-1 (940)                                                                                      | 4-1 (1245)                                                                                       |
| FS (mm)                                                            | 2-0 (610)                                                                                      | 2-4 (711)                                                                                      | 2-8 (813)                                                                                      | 3-0 (914)                                                                                      | 4-0 (1219)                                                                                       |
| DLO (mm)                                                           | 1-6 25/32 (477)                                                                                | 1-10 25/32 (579)                                                                               | 2-2 25/32 (680)                                                                                | 2-6 25/32 (782)                                                                                | 3-6 25/32 (1087)                                                                                 |
| 1-7 3/8 (492)<br>1-7 5/8 (498)<br>1-7 1/8 (486)<br>1-1 29/32 (353) | <br>ELAWN2519 | <br>ELAWN2919 | <br>ELAWN3319 | <br>ELAWN3719 | <br>ELAWN4919 |

Mulling Options - A variety of factory mulled combinations are available.

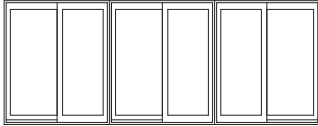
| Mulling Configurations                                | Maximum Overall Rough Opening not to exceed: | Maximum Units Wide by High |
|-------------------------------------------------------|----------------------------------------------|----------------------------|
| Casement / Awning<br>Picture / Transom / Direct Glaze | 113" (2870) X 71 5/8" (1819)                 | 7 Wide X 1 High            |
|                                                       | 85" (2159) X 94 3/4" (2407)                  | 4 Wide X 5 High            |
| Double Hung<br>Picture / Transom / Direct Glaze       | 113 1/2" (2883) X 76 1/4" (1936)             | 5 Wide X 1 High            |
|                                                       | 84" (2134) X 92" (2337)                      | 3 Wide X 5 High            |
| Glider<br>Picture / Transom / Direct Glaze            | 113 1/2" (2883) X 60 1/4" (1530)             | 3 Wide X 1 High            |

Field mulling kits available to create your own unique multiple assemblies. Please contact your local Marvin representative for more information.

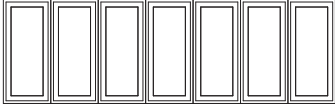
Examples of Possible Configurations



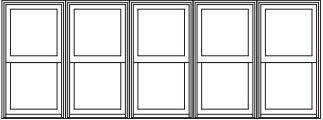
Casement Picture  
4 Wide 5 High



Glider  
3 Wide 1 High



Casement  
7 Wide 1 High

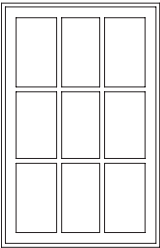


Double Hung  
5 Wide 1 High

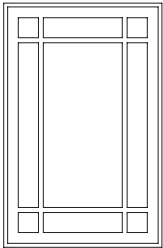
The information provided in this catalog has been gathered and assembled with every effort made to validate accuracy and consistency of the content. However, Marvin does not make any warranty or guarantee as to this information. Please verify critical product data in Marvin Order Management System (OMS) quotes and at the time of ordering.

LITE CUTS

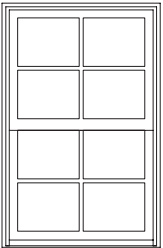
Windows



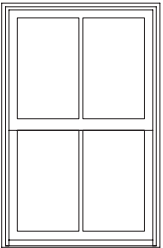
Rectangular  
Available as GBG and SDL\*



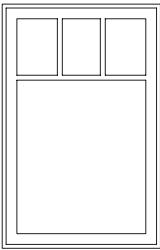
Prairie  
Available as GBG and SDL\*



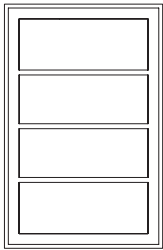
2w2h  
Available as GBG and SDL\*



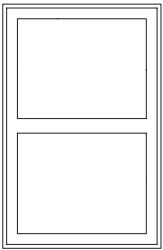
2w1h  
Available as GBG and SDL\*



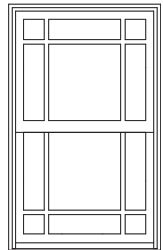
Cottage  
Available as GBG and SDL\*



Equal Lite  
Available as GBG and SDL\*

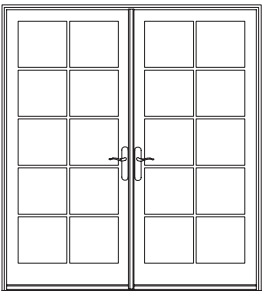


Simulated Checkrail  
Available as SDL\*\*

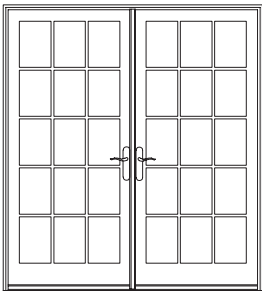


6 Lite Prairie  
Available as GBG and SDL\*

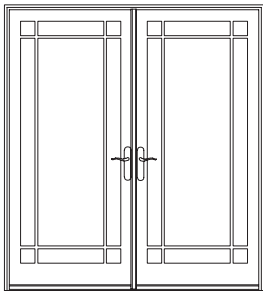
Doors



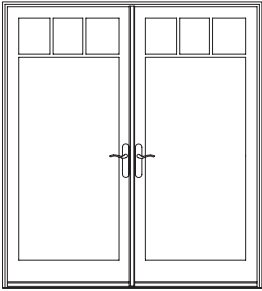
10/12 Lite  
One vertical bar per panel available as GBG and SDL\*



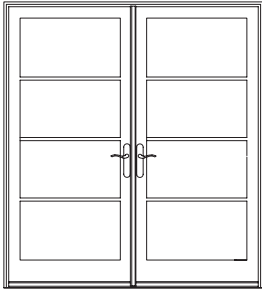
15/18 Lite  
Two vertical bars per panel available as GBG and SDL\*



Prairie  
Available as GBG and SDL\*



Cottage  
Available as GBG and SDL\*



Equal Lite  
Available as GBG and SDL\*

\* SDL available with or without Spacer Bar.  
\*\* 2 11/32" (59) Simulated Checkrail available with or without spacer bar. Compatible with SDL and SDL with spacer bar. Horizontal bar only. Vertical location can be specified. Available on Casement, Awning, Glider, Direct Glaze Rectangles and Double Hung Picture units.

Cottage lite cut not available on Double Hung.  
Equal lite allows for the number of horizontal and vertical lites to be specified for a custom appearance.  
Lite cuts are dependent on product type and size. Please consult your local Marvin representative for details and availability.

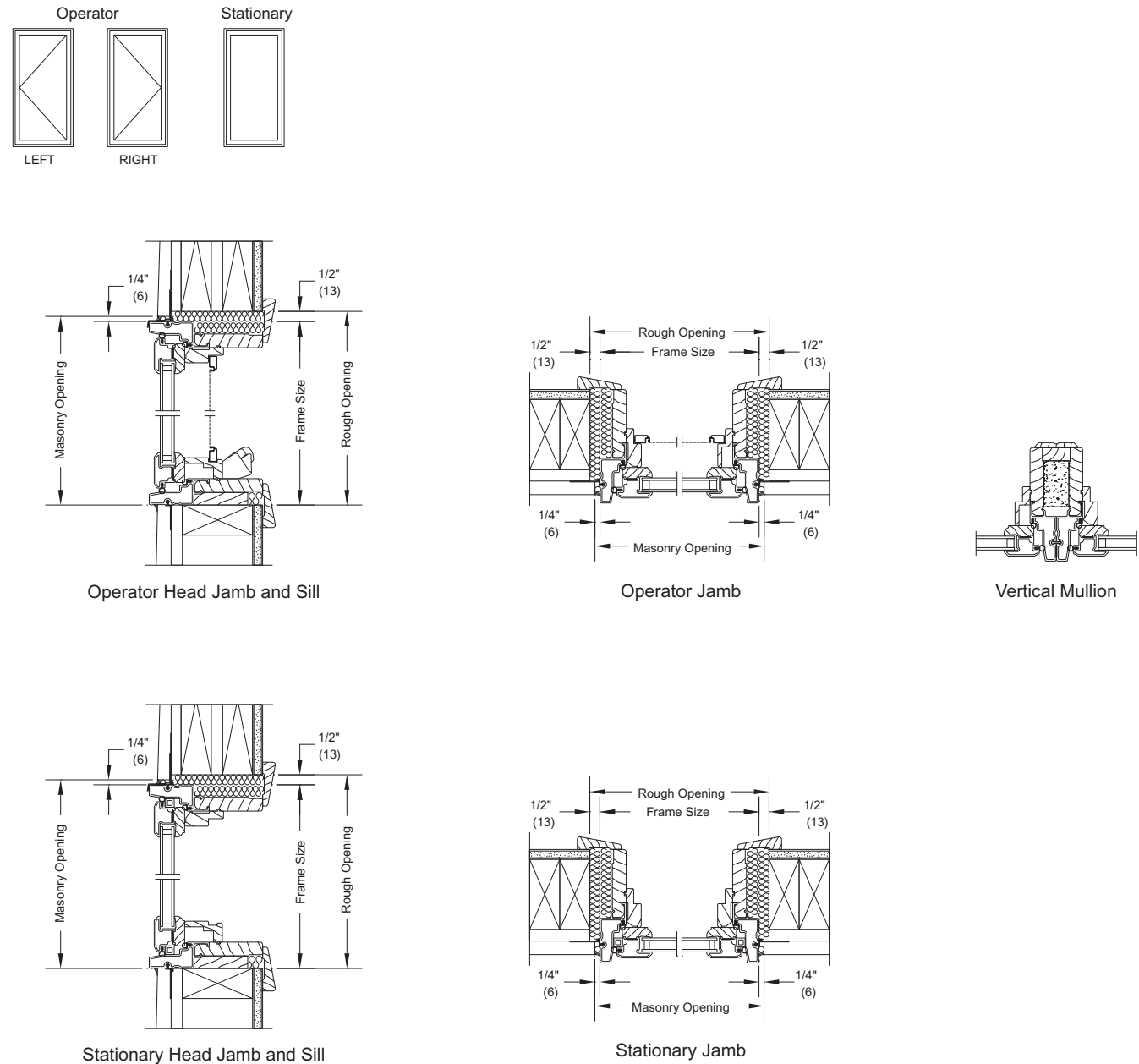
CASEMENT

| MO (mm)          | 1-4 1/2 (419)                                                                       | 1-8 1/2 (521)                                                                       | 2-0 1/2 (622)                                                                       | 2-4 1/2 (724)                                                                       | 2-8 1/2 (826)                                                                         | 3-0 1/2 (927)                                                                         |
|------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)          | 1-5 (432)                                                                           | 1-9 (533)                                                                           | 2-1 (635)                                                                           | 2-5 (737)                                                                           | 2-9 (838)                                                                             | 3-1 (940)                                                                             |
| FS (mm)          | 1-4 (406)                                                                           | 1-8 (508)                                                                           | 2-0 (610)                                                                           | 2-4 (711)                                                                           | 2-8 (813)                                                                             | 3-0 (914)                                                                             |
| DLO (mm)         | 0-10 25/32 (274)                                                                    | 1-2 25/32 (376)                                                                     | 1-6 25/32 (477)                                                                     | 1-10 25/32 (579)                                                                    | 2-2 25/32 (680)                                                                       | 2-6 25/32 (782)                                                                       |
| 2-7 3/8 (797)    |    |    |    |    |    |    |
| 2-7 5/8 (803)    | ELCA1731                                                                            | ELCA2131                                                                            | ELCA2531                                                                            | ELCA2931                                                                            | ELCA3331                                                                              | ELCA3731                                                                              |
| 2-11 3/8 (898)   |    |    |    |    |    |    |
| 2-11 5/8 (905)   | ELCA1735                                                                            | ELCA2135                                                                            | ELCA2535                                                                            | ELCA2935                                                                            | ELCA3335                                                                              | ELCA3735 E*                                                                           |
| 2-11 1/8 (892)   |    |    |    |    |    |    |
| 2-5 29/32 (760)  | ELCA1739                                                                            | ELCA2139                                                                            | ELCA2539                                                                            | ELCA2939                                                                            | ELCA3339                                                                              | ELCA3739 E*                                                                           |
| 3-3 3/8 (1000)   |    |    |    |    |    |    |
| 3-3 5/8 (1006)   | ELCA1743                                                                            | ELCA2143                                                                            | ELCA2543                                                                            | ELCA2943 E                                                                          | ELCA3343 E                                                                            | ELCA3743 E                                                                            |
| 3-3 1/8 (994)    |    |    |    |    |    |    |
| 2-9 29/32 (861)  | ELCA1747                                                                            | ELCA2147                                                                            | ELCA2547                                                                            | ELCA2947 E                                                                          | ELCA3347 E                                                                            | ELCA3747 E                                                                            |
| 3-7 1/2 (1105)   |    |    |    |    |    |    |
| 3-7 3/4 (1111)   | ELCA1755                                                                            | ELCA2155                                                                            | ELCA2555                                                                            | ELCA2955 E                                                                          | ELCA3355 E                                                                            | ELCA3755 E                                                                            |
| 3-7 1/4 (1099)   |  |  |  |  |  |  |
| 3-2 1/32 (966)   | ELCA1759                                                                            | ELCA2159                                                                            | ELCA2559                                                                            | ELCA2959 E                                                                          | ELCA3359 E                                                                            | ELCA3759 E                                                                            |
| 3-11 3/8 (1203)  |  |  |  |  |  |  |
| 3-11 5/8 (1210)  | ELCA1763                                                                            | ELCA2163                                                                            | ELCA2563                                                                            | ELCA2963 E                                                                          | ELCA3363 E                                                                            | ELCA3763 E                                                                            |
| 3-11 1/8 (1197)  |  |  |  |  |  |  |
| 3-5 29/32 (1065) | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 4-7 3/8 (1406)   |  |  |  |  |  |  |
| 4-7 5/8 (1413)   | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 4-7 1/8 (1400)   |  |  |  |  |  |  |
| 4-1 29/32 (1268) | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 4-11 3/8 (1508)  |  |  |  |  |  |  |
| 4-11 5/8 (1514)  | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 4-11 1/8 (1502)  |  |  |  |  |  |  |
| 4-5 29/32 (1369) | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 5-3 3/8 (1610)   |  |  |  |  |  |  |
| 5-3 5/8 (1616)   | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 5-3 1/8 (1603)   |  |  |  |  |  |  |
| 4-9 29/32 (1471) | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 5-11 3/8 (1813)  |  |  |  |  |  |  |
| 5-11 5/8 (1819)  | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |
| 5-11 1/8 (1807)  |  |  |  |  |  |  |
| 5-5 29/32 (1674) | ELCA1771 T                                                                          | ELCA2171 T                                                                          | ELCA2571 T                                                                          | ELCA2971 ET                                                                         | ELCA3371 ET                                                                           | ELCA3771 ET                                                                           |

CASEMENT

Construction Details

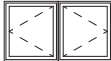
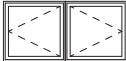
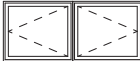
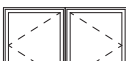
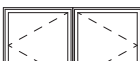
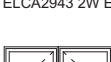
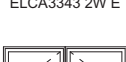
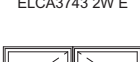
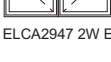
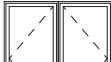
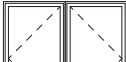
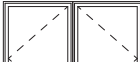
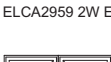
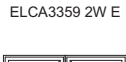
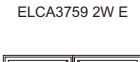
Casements available as an operator or stationary.  
L or R handing determined from exterior.



Details and Elevations not to scale.  
Special sized units available within product size matrix. See your Marvin retailer.  
E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.  
T = Standard Tempered  
Optional Casement GBGs and SDLs are available in a standard Rectangular cut shown.  
Other available lite cuts shown on page 3.  
\* 3735 and 3739 meet Egress if installed at proper height from floor.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

CASEMENT

2 Wide

| MO (mm)                                               | 2-8 1/2 (826)                                                                                        | 3-4 1/2 (1029)                                                                                       | 4-0 1/2 (1232)                                                                                       | 4-8 1/2 (1435)                                                                                        | 5-4 1/2 (1638)                                                                                          | 6-0 1/2 (1842)                                                                                          |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| RO (mm)                                               | 2-9 (838)                                                                                            | 3-5 (1041)                                                                                           | 4-1 (1245)                                                                                           | 4-9 (1448)                                                                                            | 5-5 (1651)                                                                                              | 6-1 (1854)                                                                                              |
| FS (mm)                                               | 2-8 (813)                                                                                            | 3-4 (1016)                                                                                           | 4-0 (1219)                                                                                           | 4-8 (1422)                                                                                            | 5-4 (1626)                                                                                              | 6-0 (1829)                                                                                              |
| 2-7 3/8 (797)<br>2-7 5/8 (803)<br>2-7 1/8 (791)       | <br>ELCA1731 2W     | <br>ELCA2131 2W     | <br>ELCA2531 2W     | <br>ELCA2931 2W      | <br>ELCA3331 2W      | <br>ELCA3731 2W      |
| 2-11 3/8 (898)<br>2-11 5/8 (905)<br>2-11 1/8 (892)    | <br>ELCA1735 2W     | <br>ELCA2135 2W     | <br>ELCA2535 2W     | <br>ELCA2935 2W      | <br>ELCA3335 2W      | <br>ELCA3735 2W E*   |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)     | <br>ELCA1739 2W     | <br>ELCA2139 2W     | <br>ELCA2539 2W     | <br>ELCA2939 2W      | <br>ELCA3339 2W      | <br>ELCA3739 2W E*   |
| 3-7 1/2 (1105)<br>3-7 3/4 (1111)<br>3-7 1/4 (1099)    | <br>ELCA1743 2W     | <br>ELCA2143 2W     | <br>ELCA2543 2W     | <br>ELCA2943 2W E    | <br>ELCA3343 2W E    | <br>ELCA3743 2W E    |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197) | <br>ELCA1747 2W     | <br>ELCA2147 2W     | <br>ELCA2547 2W     | <br>ELCA2947 2W E    | <br>ELCA3347 2W E    | <br>ELCA3747 2W E    |
| 4-7 3/8 (1406)<br>4-7 5/8 (1413)<br>4-7 1/8 (1400)    | <br>ELCA1755 2W     | <br>ELCA2155 2W     | <br>ELCA2555 2W     | <br>ELCA2955 2W E    | <br>ELCA3355 2W E    | <br>ELCA3755 2W E    |
| 4-11 3/8 (1508)<br>4-11 5/8 (1514)<br>4-11 1/8 (1502) | <br>ELCA1759 2W    | <br>ELCA2159 2W    | <br>ELCA2559 2W    | <br>ELCA2959 2W E   | <br>ELCA3359 2W E   | <br>ELCA3759 2W E   |
| 5-3 3/8 (1610)<br>5-3 5/8 (1616)<br>5-3 1/8 (1603)    | <br>ELCA1763 2W   | <br>ELCA2163 2W   | <br>ELCA2563 2W   | <br>ELCA2963 2W E  | <br>ELCA3363 2W E  | <br>ELCA3763 2W E  |
| 5-11 3/8 (1813)<br>5-11 5/8 (1819)<br>5-11 1/8 (1807) | <br>ELCA1771 2W T | <br>ELCA2171 2W T | <br>ELCA2571 2W T | <br>ELCA2971 2W ET | <br>ELCA3371 2W ET | <br>ELCA3771 2W ET |

Details and Elevations not to scale.

Special sized units available within product size matrix. See your Marvin retailer.

E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

T = Standard Tempered

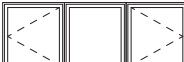
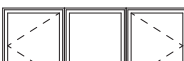
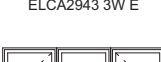
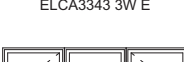
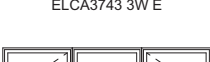
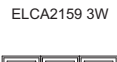
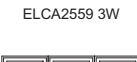
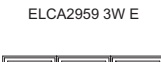
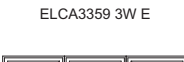
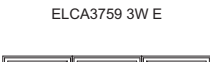
\* 3735 and 3739 meet Egress if installed at proper height from floor.

Any unit in these combinations can be operating or stationary. Operating sash are viewed from the exterior.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

CASEMENT

3 Wide

| MO (mm)                                               | 4-0 1/2 (1232)                                                                                         | 5-0 1/2 (1537)                                                                                         | 6-0 1/2 (1842)                                                                                         | 7-0 1/2 (2146)                                                                                          | 8-0 1/2 (2451)                                                                                          | 9-0 1/2 (2756)                                                                                          |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| RO (mm)                                               | 4-1 (1245)                                                                                             | 5-1 (1549)                                                                                             | 6-1 (1854)                                                                                             | 7-1 (2159)                                                                                              | 8-1 (2464)                                                                                              | 9-1 (2769)                                                                                              |
| FS (mm)                                               | 4-0 (1219)                                                                                             | 5-0 (1524)                                                                                             | 6-0 (1829)                                                                                             | 7-0 (2134)                                                                                              | 8-0 (2438)                                                                                              | 9-0 (2743)                                                                                              |
| 2-7 3/8 (797)<br>2-7 5/8 (803)<br>2-7 1/8 (791)       | <br>ELCA1731 3W     | <br>ELCA2131 3W     | <br>ELCA2531 3W     | <br>ELCA2931 3W      | <br>ELCA3331 3W      | <br>ELCA3731 3W      |
| 2-11 3/8 (898)<br>2-11 5/8 (905)<br>2-11 1/8 (892)    | <br>ELCA1735 3W     | <br>ELCA2135 3W     | <br>ELCA2535 3W     | <br>ELCA2935 3W      | <br>ELCA3335 3W      | <br>ELCA3735 3W E*   |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)     | <br>ELCA1739 3W     | <br>ELCA2139 3W     | <br>ELCA2539 3W     | <br>ELCA2939 3W      | <br>ELCA3339 3W      | <br>ELCA3739 3W E*   |
| 3-7 1/2 (1105)<br>3-7 3/4 (1111)<br>3-7 1/4 (1099)    | <br>ELCA1743 3W     | <br>ELCA2143 3W     | <br>ELCA2543 3W     | <br>ELCA2943 3W E    | <br>ELCA3343 3W E    | <br>ELCA3743 3W E    |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197) | <br>ELCA1747 3W     | <br>ELCA2147 3W     | <br>ELCA2547 3W     | <br>ELCA2947 3W E    | <br>ELCA3347 3W E    | <br>ELCA3747 3W E    |
| 4-7 3/8 (1406)<br>4-7 5/8 (1413)<br>4-7 1/8 (1400)    | <br>ELCA1755 3W     | <br>ELCA2155 3W     | <br>ELCA2555 3W     | <br>ELCA2955 3W E    | <br>ELCA3355 3W E    | <br>ELCA3755 3W E    |
| 4-11 3/8 (1508)<br>4-11 5/8 (1514)<br>4-11 1/8 (1502) | <br>ELCA1759 3W    | <br>ELCA2159 3W    | <br>ELCA2559 3W    | <br>ELCA2959 3W E   | <br>ELCA3359 3W E   | <br>ELCA3759 3W E   |
| 5-3 3/8 (1610)<br>5-3 5/8 (1616)<br>5-3 1/8 (1603)    | <br>ELCA1763 3W   | <br>ELCA2163 3W   | <br>ELCA2563 3W   | <br>ELCA2963 3W E  | <br>ELCA3363 3W E  | <br>ELCA3763 3W E  |
| 5-11 3/8 (1813)<br>5-11 5/8 (1819)<br>5-11 1/8 (1807) | <br>ELCA1771 3W T | <br>ELCA2171 3W T | <br>ELCA2571 3W T | <br>ELCA2971 3W ET | <br>ELCA3371 3W ET | <br>ELCA3771 3W ET |

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullled.

MAXIMUM ROUGH OPENING not to exceed 113" x 71 5/8"

Maximum up to 7 units wide by 1 unit high.

MAXIMUM ROUGH OPENING not to exceed 85" x 94 3/4"

Maximum up to 4 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

4 Wide

| MO (mm)         | 5-4 1/2 (1638) |  | 6-8 1/2 (2045) |  | 8-0 1/2 (2451) |  | 9-4 1/2 (2858) |  |
|-----------------|----------------|--|----------------|--|----------------|--|----------------|--|
| RO (mm)         | 5-5 (1651)     |  | 6-9 (2057)     |  | 8-1 (2464)     |  | 9-5 (2870)     |  |
| FS (mm)         | 5-4 (1626)     |  | 6-8 (2032)     |  | 8-0 (2438)     |  | 9-4 (2845)     |  |
| 2-7 3/8 (797)   |                |  |                |  |                |  |                |  |
| 2-7 5/8 (803)   | ELCA1731 4W    |  | ELCA2131 4W    |  | ELCA2531 4W    |  | ELCA2931 4W    |  |
| 2-7 7/8 (791)   |                |  |                |  |                |  |                |  |
| 2-11 3/8 (898)  | ELCA1735 4W    |  | ELCA2135 4W    |  | ELCA2535 4W    |  | ELCA2935 4W    |  |
| 2-11 5/8 (905)  |                |  |                |  |                |  |                |  |
| 2-11 7/8 (892)  | ELCA1739 4W    |  | ELCA2139 4W    |  | ELCA2539 4W    |  | ELCA2939 4W    |  |
| 3-3 3/8 (1000)  |                |  |                |  |                |  |                |  |
| 3-3 5/8 (1006)  | ELCA1739 4W    |  | ELCA2139 4W    |  | ELCA2539 4W    |  | ELCA2939 4W    |  |
| 3-3 7/8 (994)   |                |  |                |  |                |  |                |  |
| 3-7 1/2 (1105)  | ELCA1743 4W    |  | ELCA2143 4W    |  | ELCA2543 4W    |  | ELCA2943 4W E  |  |
| 3-7 3/4 (1111)  |                |  |                |  |                |  |                |  |
| 3-7 1/4 (1099)  | ELCA1747 4W    |  | ELCA2147 4W    |  | ELCA2547 4W    |  | ELCA2947 4W E  |  |
| 3-11 3/8 (1203) |                |  |                |  |                |  |                |  |
| 3-11 5/8 (1210) | ELCA1747 4W    |  | ELCA2147 4W    |  | ELCA2547 4W    |  | ELCA2947 4W E  |  |
| 3-11 1/8 (1197) |                |  |                |  |                |  |                |  |
| 4-1 1/2 (1105)  | ELCA1755 4W    |  | ELCA2155 4W    |  | ELCA2555 4W    |  | ELCA2955 4W E  |  |
| 4-7 5/8 (1413)  |                |  |                |  |                |  |                |  |
| 4-7 7/8 (1400)  | ELCA1759 4W    |  | ELCA2159 4W    |  | ELCA2559 4W    |  | ELCA2959 4W E  |  |
| 4-11 3/8 (1508) |                |  |                |  |                |  |                |  |
| 4-11 5/8 (1514) | ELCA1763 4W    |  | ELCA2163 4W    |  | ELCA2563 4W    |  | ELCA2963 4W E  |  |
| 4-11 7/8 (1502) |                |  |                |  |                |  |                |  |
| 4-11 1/8 (1502) | ELCA1759 4W    |  | ELCA2159 4W    |  | ELCA2559 4W    |  | ELCA2959 4W E  |  |
| 5-3 3/8 (1610)  |                |  |                |  |                |  |                |  |
| 5-3 5/8 (1616)  | ELCA1763 4W    |  | ELCA2163 4W    |  | ELCA2563 4W    |  | ELCA2963 4W E  |  |
| 5-3 7/8 (1603)  |                |  |                |  |                |  |                |  |
| 5-11 3/8 (1813) | ELCA1771 4W T  |  | ELCA2171 4W T  |  | ELCA2571 4W T  |  | ELCA2971 4W ET |  |
| 5-11 5/8 (1819) |                |  |                |  |                |  |                |  |
| 5-11 7/8 (1807) | ELCA1771 4W T  |  | ELCA2171 4W T  |  | ELCA2571 4W T  |  | ELCA2971 4W ET |  |

Details and Elevations not to scale.

Special sized units available within product size matrix. See your Marvin retailer.

E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

T = Standard Tempered

Any unit in these combinations can be operating or stationary. Operating sash are viewed from the exterior.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mulled.

MAXIMUM ROUGH OPENING not to exceed 113" x 71 5/8"

Maximum up to 7 units wide by 1 unit high.

MAXIMUM ROUGH OPENING not to exceed 85" x 94 3/4"

Maximum up to 4 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

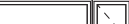
Please consult your local Marvin representative for more information.

CASEMENT PICTURE

| MO (mm)          | 1-4 1/2 (419)    | 1-8 1/2 (521)   | 2-0 1/2 (622)   | 2-4 1/2 (724)    | 2-8 1/2 (826)   | 3-0 1/2 (927)   | 3-4 1/2 (1029)   | 4-0 1/2 (1232)   | 4-8 1/2 (1435)   | 6-0 1/2 (1842)   |
|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| RO (mm)          | 1-5 (432)        | 1-9 (533)       | 2-1 (635)       | 2-5 (737)        | 2-9 (838)       | 3-1 (940)       | 3-5 (1041)       | 4-1 (1245)       | 4-9 (1448)       | 6-1 (1854)       |
| FS (mm)          | 1-4 (406)        | 1-8 (508)       | 2-0 (610)       | 2-4 (711)        | 2-8 (813)       | 3-0 (914)       | 3-4 (1016)       | 4-0 (1219)       | 4-8 (1422)       | 6-0 (1829)       |
| DLO (mm)         | 0-10 25/32 (274) | 1-2 25/32 (376) | 1-6 25/32 (477) | 1-10 25/32 (579) | 2-2 25/32 (680) | 2-6 25/32 (782) | 2-10 25/32 (884) | 3-6 25/32 (1087) | 4-2 25/32 (1290) | 5-6 25/32 (1696) |
| 1-7 3/8 (492)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 1-7 5/8 (498)    | ELCAP1719        | ELCAP2119       | ELCAP2519       | ELCAP2919        | ELCAP3319       | ELCAP3719       | ELCAP4119        | ELCAP4919        | ELCAP5719        | ELCAP7319        |
| 1-11 3/8 (594)   |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 1-11 5/8 (600)   | ELCAP1723        | ELCAP2123       | ELCAP2523       | ELCAP2923        | ELCAP3323       | ELCAP3723       | ELCAP4123        | ELCAP4923        | ELCAP5723        | ELCAP7323        |
| 1-11 7/8 (587)   |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 1-11 1/8 (587)   | ELCAP1727        | ELCAP2127       | ELCAP2527       | ELCAP2927        | ELCAP3327       | ELCAP3727       | ELCAP4127        | ELCAP4927        | ELCAP5727        | ELCAP7327        |
| 1-5 29/32 (455)  |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 1-5 29/32 (455)  | ELCAP1731        | ELCAP2131       | ELCAP2531       | ELCAP2931        | ELCAP3331       | ELCAP3731       | ELCAP4131        | ELCAP4931        | ELCAP5731        | ELCAP7331        |
| 2-3 3/8 (695)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 5/8 (702)    | ELCAP1735        | ELCAP2135       | ELCAP2535       | ELCAP2935        | ELCAP3335       | ELCAP3735       | ELCAP4135        | ELCAP4935        | ELCAP5735        | ELCAP7335        |
| 2-3 1/8 (689)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 1/8 (689)    | ELCAP1739        | ELCAP2139       | ELCAP2539       | ELCAP2939        | ELCAP3339       | ELCAP3739       | ELCAP4139        | ELCAP4939        | ELCAP5739        | ELCAP7339        |
| 2-3 5/8 (702)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 5/8 (702)    | ELCAP1743        | ELCAP2143       | ELCAP2543       | ELCAP2943        | ELCAP3343       | ELCAP3743       | ELCAP4143        | ELCAP4943        | ELCAP5743        | ELCAP7343        |
| 2-3 1/8 (689)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 1/8 (689)    | ELCAP1747        | ELCAP2147       | ELCAP2547       | ELCAP2947        | ELCAP3347       | ELCAP3747       | ELCAP4147        | ELCAP4947        | ELCAP5747        | ELCAP7347        |
| 2-3 5/8 (702)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 5/8 (702)    | ELCAP1755        | ELCAP2155       | ELCAP2555       | ELCAP2955        | ELCAP3355       | ELCAP3755       | ELCAP4155        | ELCAP4955        | ELCAP5755        | ELCAP7355        |
| 2-3 1/8 (689)    |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 2-3 1/8 (689)    | ELCAP1759        | ELCAP2159       | ELCAP2559       | ELCAP2959        | ELCAP3359       | ELCAP3759       | ELCAP4159        | ELCAP4959        | ELCAP5759        | ELCAP7359 T      |
| 4-1 29/32 (1268) |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 4-1 29/32 (1268) | ELCAP1763        | ELCAP2163       | ELCAP2563       | ELCAP2963        | ELCAP3363       | ELCAP3763       | ELCAP4163        | ELCAP4963        | ELCAP5763        |                  |
| 4-1 29/32 (1268) |                  |                 |                 |                  |                 |                 |                  |                  |                  |                  |
| 4-1 29/32 (1268) | ELCAP1771 T      | ELCAP2171 T     | ELCAP2557 T     | ELCAP2971 T      | ELCAP3371 T     | ELCAP3771 T     | ELCAP4171 T      | ELCAP4971 T      | ELCAP5771 T      |                  |

| MO (mm)                                                            | 1-4 1/2 (419)                                                                     | 1-8 1/2 (521)                                                                     | 2-0 1/2 (622)                                                                     | 2-4 1/2 (724)                                                                     | 2-8 1/2 (826)                                                                     | 3-0 1/2 (927)                                                                     | 3-4 1/2 (1029)                                                                    | 4-0 1/2 (1232)                                                                      | 4-8 1/2 (1435)                                                                      | 6-0 1/2 (1842)                                                                      |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| RO (mm)                                                            | 1-5 (432)                                                                         | 1-9 (533)                                                                         | 2-1 (635)                                                                         | 2-5 (737)                                                                         | 2-9 (838)                                                                         | 3-1 (940)                                                                         | 3-5 (1041)                                                                        | 4-1 (1245)                                                                          | 4-9 (1448)                                                                          | 6-1 (1854)                                                                          |
| FS (mm)                                                            | 1-4 (406)                                                                         | 1-8 (508)                                                                         | 2-0 (610)                                                                         | 2-4 (711)                                                                         | 2-8 (813)                                                                         | 3-0 (914)                                                                         | 3-4 (1016)                                                                        | 4-0 (1219)                                                                          | 4-8 (1422)                                                                          | 6-0 (1829)                                                                          |
| DLO (mm)                                                           | 0-10 25/32 (274)                                                                  | 1-2 25/32 (376)                                                                   | 1-6 25/32 (477)                                                                   | 1-10 25/32 (579)                                                                  | 2-2 25/32 (680)                                                                   | 2-6 25/32 (782)                                                                   | 2-10 25/32 (884)                                                                  | 3-6 25/32 (1087)                                                                    | 4-2 25/32 (1290)                                                                    | 5-6 25/32 (1696)                                                                    |
| 1-4 (406)<br>1-4 1/4 (413)<br>1-3 3/4 (400)<br>0-10 17/32 (268)    |  |  |  |  |  |  |  |  |  |  |
| 1-7 3/8 (492)<br>1-7 5/8 (498)<br>1-7 1/8 (486)<br>1-1 29/32 (353) |  |  |  |  |  |  |  |  |  |  |

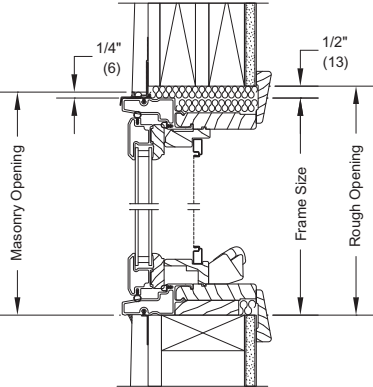
Multiple Assemblies/Casement  
Flankers with Center Picture

| MO (mm)                                               | 8-0 1/2 (2451)                                                                                                                                                                                                                                              |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RO (mm)                                               | 8-1 (2464)                                                                                                                                                                                                                                                  |
| FS (mm)                                               | 8-0 (2438)                                                                                                                                                                                                                                                  |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)     |          |
| 3-7 1/2 (1105)<br>3-7 3/4 (1111)<br>3-7 1/4 (1099)    |          |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197) |    |
| 4-7 3/8 (1406)<br>4-7 5/8 (1413)<br>4-7 1/8 (1400)    |    |
| 4-11 3/8 (1508)<br>4-11 5/8 (1514)<br>4-11 1/8 (1502) |    |

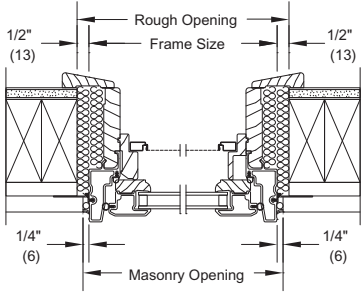
Direct Glaze

| MO (mm)                                                       | 6-0 1/2 (1842)                                                                     |
|---------------------------------------------------------------|------------------------------------------------------------------------------------|
| RO (mm)                                                       | 6-1 (1854)                                                                         |
| FS (mm)                                                       | 6-0 (1829)                                                                         |
| DLO (mm)                                                      | 5-8 1/16 (1729)                                                                    |
| 1-4 (406)<br>1-4 1/4 (413)<br>1-3 3/4 (400)<br>0-11 5/8 (295) |  |

Construction Details



Operator Head Jamb and Sill



Operator Jamb

Details and Elevations not to scale.  
Special sized units available within product size matrix. See your Marvin retailer.  
Optional picture GBGs and SDLs are available in a standard Rectangular cut shown.  
Also available in Prairie lite cuts shown on page 3.  
Any ELCA unit in these combinations can be operating or stationary. Operating sash are viewed from the exterior.  
Unequal lite cuts on Direct Glaze. GBG and SDL in an ELDG 7316 will line up over a 25-3W ELCA only.  
Direct Glaze Rectangles also available, see Direct Glaze, pages 47 and 48.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

AWNING

| MO (mm)                                                                   | 2-0 1/2 (622)                                                                         | 2-4 1/2 (724)                                                                         | 2-8 1/2 (826)                                                                         | 3-0 1/2 (927)                                                                         | 3-4 1/2 (1029)                                                                        | 4-0 1/2 (1232)                                                                        |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)                                                                   | 2-1 (635)                                                                             | 2-5 (737)                                                                             | 2-9 (838)                                                                             | 3-1 (940)                                                                             | 3-5 (1041)                                                                            | 4-1 (1245)                                                                            |
| FS (mm)                                                                   | 2-0 (610)                                                                             | 2-4 (711)                                                                             | 2-8 (813)                                                                             | 3-0 (914)                                                                             | 3-4 (1016)                                                                            | 4-0 (1219)                                                                            |
| DLO (mm)                                                                  | 1-6 25/32 (477)                                                                       | 1-10 25/32 (579)                                                                      | 2-2 25/32 (680)                                                                       | 2-6 25/32 (782)                                                                       | 2-10 25/32 (884)                                                                      | 3-6 25/32 (1087)                                                                      |
| 1-7 3/8 (492)<br>1-7 5/8 (498)<br>1-7 1/8 (486)<br>1-1 29/32 (353)        |    |    |    |    |    |    |
| 1-11 3/8 (594)<br>1-11 5/8 (600)<br>1-11 1/8 (587)<br>1-5 29/32 (455)     |    |    |    |    |    |    |
| 2-3 3/8 (695)<br>2-3 5/8 (702)<br>2-3 1/8 (689)<br>1-9 29/32 (657)        |    |    |    |    |    |    |
| 2-11 3/8 (699)<br>2-11 5/8 (705)<br>2-11 1/8 (692)<br>2-5 29/32 (760)     |    |    |    |    |    |    |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)<br>2-9 29/32 (861)      |  |  |  |  |  |  |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197)<br>3-5 29/32 (1065) |  |  |  |  |  |  |

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullied.  
MAXIMUM ROUGH OPENING not to exceed 113" x 71 5/8"  
Maximum up to 7 units wide by 1 unit high.  
MAXIMUM ROUGH OPENING not to exceed 85" x 94 3/4"  
Maximum up to 4 units wide by 5 units high.  
Field mull kits are available. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

AWNING

2 Wide

| MO (mm)                                               | 4-0 1/2 (1232)                                                                                      | 4-8 1/2 (1435)                                                                                      | 5-4 1/2 (1638)                                                                                      | 6-0 1/2 (1842)                                                                                      | 6-8 1/2 (2057)                                                                                       | 8-0 1/2 (2451)                                                                                        |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| RO (mm)                                               | 4-1 (1245)                                                                                          | 4-9 (1448)                                                                                          | 5-5 (1651)                                                                                          | 6-1 (1854)                                                                                          | 6-9 (2051)                                                                                           | 8-1 (2464)                                                                                            |
| FS (mm)                                               | 4-0 (1219)                                                                                          | 4-8 (1422)                                                                                          | 5-4 (1626)                                                                                          | 6-0 (1829)                                                                                          | 6-8 (2032)                                                                                           | 8-0 (2438)                                                                                            |
| 1-7 3/8 (492)<br>1-7 5/8 (498)<br>1-7 1/8 (486)       | <br>ELAWN2519 2W   | <br>ELAWN2919 2W   | <br>ELAWN3319 2W   | <br>ELAWN3719 2W   | <br>ELAWN4119 2W   | <br>ELAWN4919 2W   |
| 1-11 3/8 (594)<br>1-11 5/8 (600)<br>1-11 1/8 (587)    | <br>ELAWN2523 2W   | <br>ELAWN2923 2W   | <br>ELAWN3323 2W   | <br>ELAWN3723 2W   | <br>ELAWN4123 2W   | <br>ELAWN4923 2W   |
| 2-3 3/8 (695)<br>2-3 5/8 (702)<br>2-3 1/8 (689)       | <br>ELAWN2527 2W   | <br>ELAWN2927 2W   | <br>ELAWN3327 2W   | <br>ELAWN3727 2W   | <br>ELAWN4127 2W   | <br>ELAWN4927 2W   |
| 2-11 3/8 (699)<br>2-11 5/8 (705)<br>2-11 1/8 (692)    | <br>ELAWN2535 2W   | <br>ELAWN2935 2W   | <br>ELAWN3335 2W   | <br>ELAWN3735 2W   | <br>ELAWN4135 2W   | <br>ELAWN4935 2W   |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)     | <br>ELAWN2539 2W | <br>ELAWN2939 2W | <br>ELAWN3339 2W | <br>ELAWN3739 2W | <br>ELAWN4139 2W | <br>ELAWN4939 2W |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197) | <br>ELAWN2547 2W | <br>ELAWN2947 2W | <br>ELAWN3347 2W | <br>ELAWN3747 2W | <br>ELAWN4147 2W | <br>ELAWN4947 2W |

Details and Elevations not to scale.  
Special sized units available within product size matrix. See your Marvin retailer.  
Any unit in these combinations can be operating or stationary. Operating sash are viewed from the exterior.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

AWNING

3 Wide

| MO (mm)                                               | 6-0 1/2 (1842)                                                                                        | 7-0 1/2 (2146)                                                                                        | 8-0 1/2 (2451)                                                                                        | 9-0 1/2 (2756)                                                                                        |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| RO (mm)                                               | 6-1 (1854)                                                                                            | 7-1 (2159)                                                                                            | 8-1 (2464)                                                                                            | 9-1 (2769)                                                                                            |
| FS (mm)                                               | 6-0 (1829)                                                                                            | 7-0 (2134)                                                                                            | 8-0 (2438)                                                                                            | 9-0 (2743)                                                                                            |
| 1-7 3/8 (492)<br>1-7 5/8 (498)<br>1-7 1/8 (486)       | <br>ELAWN2519 3W   | <br>ELAWN2919 3W   | <br>ELAWN3319 3W   | <br>ELAWN3719 3W   |
| 1-11 3/8 (594)<br>1-11 5/8 (600)<br>1-11 1/8 (587)    | <br>ELAWN2523 3W   | <br>ELAWN2923 3W   | <br>ELAWN3323 3W   | <br>ELAWN3723 3W   |
| 2-3 3/8 (695)<br>2-3 5/8 (702)<br>2-3 1/8 (689)       | <br>ELAWN2527 3W   | <br>ELAWN2927 3W   | <br>ELAWN3327 3W   | <br>ELAWN3727 3W   |
| 2-11 3/8 (699)<br>2-11 5/8 (705)<br>2-11 1/8 (692)    | <br>ELAWN2535 3W   | <br>ELAWN2935 3W   | <br>ELAWN3335 3W   | <br>ELAWN3735 3W   |
| 3-3 3/8 (1000)<br>3-3 5/8 (1006)<br>3-3 1/8 (994)     | <br>ELAWN2539 3W | <br>ELAWN2939 3W | <br>ELAWN3339 3W | <br>ELAWN3739 3W |
| 3-11 3/8 (1203)<br>3-11 5/8 (1210)<br>3-11 1/8 (1197) | <br>ELAWN2547 3W | <br>ELAWN2947 3W | <br>ELAWN3347 3W | <br>ELAWN3747 3W |

**MULTIPLE ASSEMBLIES**

Multiple assemblies can be factory mullled.

MAXIMUM ROUGH OPENING not to exceed 113" x 71 5/8"  
Maximum up to 7 units wide by 1 unit high.

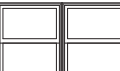
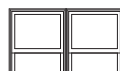
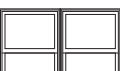
MAXIMUM ROUGH OPENING not to exceed 85" x 94 3/4"  
Maximum up to 4 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

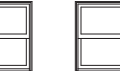
Please consult your local Marvin representative for more information.



2 Wide

| MO (mm)         | 3-7 1/2 (1105)                                                                      | 4-3 1/2 (1308)                                                                      | 4-11 1/2 (1511)                                                                     | 5-3 1/2 (1613)                                                                      | 5-7 1/2 (1715)                                                                      | 5-11 1/2 (1816)                                                                      | 6-3 1/2 (1918)                                                                        | 6-11 1/2 (2121)                                                                       |
|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)         | 3-8 (1118)                                                                          | 4-4 (1321)                                                                          | 5-0 (1524)                                                                          | 5-4 (1626)                                                                          | 5-8 (1727)                                                                          | 6-0 (1829)                                                                           | 6-4 (1930)                                                                            | 7-0 (2134)                                                                            |
| FS (mm)         | 3-7 (1092)                                                                          | 4-3 (1295)                                                                          | 4-11 (1499)                                                                         | 5-3 (1600)                                                                          | 5-7 (1702)                                                                          | 5-11 (1803)                                                                          | 6-3 (1905)                                                                            | 6-11 (2108)                                                                           |
| 3-0 (914)       |    |    |    |    |    |    |    |    |
| 3-0 1/4 (921)   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 3-4 (1016)      |    |    |    |    |    |    |    |    |
| 3-4 1/4 (1022)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 3-8 (1176)      |    |    |    |    |    |    |    |    |
| 3-8 1/4 (1124)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 3-7 3/4 (1111)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-0 (1219)      |    |    |    |    |    |    |    |    |
| 4-0 1/4 (1226)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 3-11 3/4 (1213) |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-4 (1321)      |    |    |    |    |    |    |    |    |
| 4-4 1/4 (1327)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-3 3/4 (1314)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-8 (1422)      |    |    |    |    |    |    |    |    |
| 4-8 1/4 (1429)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-7 3/4 (1416)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-0 (1524)      |  |  |  |  |  |  |  |  |
| 5-0 1/4 (1530)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 4-11 3/4 (1518) |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-4 (1626)      |  |  |  |  |  |  |  |  |
| 5-4 1/4 (1632)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-3 3/4 (1619)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-8 (1727)      |  |  |  |  |  |  |  |  |
| 5-8 1/4 (1734)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-7 3/4 (1721)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 6-0 (1829)      |  |  |  |  |  |  |  |  |
| 6-0 1/4 (1835)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 5-11 3/4 (1822) |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 6-4 (1930)      |  |  |  |  |  |  |  |  |
| 6-4 1/4 (1937)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| 6-3 3/4 (1924)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |

2 Wide

| MO (mm)         | 7-11 1/2 (2426)                                                                       | 8-11 1/2 (2731)                                                                       |
|-----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)         | 8-0 (2438)                                                                            | 9-0 (2743)                                                                            |
| FS (mm)         | 7-11 (2413)                                                                           | 8-11 (2718)                                                                           |
| 3-0 (914)       |    |    |
| 3-0 1/4 (921)   |                                                                                       |                                                                                       |
| 3-4 (1016)      |    |    |
| 3-4 1/4 (1022)  |                                                                                       |                                                                                       |
| 3-8 (1176)      |    |    |
| 3-8 1/4 (1124)  |                                                                                       |                                                                                       |
| 3-7 3/4 (1111)  |                                                                                       |                                                                                       |
| 4-0 (1219)      |    |    |
| 4-0 1/4 (1226)  |                                                                                       |                                                                                       |
| 3-11 3/4 (1213) |                                                                                       |                                                                                       |
| 4-4 (1321)      |    |    |
| 4-4 1/4 (1327)  |                                                                                       |                                                                                       |
| 4-3 3/4 (1314)  |                                                                                       |                                                                                       |
| 4-8 (1422)      |    |    |
| 4-8 1/4 (1429)  |                                                                                       |                                                                                       |
| 4-7 3/4 (1416)  |                                                                                       |                                                                                       |
| 5-0 (1524)      |  |  |
| 5-0 1/4 (1530)  |                                                                                       |                                                                                       |
| 4-11 3/4 (1518) |                                                                                       |                                                                                       |
| 5-4 (1626)      |  |  |
| 5-4 1/4 (1632)  |                                                                                       |                                                                                       |
| 5-3 3/4 (1619)  |                                                                                       |                                                                                       |
| 5-8 (1727)      |  |  |
| 5-8 1/4 (1734)  |                                                                                       |                                                                                       |
| 5-7 3/4 (1721)  |                                                                                       |                                                                                       |
| 6-0 (1829)      |  |  |
| 6-0 1/4 (1835)  |                                                                                       |                                                                                       |
| 5-11 3/4 (1822) |                                                                                       |                                                                                       |
| 6-4 (1930)      |  |  |
| 6-4 1/4 (1937)  |                                                                                       |                                                                                       |
| 6-3 3/4 (1924)  |                                                                                       |                                                                                       |

Details and Elevations not to scale.  
Special sized units available within and outside of CN matrix.  
Please contact your Marvin dealer.  
Minimum frame size: 17 1/2" x 27 3/4"  
Maximum frame size: 53 1/2" x 83 3/4"  
Optional Double Hung GBGs and SDLs are available in a standard Rectangular cut shown. Other available lite cuts shown on page 3.  
When ordering 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.  
E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.  
Available in equal, cottage, and reverse cottage sash configurations. Cottage and reverse cottage sash configurations are not available below CN 36 height and above CN 68 height.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**MULTIPLE ASSEMBLIES**

Multiple assemblies can be factory mulled.

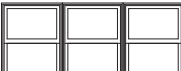
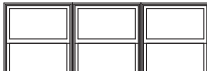
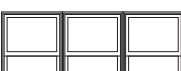
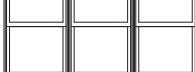
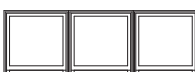
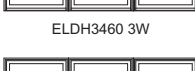
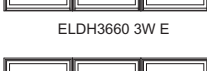
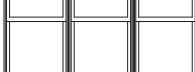
MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 76 1/4"  
Maximum up to 5 units wide by 1 unit high.

MAXIMUM ROUGH OPENING not to exceed 84" x 92"  
Maximum up to 3 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

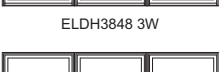
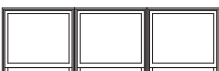
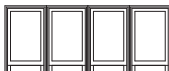
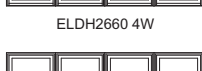
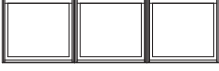
Please consult your local Marvin representative for more information.

3 Wide

| MO (mm)         | 5-5 (1651)                                                                          | 6-5 (1956)                                                                          | 7-5 (2261)                                                                          | 7-11 (2413)                                                                         | 8-5 (2565)                                                                           | 8-11 (2718)                                                                           |
|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)         | 5-5 1/2 (1664)                                                                      | 6-5 1/2 (1969)                                                                      | 7-5 1/2 (2273)                                                                      | 7-11 1/2 (2426)                                                                     | 8-5 1/2 (2578)                                                                       | 8-11 1/2 (2731)                                                                       |
| FS (mm)         | 5-4 1/2 (1638)                                                                      | 6-4 1/2 (1943)                                                                      | 7-4 1/2 (2248)                                                                      | 7-10 1/2 (2400)                                                                     | 8-4 1/2 (2553)                                                                       | 8-10 1/2 (2705)                                                                       |
| 3-0 (914)       |    |    |    |    |    |    |
| 3-0 1/4 (921)   | ELD H2236 3W                                                                        | ELD H2636 3W                                                                        | ELD H3036 3W                                                                        | ELD H3236 3W                                                                        | ELD H3436 3W                                                                         | ELD H3636 3W                                                                          |
| 3-4 (1016)      |    |    |    |    |    |    |
| 3-4 1/4 (1022)  | ELD H2240 3W                                                                        | ELD H2640 3W                                                                        | ELD H3040 3W                                                                        | ELD H3240 3W                                                                        | ELD H3440 3W                                                                         | ELD H3640 3W                                                                          |
| 3-8 (1176)      |    |    |    |    |    |    |
| 3-8 1/4 (1124)  | ELD H2244 3W                                                                        | ELD H2644 3W                                                                        | ELD H3044 3W                                                                        | ELD H3244 3W                                                                        | ELD H3444 3W                                                                         | ELD H3644 3W                                                                          |
| 3-7 3/4 (1111)  |    |    |    |    |    |    |
| 3-8 1/4 (1124)  | ELD H2248 3W                                                                        | ELD H2648 3W                                                                        | ELD H3048 3W                                                                        | ELD H3248 3W                                                                        | ELD H3448 3W                                                                         | ELD H3648 3W                                                                          |
| 4-0 (1219)      |    |    |    |    |    |    |
| 4-0 1/4 (1226)  | ELD H2252 3W                                                                        | ELD H2652 3W                                                                        | ELD H3052 3W                                                                        | ELD H3252 3W                                                                        | ELD H3452 3W                                                                         | ELD H3652 3W                                                                          |
| 4-4 (1321)      |    |    |    |    |    |    |
| 4-4 1/4 (1327)  | ELD H2256 3W                                                                        | ELD H2656 3W                                                                        | ELD H3056 3W                                                                        | ELD H3256 3W                                                                        | ELD H3456 3W                                                                         | ELD H3656 3W                                                                          |
| 4-8 (1422)      |   |   |   |   |   |   |
| 4-8 1/4 (1429)  | ELD H2260 3W                                                                        | ELD H2660 3W                                                                        | ELD H3060 3W                                                                        | ELD H3260 3W                                                                        | ELD H3460 3W                                                                         | ELD H3660 3W E                                                                        |
| 4-7 3/4 (1416)  |  |  |  |  |  |  |
| 4-8 (1422)      | ELD H2264 3W                                                                        | ELD H2664 3W                                                                        | ELD H3064 3W                                                                        | ELD H3264 3W                                                                        | ELD H3464 3W                                                                         | ELD H3664 3W E                                                                        |
| 5-0 (1524)      |  |  |  |  |  |  |
| 5-0 1/4 (1530)  | ELD H2268 3W                                                                        | ELD H2668 3W                                                                        | ELD H3068 3W                                                                        | ELD H3268 3W E                                                                      | ELD H3468 3W E                                                                       | ELD H3668 3W E                                                                        |
| 4-11 3/4 (1519) |  |  |  |  |  |  |
| 5-0 (1524)      | ELD H2272 3W                                                                        | ELD H2672 3W                                                                        | ELD H3072 3W                                                                        | ELD H3272 3W E                                                                      | ELD H3472 3W E                                                                       | ELD H3672 3W E                                                                        |
| 5-4 (1626)      |  |  |  |  |  |  |
| 5-4 1/4 (1632)  | ELD H2276 3W                                                                        | ELD H2676 3W                                                                        | ELD H3076 3W E                                                                      | ELD H3276 3W E                                                                      | ELD H3476 3W E                                                                       | ELD H3676 3W E                                                                        |
| 5-3 3/4 (1619)  |  |  |  |  |  |  |
| 5-4 (1626)      | ELD H2280 3W                                                                        | ELD H2680 3W                                                                        | ELD H3080 3W                                                                        | ELD H3280 3W                                                                        | ELD H3480 3W                                                                         | ELD H3680 3W                                                                          |
| 5-8 (1727)      |  |  |  |  |  |  |
| 5-8 1/4 (1734)  | ELD H2284 3W                                                                        | ELD H2684 3W                                                                        | ELD H3084 3W                                                                        | ELD H3284 3W                                                                        | ELD H3484 3W                                                                         | ELD H3684 3W                                                                          |
| 5-7 3/4 (1721)  |  |  |  |  |  |  |
| 5-8 (1727)      | ELD H2288 3W                                                                        | ELD H2688 3W                                                                        | ELD H3088 3W                                                                        | ELD H3288 3W                                                                        | ELD H3488 3W                                                                         | ELD H3688 3W                                                                          |
| 6-0 (1829)      |  |  |  |  |  |  |
| 6-0 1/4 (1835)  | ELD H2292 3W                                                                        | ELD H2692 3W                                                                        | ELD H3092 3W                                                                        | ELD H3292 3W                                                                        | ELD H3492 3W                                                                         | ELD H3692 3W                                                                          |
| 6-4 (1930)      |  |  |  |  |  |  |
| 6-4 1/4 (1937)  | ELD H2296 3W                                                                        | ELD H2696 3W                                                                        | ELD H3096 3W                                                                        | ELD H3296 3W                                                                        | ELD H3496 3W                                                                         | ELD H3696 3W                                                                          |
| 6-3 3/4 (1924)  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |

DOUBLE HUNG

3 Wide and 4 Wide

| MO (mm)         | 9-5 (2870)                                                                            | 7-2 1/2 (2197)                                                                        | 8-6 1/2 (2604)                                                                        |
|-----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)         | 9-5 1/2 (2883)                                                                        | 7-3 (2210)                                                                            | 8-7 (2616)                                                                            |
| FS (mm)         | 9-4 1/2 (2858)                                                                        | 7-2 (2184)                                                                            | 8-6 (2591)                                                                            |
| 3-0 (914)       |    |    |    |
| 3-0 1/4 (921)   | ELD H3836 3W                                                                          | ELD H2236 4W                                                                          | ELD H2636 4W                                                                          |
| 3-4 (1016)      |    |    |    |
| 3-4 1/4 (1022)  | ELD H3840 3W                                                                          | ELD H2240 4W                                                                          | ELD H2640 4W                                                                          |
| 3-8 (1176)      |    |    |    |
| 3-8 1/4 (1124)  | ELD H3844 3W                                                                          | ELD H2244 4W                                                                          | ELD H2644 4W                                                                          |
| 3-7 3/4 (1111)  |    |    |    |
| 4-0 (1219)      | ELD H3848 3W                                                                          | ELD H2248 4W                                                                          | ELD H2648 4W                                                                          |
| 4-0 1/4 (1226)  |    |    |    |
| 4-4 (1321)      | ELD H3852 3W                                                                          | ELD H2252 4W                                                                          | ELD H2652 4W                                                                          |
| 4-4 1/4 (1327)  |    |    |    |
| 4-3 3/4 (1314)  | ELD H3856 3W                                                                          | ELD H2256 4W                                                                          | ELD H2656 4W                                                                          |
| 4-8 (1422)      |    |    |    |
| 4-8 1/4 (1429)  | ELD H3860 3W E                                                                        | ELD H2260 4W                                                                          | ELD H2660 4W                                                                          |
| 4-7 3/4 (1416)  |  |  |  |
| 4-8 (1422)      | ELD H3864 3W E                                                                        | ELD H2264 4W                                                                          | ELD H2664 4W                                                                          |
| 5-0 (1524)      |  |  |  |
| 5-0 1/4 (1530)  | ELD H3868 3W                                                                          | ELD H2268 4W                                                                          | ELD H2668 4W                                                                          |
| 4-11 3/4 (1518) |  |  |  |
| 5-0 (1524)      | ELD H3872 3W E                                                                        | ELD H2272 4W                                                                          | ELD H2672 4W                                                                          |
| 5-4 (1626)      |  |  |  |
| 5-4 1/4 (1632)  | ELD H3876 3W E                                                                        | ELD H2276 4W                                                                          | ELD H2676 4W                                                                          |
| 5-3 3/4 (1619)  |                                                                                       |                                                                                       |                                                                                       |
| 5-8 (1727)      |                                                                                       |                                                                                       |                                                                                       |
| 5-8 1/4 (1734)  |                                                                                       |                                                                                       |                                                                                       |
| 5-7 3/4 (1721)  |                                                                                       |                                                                                       |                                                                                       |
| 6-0 (1829)      |                                                                                       |                                                                                       |                                                                                       |
| 6-0 1/4 (1835)  |                                                                                       |                                                                                       |                                                                                       |
| 6-4 (1930)      |                                                                                       |                                                                                       |                                                                                       |
| 6-4 1/4 (1937)  |                                                                                       |                                                                                       |                                                                                       |
| 6-3 3/4 (1924)  |                                                                                       |                                                                                       |                                                                                       |

Details and Elevations not to scale.

Special sized units available within and outside of CN matrix. Please contact your Marvin dealer.

Minimum frame size: 17 1/2" x 27 3/4"

Maximum frame size: 53 1/2" x 83 3/4"

Optional Double Hung GBGs and SDLs are available in a standard Rectangular cut shown. Other available lite cuts shown on page 3.

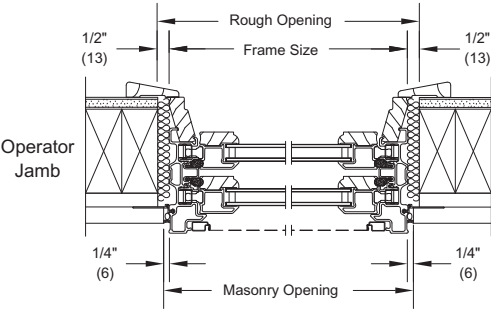
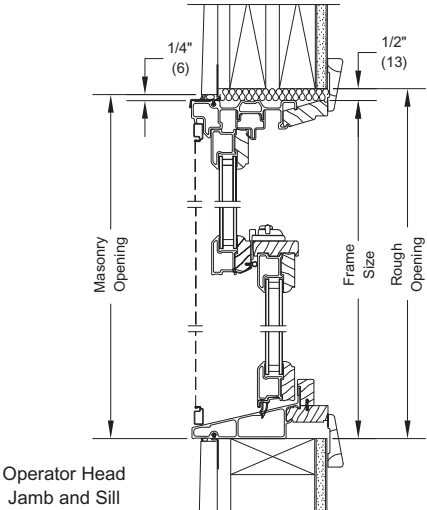
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E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

Available in equal, cottage, and reverse cottage sash configurations. Cottage and reverse cottage sash configurations are not available below CN 36 height and above CN 68 height.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Construction Details



MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullied.

MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 76 1/4" Maximum up to 5 units wide by 1 unit high.

MAXIMUM ROUGH OPENING not to exceed 84" x 92" Maximum up to 3 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

| MO (mm)          | 1-10 (559)                                                                         | 2-2 (660)                                                                          | 2-6 (762)                                                                          | 2-8 (813)                                                                          | 2-10 (864)                                                                         | 3-0 (914)                                                                          | 3-2 (965)                                                                            | 3-6 (1067)                                                                           | 4-0 (1219)                                                                           |
|------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)          | 1-10 1/2 (572)                                                                     | 2-2 1/2 (673)                                                                      | 2-6 1/2 (775)                                                                      | 2-8 1/2 (826)                                                                      | 2-10 1/2 (876)                                                                     | 3-0 1/2 (927)                                                                      | 3-2 1/2 (978)                                                                        | 3-6 1/2 (1080)                                                                       | 4-0 1/2 (1232)                                                                       |
| FS (mm)          | 1-9 1/2 (546)                                                                      | 2-1 1/2 (648)                                                                      | 2-5 1/2 (749)                                                                      | 2-7 1/2 (800)                                                                      | 2-9 1/2 (851)                                                                      | 2-11 1/2 (902)                                                                     | 3-1 1/2 (953)                                                                        | 3-5 1/2 (1054)                                                                       | 3-11 1/2 (1207)                                                                      |
| DLO (mm)         | 1-3 11/16 (398)                                                                    | 1-7 11/16 (500)                                                                    | 1-11 11/16 (602)                                                                   | 2-1 11/16 (652)                                                                    | 2-3 11/16 (703)                                                                    | 2-5 11/16 (754)                                                                    | 2-7 11/16 (805)                                                                      | 2-11 11/16 (906)                                                                     | 3-5 11/16 (1059)                                                                     |
| 3-0 (914)        |   |   |   |   |   |   |   |   |   |
| 3-0 1/4 (921)    | ELDHP2236                                                                          | ELDHP2636                                                                          | ELDHP3036                                                                          | ELDHP3236                                                                          | ELDHP3436                                                                          | ELDHP3636                                                                          | ELDHP3836                                                                            | ELDHP4236                                                                            | ELDHP4836                                                                            |
| 3-4 (1016)       |   |   |   |   |   |   |   |   |   |
| 3-4 1/4 (1022)   | ELDHP2240                                                                          | ELDHP2640                                                                          | ELDHP3040                                                                          | ELDHP3240                                                                          | ELDHP3440                                                                          | ELDHP3640                                                                          | ELDHP3840                                                                            | ELDHP4240                                                                            | ELDHP4840                                                                            |
| 3-8 (1176)       |   |   |   |   |   |   |   |   |   |
| 3-8 1/4 (1124)   | ELDHP2244                                                                          | ELDHP2644                                                                          | ELDHP3044                                                                          | ELDHP3244                                                                          | ELDHP3444                                                                          | ELDHP3644                                                                          | ELDHP3844                                                                            | ELDHP4244                                                                            | ELDHP4844                                                                            |
| 3-11 3/4 (1111)  |   |   |   |   |   |   |   |   |   |
| 3-1 11/16 (957)  | ELDHP2248                                                                          | ELDHP2648                                                                          | ELDHP3048                                                                          | ELDHP3248                                                                          | ELDHP3448                                                                          | ELDHP3648                                                                          | ELDHP3848                                                                            | ELDHP4248                                                                            | ELDHP4848                                                                            |
| 4-0 (1219)       |   |   |   |   |   |   |   |   |   |
| 4-0 1/4 (1226)   | ELDHP2252                                                                          | ELDHP2652                                                                          | ELDHP3052                                                                          | ELDHP3252                                                                          | ELDHP3452                                                                          | ELDHP3652                                                                          | ELDHP3852                                                                            | ELDHP4252                                                                            | ELDHP4852                                                                            |
| 4-4 (1321)       |   |   |   |   |   |   |   |   |   |
| 4-4 1/4 (1327)   | ELDHP2256                                                                          | ELDHP2656                                                                          | ELDHP3056                                                                          | ELDHP3256                                                                          | ELDHP3456                                                                          | ELDHP3656                                                                          | ELDHP3856                                                                            | ELDHP4256                                                                            | ELDHP4856                                                                            |
| 4-8 (1422)       |  |  |  |  |  |  |  |  |  |
| 4-8 1/4 (1429)   | ELDHP2256                                                                          | ELDHP2656                                                                          | ELDHP3056                                                                          | ELDHP3256                                                                          | ELDHP3456                                                                          | ELDHP3656                                                                          | ELDHP3856                                                                            | ELDHP4256                                                                            | ELDHP4856                                                                            |
| 4-7 3/4 (1416)   |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                      |                                                                                      |                                                                                      |
| 4-1 11/16 (1262) |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                      |                                                                                      |                                                                                      |

Details and Elevations not to scale.

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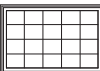
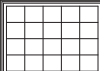
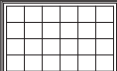
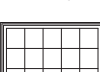
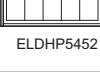
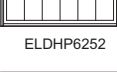
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DOUBLE HUNG PICTURE

| MO (mm)          | 4-2 (1270)                                                                           | 4-6 (1372)                                                                           | 5-2 (1575)                                                                           |
|------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)          | 4-2 1/2 (1283)                                                                       | 4-6 1/2 (1384)                                                                       | 5-2 1/2 (1588)                                                                       |
| FS (mm)          | 4-1 1/2 (1257)                                                                       | 4-5 1/2 (1359)                                                                       | 5-11 1/2 (1562)                                                                      |
| DLO (mm)         | 3-7 11/16 (1110)                                                                     | 3-11 11/16 (1211)                                                                    | 4-7 11/16 (1414)                                                                     |
| 3-0 (914)        |   |   |   |
| 3-0 1/4 (921)    | ELDHP5036                                                                            | ELDHP5436                                                                            | ELDHP6236                                                                            |
| 3-4 (1016)       |   |   |   |
| 3-4 1/4 (1022)   | ELDHP5040                                                                            | ELDHP5440                                                                            | ELDHP6240                                                                            |
| 3-8 (1176)       |   |   |   |
| 3-8 1/4 (1124)   | ELDHP5044                                                                            | ELDHP5444                                                                            | ELDHP6244                                                                            |
| 3-11 3/4 (1213)  |   |   |   |
| 3-1 11/16 (957)  | ELDHP5048                                                                            | ELDHP5448                                                                            | ELDHP6248                                                                            |
| 4-0 (1219)       |   |   |   |
| 4-0 1/4 (1226)   | ELDHP5052                                                                            | ELDHP5452                                                                            | ELDHP6252                                                                            |
| 4-4 (1321)       |   |   |   |
| 4-4 1/4 (1327)   | ELDHP5056                                                                            | ELDHP5456                                                                            | ELDHP6256                                                                            |
| 4-8 (1422)       |  |  |  |
| 4-8 1/4 (1429)   | ELDHP5056                                                                            | ELDHP5456                                                                            | ELDHP6256                                                                            |
| 4-7 3/4 (1416)   |                                                                                      |                                                                                      |                                                                                      |
| 4-1 11/16 (1262) |                                                                                      |                                                                                      |                                                                                      |

MULTIPLE ASSEMBLIES

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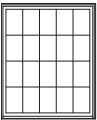
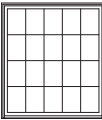
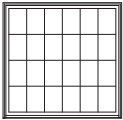
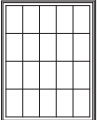
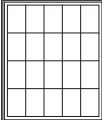
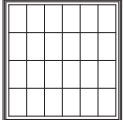
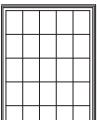
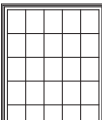
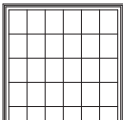
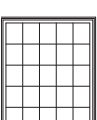
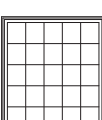
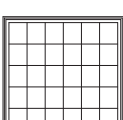
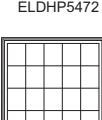
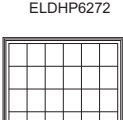
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| FS (mm)    | 4-1 1/2 (1257)                                                                     | 4-5 1/2 (1359)                                                                     | 5-1 1/2 (1562)                                                                     |
| DLO (mm)   | 3-7 11/16 (1110)                                                                   | 3-11 11/16 (1211)                                                                  | 4-7 11/16 (1414)                                                                   |
| 5-0 (1524) |   |   |   |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
| 5-4 (1626) |   |   |   |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
| 5-8 (1727) |   |   |   |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
| 6-0 (1829) |   |   |   |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
| 6-4 (1930) |  |  |  |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |
|            |                                                                                    |                                                                                    |                                                                                    |

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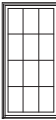
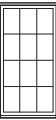
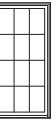
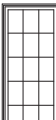
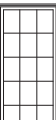
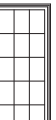
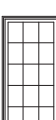
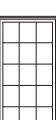
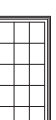
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| MO (mm)    | 1-10 (559)                                                                           | 2-2 (660)                                                                            | 2-6 (762)                                                                            | 2-8 (813)                                                                            | 2-10 (864)                                                                           | 3-0 (914)                                                                            | 3-2 (965)                                                                            | 3-6 (1067)                                                                           | 4-0 (1219)                                                                           |
|------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)    | 1-10 1/2 (572)                                                                       | 2-2 1/2 (673)                                                                        | 2-6 1/2 (775)                                                                        | 2-8 1/2 (826)                                                                        | 2-10 1/2 (876)                                                                       | 3-0 1/2 (927)                                                                        | 3-2 1/2 (978)                                                                        | 3-6 1/2 (1080)                                                                       | 4-0 1/2 (1232)                                                                       |
| FS (mm)    | 1-9 1/2 (546)                                                                        | 2-1 1/2 (648)                                                                        | 2-5 1/2 (749)                                                                        | 2-7 1/2 (800)                                                                        | 2-9 1/2 (851)                                                                        | 2-11 1/2 (902)                                                                       | 3-1 1/2 (953)                                                                        | 3-5 1/2 (1054)                                                                       | 3-11 1/2 (1207)                                                                      |
| DLO (mm)   | 1-3 11/16 (398)                                                                      | 1-7 11/16 (500)                                                                      | 1-11 11/16 (602)                                                                     | 2-1 11/16 (652)                                                                      | 2-3 11/16 (703)                                                                      | 2-5 11/16 (754)                                                                      | 2-7 11/16 (805)                                                                      | 2-11 11/16 (906)                                                                     | 3-5 11/16 (1059)                                                                     |
| 5-0 (1524) |   |   |   |   |   |   |   |   |   |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
| 5-4 (1626) |   |   |   |   |   |   |   |   |   |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
| 5-8 (1727) |   |   |   |   |   |   |   |   |   |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
| 6-0 (1829) |   |   |   |   |   |   |   |   |   |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
| 6-4 (1930) |  |  |  |  |  |  |  |  |  |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|            |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |

**MULTIPLE ASSEMBLIES**

Multiple assemblies can be factory mullled.

MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 76 1/4"

Maximum up to 5 units wide by 1 unit high.

MAXIMUM ROUGH OPENING not to exceed 84" x 92"

Maximum up to 3 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

|          |                 |                 |                 |                  |                 |                 |                  |
|----------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|------------------|
| MO (mm)  | 1-10 (559)      | 2-2 (660)       | 2-6 (762)       | 2-8 (813)        | 2-10 (864)      | 3-0 (914)       | 4-0(1219)        |
| RO (mm)  | 1-10 1/2 (572)  | 2-2 1/2 (673)   | 2-6 1/2 (775)   | 2-8 1/2 (826)    | 2-10 1/2 (876)  | 3-0 1/2 (927)   | 4-0 1/2(1232)    |
| FS (mm)  | 1-9 1/2 (546)   | 2-1 1/2 (648)   | 2-5 1/2 (749)   | 2-7 1/2 (800)    | 2-9 1/2 (851)   | 2-11 1/2 (902)  | 3-11 1/2(1207)   |
| DLO (mm) | 1-3 11/16 (398) | 1-7 11/16 (500) | 1-9 11/16 (551) | 1-11 11/16 (602) | 2-3 11/16 (703) | 2-5 11/16 (754) | 3-5 11/16 (1059) |

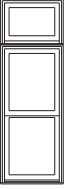
|                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1-4 (406)<br>1-4 1/4 (413)<br>1-3 3/4 (400)<br>0-9 11/16 (246)  |  |  |  |  |  |  |  |
| 2-0 (610)<br>2-0 1/4 (616)<br>1-11 3/4 (603)<br>1-5 11/16 (449) |  |  |  |  |  |  |  |

|          |                 |                  |                  |                   |                  |
|----------|-----------------|------------------|------------------|-------------------|------------------|
| MO (mm)  | 3-2 (965)       | 3-6 (1067)       | 4-2 (1270)       | 4-6 (1372)        | 5-2 (1575)       |
| RO (mm)  | 3-2 1/2 (978)   | 3-6 1/2 (1080)   | 4-2 1/2 (1283)   | 4-6 1/2 (1384)    | 5-2 1/2 (1588)   |
| FS (mm)  | 3-1 1/2 (953)   | 3-5 1/2 (1054)   | 4-1 1/2 (1257)   | 4-5 1/2 (1359)    | 5-11 1/2 (1562)  |
| DLO (mm) | 2-7 11/16 (805) | 2-11 11/16 (906) | 3-7 11/16 (1110) | 3-11 11/16 (1211) | 4-7 11/16 (1414) |

|                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 1-4 (406)<br>1-4 1/4 (413)<br>1-3 3/4 (400)<br>0-9 11/16 (246)  |  |  |  |  |  |
| 2-0 (610)<br>2-0 1/4 (616)<br>1-11 3/4 (603)<br>1-5 11/16 (449) |  |  |  |  |  |

Double Hung Transoms Mullered Over Double Hungs

|         |                |               |
|---------|----------------|---------------|
| MO (mm) | 1-10 (559)     | 2-6 (762)     |
| RO (mm) | 1-10 1/2 (572) | 2-6 1/2 (775) |
| FS (mm) | 1-9 1/2 (546)  | 2-5 1/2 (749) |

|                                                |                                                                                     |                                                                                     |
|------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 5-3 3/4 (1619)<br>5-4 (1626)<br>5-3 1/2 (1613) |  |  |
|------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

Details and Elevations not to scale.

Special sized units available within product size matrix and available down to 17 1/2" frame width. See your Marvin retailer.

Optional picture GBGs and SDLs are available in a standard Rectangular cut shown. Also available in Prairie lite cuts shown on page 3.

When ordering 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.

\* Size available in picture unit also.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mulled.

MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 76 1/4"

Maximum up to 5 units wide by 1 unit high.

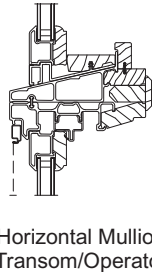
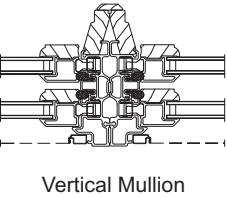
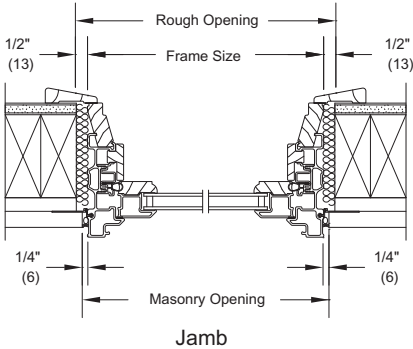
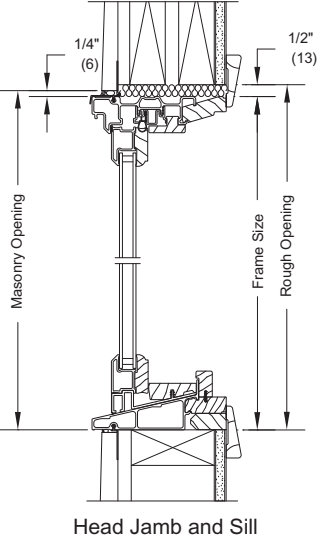
MAXIMUM ROUGH OPENING not to exceed 84" x 92"

Maximum up to 3 units wide by 5 units high.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

Construction Details

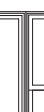
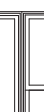
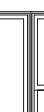


DOUBLE HUNG

Multiple Assemblies

Flankers with Center Picture (call number 22 flankers shown, also available with call number 26 flankers)

|         |                |                |                |                |                |
|---------|----------------|----------------|----------------|----------------|----------------|
| MO (mm) | 6-9 (2057)     | 7-1 (2159)     | 7-9 (2362)     | 8-1 (2464)     | 8-9 (2667)     |
| RO (mm) | 6-9 1/2 (2070) | 7-1 1/2 (2172) | 7-9 1/2 (2375) | 8-1 1/2 (2477) | 8-9 1/2 (2680) |
| FS (mm) | 6-8 1/2 (2045) | 7-0 1/2 (2146) | 7-8 1/2 (2350) | 8-0 1/2 (2451) | 8-8 1/2 (2654) |

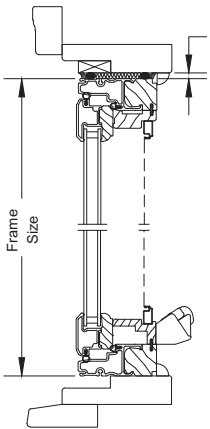
|                                                 |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
|-------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 4-0 (1219)<br>4-0 1/4 (1226)<br>3-11 3/4 (1213) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4-4 (1321)<br>4-4 1/4 (1327)<br>4-3 3/4 (1314)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4-8 (1422)<br>4-8 1/4 (1429)<br>4-7 3/4 (1416)  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5-0 (1524)<br>5-0 1/4 (1530)<br>4-11 3/4 (1518) |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5-4 (1626)<br>5-4 1/4 (1632)<br>5-3 3/4 (1619)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Cottage Style Flankers with Center Picture

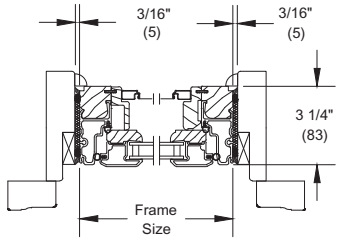
|         |                |                |                |
|---------|----------------|----------------|----------------|
| MO (mm) | 8-1 (2464)     | 8-9 (2667)     | 9-5 (2870)     |
| RO (mm) | 8-1 1/2 (2477) | 8-9 1/2 (2680) | 9-5 1/2 (2883) |
| FS (mm) | 8-0 1/2 (2451) | 8-8 1/2 (2654) | 9-4 1/2 (2858) |

|                                                |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 5-8 (1727)<br>5-8 1/4 (1734)<br>5-7 3/4 (1721) |  |  |  |  |  |  |  |  |  |
|------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|

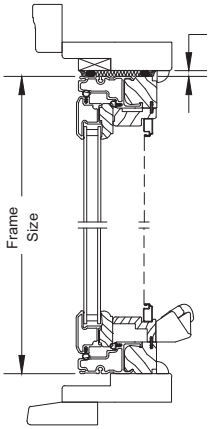
Construction Details



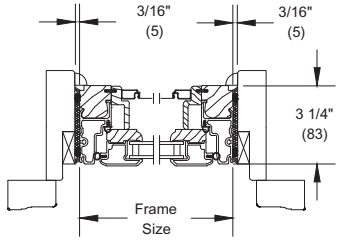
Elevate Casement  
Operator  
Head Jamb and Sill



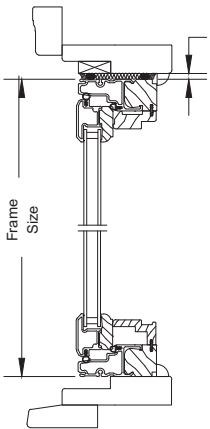
Elevate Casement Operator  
Jamb



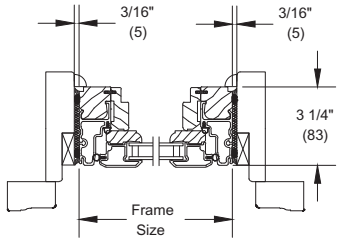
Elevate Awning Operator  
Head Jamb and Sill



Elevate Awning Operator  
Jamb



Transom and Picture  
Head Jamb and Sill



Transom and Picture Jamb

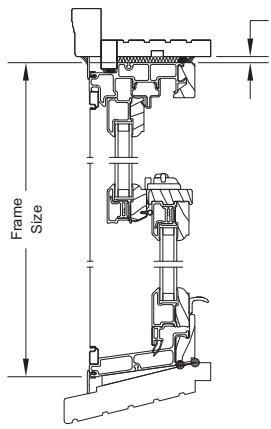
Details and Elevations not to scale.  
Special sized units available within product size matrix.  
See your Marvin retailer.  
Optional Casement GBGs and SDLs are available in a standard Rectangular cut.  
Available lite cuts shown on page 3.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

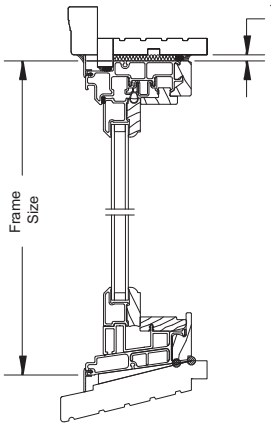
Multiple assemblies can be factory mullied.  
MAXIMUM ROUGH OPENING not to exceed 112" x 71 1/8"  
Maximum up to 4 units wide by 1 unit high.  
MAXIMUM ROUGH OPENING not to exceed 72" x 94 1/4"  
Maximum up to 1 unit wide by 2 units high.  
Field mull kits are available.  
Please consult your local Marvin representative for more information.

DOUBLE HUNG INSERT

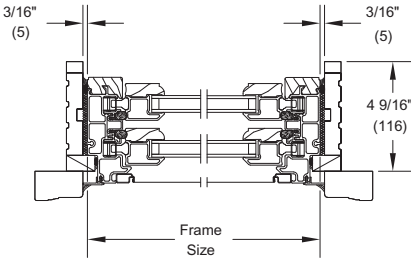
Construction Details



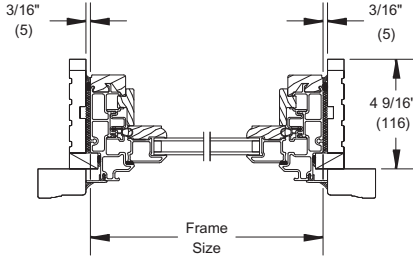
Operator  
Head Jamb and Sill



Transom and Picture  
Head Jamb and Sill



Operator Jamb



Transom and Picture  
Jamb

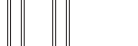
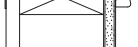
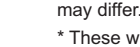
Details and Elevations not to scale.  
Special sized units available within product size matrix.  
See your Marvin retailer.  
Optional Double Hung GBGs and SDLs are available in a standard Rectangular cut.  
Available lite cuts shown on page 3.  
Cottage and Reverse Cottage sash configurations are available between 35 1/2" and 67 3/4" frame heights.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

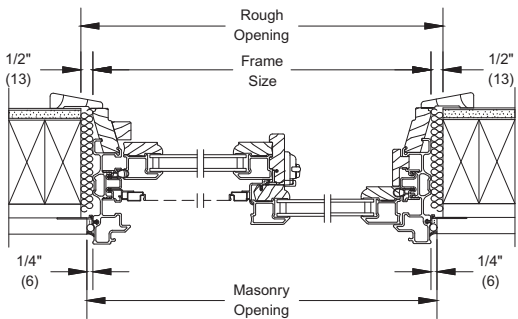
Multiple assemblies can be factory mullied.  
MAXIMUM ROUGH OPENING not to exceed 112 7/8" x 84 1/4"  
Maximum up to 5 units wide by 1 unit high.  
Field mull kits are available.  
Please consult your local Marvin representative for more information.

GLIDER

1 Wide and 2 Wide

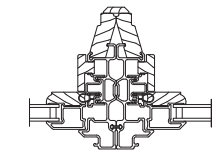
| MO (mm)                                                           | 3-0 (914)                                                                           | 4-0 (1219)                                                                          | 5-0 (1524)                                                                          | 6-0 (1829)                                                                          | 5-11 1/2 (1816)                                                                      | 7-11 1/2 (2426)                                                                       |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)                                                           | 3-0 1/2 (927)                                                                       | 4-0 1/2 (1232)                                                                      | 5-0 1/2 (1537)                                                                      | 6-0 1/2 (1842)                                                                      | 6-0 (1829)                                                                           | 8-0 (2438)                                                                            |
| FS (mm)                                                           | 2-11 1/2 (902)                                                                      | 3-11 1/2 (1207)                                                                     | 4-11 1/2 (1511)                                                                     | 5-11 1/2 (1816)                                                                     | 5-11 (1803)                                                                          | 7-11 (2413)                                                                           |
| DLO (mm)                                                          | 1-1 11/16 (348)                                                                     | 1-7 11/16 (500)                                                                     | 2-1 11/16 (652)                                                                     | 2-7 11/16 (805)                                                                     | 1-1 11/16 (348)                                                                      | 1-7 11/16 (500)                                                                       |
| 2-0 (610)<br>2-0 1/4 (616)<br>1-11 3/4 (603)<br>1-5 3/4 (449)     |    |    |    |    |    |    |
|                                                                   | ELGL3624                                                                            | ELGL4824                                                                            | ELGL6024                                                                            | ELGL7224                                                                            | ELGL3624 2W                                                                          | ELGL4824 2W                                                                           |
|                                                                   |    |    |    |    |    |    |
|                                                                   | ELGL3636                                                                            | ELGL4836                                                                            | ELGL6036 E*                                                                         | ELGL7236 E*                                                                         | ELGL3636 2W                                                                          | ELGL4836 2W                                                                           |
| 3-0 (914)<br>3-0 1/4 (921)<br>2-11 3/4 (908)<br>2-5 3/4 (754)     |    |    |    |    |    |    |
|                                                                   | ELGL3642                                                                            | ELGL4842                                                                            | ELGL6042 E                                                                          | ELGL7242 E                                                                          | ELGL3642 2W                                                                          | ELGL4842 2W                                                                           |
|                                                                   |    |    |    |    |    |    |
|                                                                   | ELGL3648                                                                            | ELGL4848 E                                                                          | ELGL6048 E                                                                          | ELGL7248 E                                                                          | ELGL3648 2W                                                                          | ELGL4848 E 2W                                                                         |
| 3-6 (1067)<br>3-6 1/4 (1073)<br>3-5 3/4 (1060)<br>2-11 3/4 (906)  |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |
|                                                                   |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |
| 4-0 (1219)<br>4-0 1/4 (1226)<br>3-11 3/4 (1213)<br>3-5 3/4 (1059) |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |
|                                                                   |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |
| 5-0 (1524)<br>5-0 1/4 (1530)<br>4-11 3/4 (1518)<br>4-5 3/4 (1364) |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |
|                                                                   |  |  |  |  |  |  |
|                                                                   | ELGL3660                                                                            | ELGL4860 E                                                                          | ELGL6060 E                                                                          | ELGL7260 E                                                                          | ELGL3660 2W                                                                          | ELGL4860 E 2W                                                                         |

Construction Details

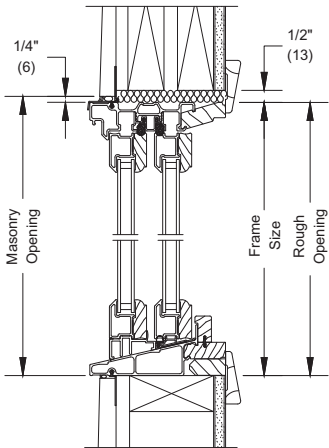


XO Operator Jamb

Mullion Detail



Vertical Mullion  
Operator Unit

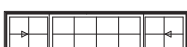
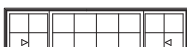
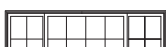
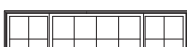
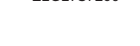
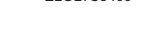
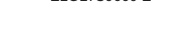


Head Jamb and Sill

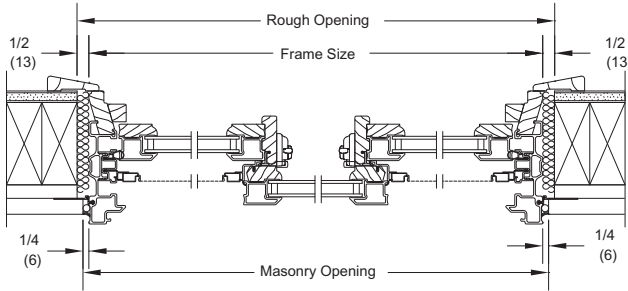
Details and Elevations not to scale.  
Special sized units available within product size matrix. See your Marvin retailer.  
E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.  
\* These windows meet National Egress Codes for fire evacuation if floor to sill height does not exceed 44" (118 mm). Local codes may differ.  
XO operation standard, OX operation optional.  
Optional Glider GBGs and SDLs are available in a standard Rectangular cut shown. Other available lite cuts shown on page 3.  
When ordering 6 <sup>9</sup>/<sub>16</sub>" (167 mm) or 6 <sup>13</sup>/<sub>16</sub>" (173 mm) jambs, add <sup>1</sup>/<sub>4</sub>" (6 mm) to width and <sup>1</sup>/<sub>8</sub>" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

GLIDER - TRIPLE SASH

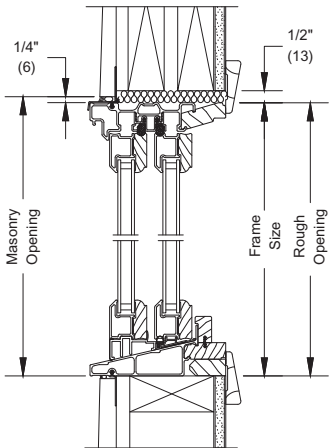
1 Wide

| MO (mm)                                                            | 6-0 (1829)                                                                            | 7-0 (2134)                                                                            | 8-0 (2438)                                                                            |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)                                                            | 6-0 1/2 (1842)                                                                        | 7-0 1/2 (2146)                                                                        | 8-0 1/2 (2451)                                                                        |
| FS (mm)                                                            | 5-11 1/2 (1816)                                                                       | 6-11 1/2 (2121)                                                                       | 7-11 1/2 (2426)                                                                       |
| 2-0 (610)<br>2-0 1/4 (616)<br>1-11 3/4 (603)<br>1-11 3/4 (603)     |    |    |    |
|                                                                    | ELGLTS7224                                                                            | ELGLTS8424                                                                            | ELGLTS9624                                                                            |
|                                                                    |    |    |    |
|                                                                    | ELGLTS7236                                                                            | ELGLTS8436                                                                            | ELGLTS9636                                                                            |
| 3-0 (914)<br>3-0 1/4 (921)<br>2-11 3/4 (908)<br>2-11 3/4 (908)     |    |    |    |
|                                                                    | ELGLTS7242                                                                            | ELGLTS8442                                                                            | ELGLTS9642                                                                            |
|                                                                    |    |    |    |
|                                                                    | ELGLTS7248                                                                            | ELGLTS8448                                                                            | ELGLTS9648 E                                                                          |
| 3-6 (1067)<br>3-6 1/4 (1073)<br>3-5 3/4 (1060)<br>3-5 3/4 (1060)   |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |
|                                                                    |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |
| 4-0 (1219)<br>4-0 1/4 (1226)<br>3-11 3/4 (1213)<br>3-11 3/4 (1213) |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |
|                                                                    |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |
| 5-0 (1524)<br>5-0 1/4 (1530)<br>4-11 3/4 (1518)<br>4-11 3/4 (1518) |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |
|                                                                    |  |  |  |
|                                                                    | ELGLTS7260                                                                            | ELGLTS8460                                                                            | ELGLTS9660 E                                                                          |

Construction Details



Triple Sash XO Operator Jamb



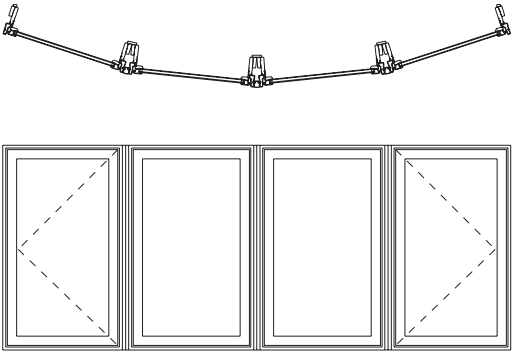
Head Jamb and Sill

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mulled.  
MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 60 1/4" Maximum up to 3 units wide by 1 unit high.  
Field mull kits are available. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

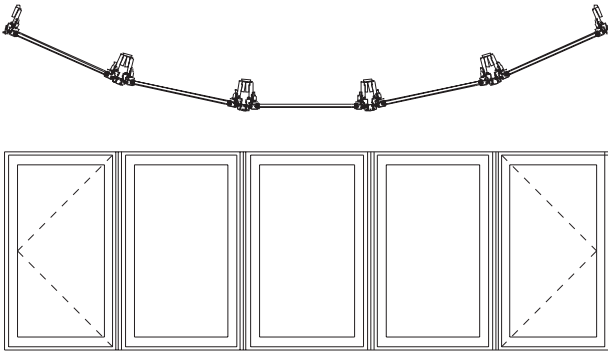
CASEMENT BOWS

4 Wide Bows



| CN Width | RO Width  |        | Projection |       |
|----------|-----------|--------|------------|-------|
|          | Inches    | (mm)   | Inches     | (mm)  |
| 17 – 4W  | 66 17/64  | (1683) | 6 7/8      | (175) |
| 21 – 4W  | 81 53/64  | (2078) | 8 17/32    | (217) |
| 25 – 4W  | 97 25/64  | (2474) | 10 3/16    | (259) |
| 29 – 4W  | 112 61/64 | (2869) | 11 27/32   | (301) |

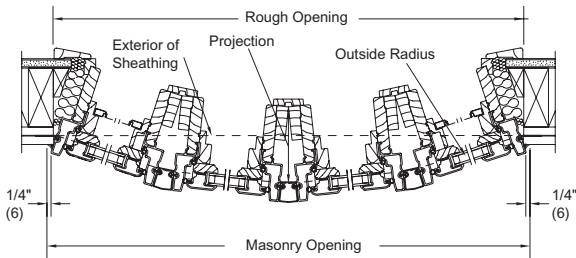
5 Wide Bows



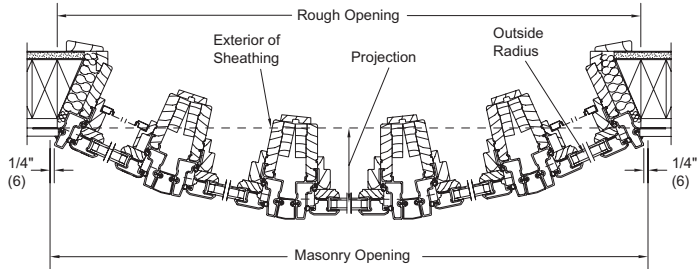
| CN Width | RO Width |        | Projection |       |
|----------|----------|--------|------------|-------|
|          | Inches   | (mm)   | Inches     | (mm)  |
| 17 – 5W  | 81 31/64 | (2070) | 10 1/4     | (260) |
| 21 – 5W  | 100 5/8  | (2556) | 12 23/32   | (323) |
| 25 – 5W  | 119 3/4  | (3042) | 15 11/64   | (385) |

| CN Height | RO Height |        |
|-----------|-----------|--------|
|           | Inches    | (mm)   |
| 31        | 31 13/16  | (808)  |
| 35        | 35 13/16  | (910)  |
| 39        | 39 13/16  | (1011) |
| 43        | 43 13/16  | (1113) |
| 47        | 47 13/16  | (1214) |
| 55        | 55 13/16  | (1418) |
| 59        | 59 13/16  | (1519) |
| 63        | 63 13/16  | (1621) |
| 71        | 71 13/16  | (1824) |

Construction Details



4-Wide Casement Bow Unit

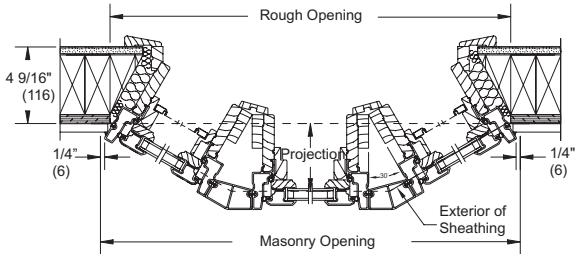
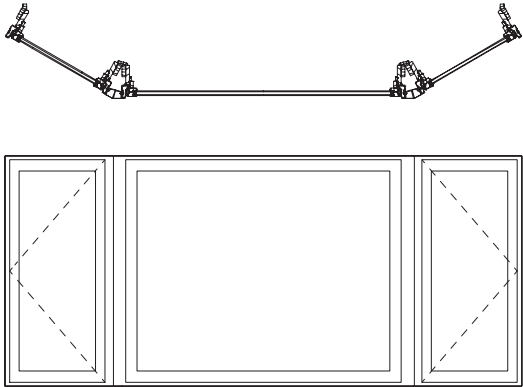


5-Wide Casement Bow Unit

Details and Elevations not to scale.  
For rough opening height of a Bay or Bow, add 3/16" to Casement rough opening height.  
\* When using Marvin Bays and Bows to replace products within existing openings, you will want to contact your local Marvin dealer for assistance and field verification of dimensions.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

CASEMENT BAYS

30° Bays



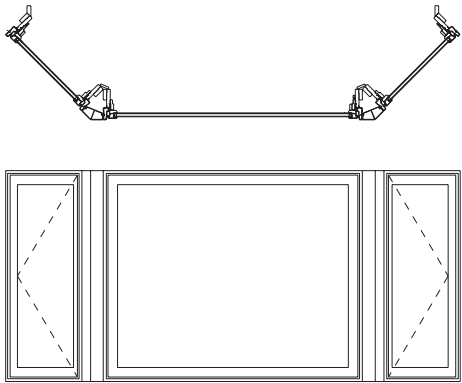
30° Casement Bay with Stationary/ Center Picture Unit

| CN Width | RO Width  |        | Projection |       |
|----------|-----------|--------|------------|-------|
|          | Inches    | (mm)   | Inches     | (mm)  |
| 17-17-17 | 49 25/64  | (1255) | 8 5/8      | (219) |
| 17-21-17 | 53 25/64  | (1356) | 8 5/8      | (219) |
| 17-25-17 | 57 25/64  | (1458) | 8 5/8      | (219) |
| 17-29-17 | 61 25/64  | (1559) | 8 5/8      | (219) |
| 17-33-17 | 65 25/64  | (1661) | 8 5/8      | (219) |
| 17-37-17 | 69 25/64  | (1763) | 8 5/8      | (219) |
| 17-41-17 | 73 25/64  | (1864) | 8 5/8      | (219) |
| 17-49-17 | 81 25/64  | (2067) | 8 5/8      | (219) |
| 21-17-21 | 56 21/64  | (1431) | 10 5/8     | (270) |
| 21-21-21 | 60 21/64  | (1532) | 10 5/8     | (270) |
| 21-25-21 | 64 21/64  | (1634) | 10 5/8     | (270) |
| 21-29-21 | 68 21/64  | (1736) | 10 5/8     | (270) |
| 21-33-21 | 72 21/64  | (1837) | 10 5/8     | (270) |
| 21-37-21 | 76 21/64  | (1939) | 10 5/8     | (270) |
| 21-41-21 | 80 21/64  | (2040) | 10 5/8     | (270) |
| 21-49-21 | 88 21/64  | (2244) | 10 5/8     | (270) |
| 21-57-21 | 96 21/64  | (2447) | 10 5/8     | (270) |
| 21-73-21 | 112 21/64 | (2853) | 10 5/8     | (270) |
| 25-17-25 | 63 1/4    | (1607) | 12 5/8     | (321) |
| 25-21-25 | 67 1/4    | (1708) | 12 5/8     | (321) |
| 25-25-25 | 71 1/4    | (1810) | 12 5/8     | (321) |
| 25-29-25 | 75 1/4    | (1911) | 12 5/8     | (321) |
| 25-33-25 | 79 1/4    | (2013) | 12 5/8     | (321) |
| 25-37-25 | 83 1/4    | (2115) | 12 5/8     | (321) |
| 25-41-25 | 87 1/4    | (2216) | 12 5/8     | (321) |
| 25-49-25 | 95 1/4    | (2419) | 12 5/8     | (321) |
| 25-57-25 | 103 1/4   | (2623) | 12 5/8     | (321) |
| 29-17-29 | 70 11/64  | (1782) | 14 5/8     | (372) |
| 29-21-29 | 74 11/64  | (1884) | 14 5/8     | (372) |
| 29-25-29 | 78 11/64  | (1986) | 14 5/8     | (372) |
| 29-29-29 | 82 11/64  | (2087) | 14 5/8     | (372) |
| 29-33-29 | 86 11/64  | (2189) | 14 5/8     | (372) |
| 29-37-29 | 90 11/64  | (2290) | 14 5/8     | (372) |
| 29-41-29 | 94 11/64  | (2392) | 14 5/8     | (372) |
| 29-49-29 | 102 11/64 | (2595) | 14 5/8     | (372) |
| 29-57-29 | 110 11/64 | (2798) | 14 5/8     | (372) |

| CN Width | RO Width |        | Projection |       |
|----------|----------|--------|------------|-------|
|          | Inches   | (mm)   | Inches     | (mm)  |
| 33-17-33 | 77 7/64  | (1959) | 16 5/8     | (422) |
| 33-21-33 | 81 7/64  | (2060) | 16 5/8     | (422) |
| 33-25-33 | 85 7/64  | (2162) | 16 5/8     | (422) |
| 33-29-33 | 89 7/64  | (2263) | 16 5/8     | (422) |
| 33-33-33 | 93 7/64  | (2365) | 16 5/8     | (422) |
| 33-37-33 | 97 7/64  | (2467) | 16 5/8     | (422) |
| 33-41-33 | 101 7/64 | (2568) | 16 5/8     | (422) |
| 33-49-33 | 109 7/64 | (2771) | 16 5/8     | (422) |
| 37-17-37 | 84 1/32  | (2134) | 18 5/8     | (473) |
| 37-21-37 | 88 1/32  | (2236) | 18 5/8     | (473) |
| 37-25-37 | 92 1/32  | (2338) | 18 5/8     | (473) |
| 37-29-37 | 96 1/32  | (2439) | 18 5/8     | (473) |
| 37-33-37 | 100 1/32 | (2541) | 18 5/8     | (473) |
| 37-37-37 | 104 1/32 | (2642) | 18 5/8     | (473) |

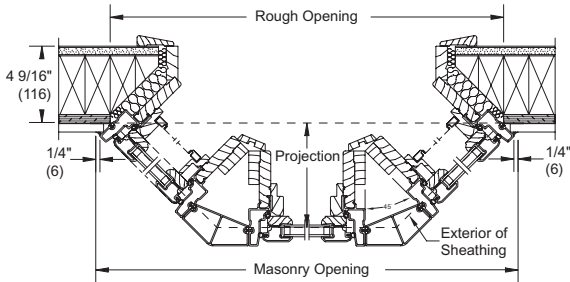
CASEMENT BAYS

45° Bays



| CN Width |           | RO Width |          | Projection |      |
|----------|-----------|----------|----------|------------|------|
| Inches   | (mm)      | Inches   | (mm)     | Inches     | (mm) |
| 17-17-17 | 46 11/64  | (1173)   | 12 43/64 | (322)      |      |
| 17-21-17 | 50 11/64  | (1274)   | 12 43/64 | (322)      |      |
| 17-25-17 | 54 11/64  | (1376)   | 12 43/64 | (322)      |      |
| 17-29-17 | 58 11/64  | (1478)   | 12 43/64 | (322)      |      |
| 17-33-17 | 62 11/64  | (1579)   | 12 43/64 | (322)      |      |
| 17-37-17 | 66 11/64  | (1681)   | 12 43/64 | (322)      |      |
| 17-41-17 | 70 11/64  | (1782)   | 12 43/64 | (322)      |      |
| 17-49-17 | 78 11/64  | (1986)   | 12 43/64 | (322)      |      |
| 21-17-21 | 51 53/64  | (1317)   | 15 1/2   | (394)      |      |
| 21-21-21 | 55 53/64  | (1418)   | 15 1/2   | (394)      |      |
| 21-25-21 | 59 53/64  | (1520)   | 15 1/2   | (394)      |      |
| 21-29-21 | 63 53/64  | (1621)   | 15 1/2   | (394)      |      |
| 21-33-21 | 67 53/64  | (1723)   | 15 1/2   | (394)      |      |
| 21-37-21 | 71 53/64  | (1825)   | 15 1/2   | (394)      |      |
| 21-41-21 | 75 53/64  | (1926)   | 15 1/2   | (394)      |      |
| 21-49-21 | 83 53/64  | (2129)   | 15 1/2   | (394)      |      |
| 21-57-21 | 91 53/64  | (2333)   | 15 1/2   | (394)      |      |
| 21-73-21 | 107 53/64 | (2739)   | 15 1/2   | (394)      |      |
| 25-17-25 | 57 31/64  | (1460)   | 18 21/64 | (466)      |      |
| 25-21-25 | 61 31/64  | (1562)   | 18 21/64 | (466)      |      |
| 25-25-25 | 65 31/64  | (1663)   | 18 21/64 | (466)      |      |
| 25-29-25 | 69 31/64  | (1765)   | 18 21/64 | (466)      |      |
| 25-33-25 | 73 31/64  | (1867)   | 18 21/64 | (466)      |      |
| 25-37-25 | 77 31/64  | (1968)   | 18 21/64 | (466)      |      |
| 25-41-25 | 81 31/64  | (2070)   | 18 21/64 | (466)      |      |
| 25-49-25 | 89 31/64  | (2273)   | 18 21/64 | (466)      |      |
| 25-57-25 | 97 31/64  | (2476)   | 18 21/64 | (466)      |      |
| 25-73-25 | 113 1/2   | (2883)   | 18 21/64 | (466)      |      |
| 29-17-29 | 63 9/64   | (1604)   | 21 5/32  | (537)      |      |
| 29-21-29 | 67 9/64   | (1706)   | 21 5/32  | (537)      |      |
| 29-25-29 | 71 9/64   | (1807)   | 21 5/32  | (537)      |      |
| 29-29-29 | 75 9/64   | (1909)   | 21 5/32  | (537)      |      |
| 29-33-29 | 79 9/64   | (2011)   | 21 5/32  | (537)      |      |
| 29-37-29 | 83 9/64   | (2112)   | 21 5/32  | (537)      |      |
| 29-41-29 | 87 9/64   | (2213)   | 21 5/32  | (537)      |      |
| 29-49-29 | 95 9/64   | (2417)   | 21 5/32  | (537)      |      |
| 29-57-29 | 103 9/64  | (2620)   | 21 5/32  | (537)      |      |

Construction Details



45° Casement Bay with Stationary/Center Picture Unit

Details and Elevations not to scale.

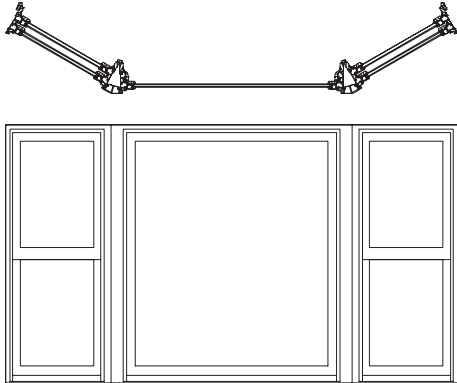
For rough opening height of a Bay or Bow, add 3/16" to Casement rough opening height.

\* When using Marvin Bays and Bows to replace products within existing openings, you will want to contact your local Marvin dealer for assistance and field verification of dimensions.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

DOUBLE HUNG BAYS

30° Bay Center Picture



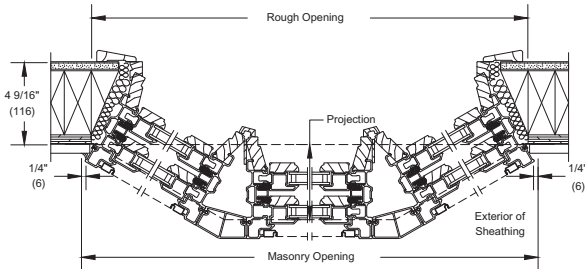
| CN Width |           | RO Width |        | Projection |      |
|----------|-----------|----------|--------|------------|------|
| Inches   | (mm)      | Inches   | (mm)   | Inches     | (mm) |
| 22-22-22 | 64 27/64  | (1636)   | 11 3/8 | (289)      |      |
| 22-26-22 | 68 27/64  | (1738)   | 11 3/8 | (289)      |      |
| 22-30-22 | 72 27/64  | (1839)   | 11 3/8 | (289)      |      |
| 22-32-22 | 74 27/64  | (1890)   | 11 3/8 | (289)      |      |
| 22-34-22 | 76 27/64  | (1941)   | 11 3/8 | (289)      |      |
| 22-36-22 | 78 27/64  | (1992)   | 11 3/8 | (289)      |      |
| 22-38-22 | 80 27/64  | (2043)   | 11 3/8 | (289)      |      |
| 22-42-22 | 84 27/64  | (2144)   | 11 3/8 | (289)      |      |
| 22-48-22 | 90 27/64  | (2297)   | 11 3/8 | (289)      |      |
| 22-50-22 | 92 27/64  | (2347)   | 11 3/8 | (289)      |      |
| 22-54-22 | 96 27/64  | (2449)   | 11 3/8 | (289)      |      |
| 22-62-22 | 104 27/64 | (2652)   | 11 3/8 | (289)      |      |
| 26-22-26 | 71 11/32  | (1812)   | 13 3/8 | (340)      |      |
| 26-26-26 | 75 11/32  | (1914)   | 13 3/8 | (340)      |      |
| 26-30-26 | 79 11/32  | (2015)   | 13 3/8 | (340)      |      |
| 26-32-26 | 81 11/32  | (2066)   | 13 3/8 | (340)      |      |
| 26-34-26 | 83 11/32  | (2117)   | 13 3/8 | (340)      |      |
| 26-36-26 | 85 11/32  | (2168)   | 13 3/8 | (340)      |      |
| 26-38-26 | 87 11/32  | (2219)   | 13 3/8 | (340)      |      |
| 26-42-26 | 91 11/32  | (2320)   | 13 3/8 | (340)      |      |
| 26-48-26 | 97 11/32  | (2473)   | 13 3/8 | (340)      |      |
| 26-50-26 | 99 11/32  | (2523)   | 13 3/8 | (340)      |      |
| 26-54-26 | 103 11/32 | (2625)   | 13 3/8 | (340)      |      |
| 26-62-26 | 111 11/32 | (2828)   | 13 3/8 | (340)      |      |
| 30-22-30 | 78 9/32   | (1988)   | 15 3/8 | (391)      |      |
| 30-26-30 | 82 9/32   | (2090)   | 15 3/8 | (391)      |      |
| 30-30-30 | 86 9/32   | (2191)   | 15 3/8 | (391)      |      |
| 30-32-30 | 88 9/32   | (2242)   | 15 3/8 | (391)      |      |
| 30-34-30 | 90 9/32   | (2293)   | 15 3/8 | (391)      |      |
| 30-36-30 | 92 9/32   | (2344)   | 15 3/8 | (391)      |      |
| 30-38-30 | 94 9/32   | (2395)   | 15 3/8 | (391)      |      |
| 30-42-30 | 98 9/32   | (2496)   | 15 3/8 | (391)      |      |
| 30-48-30 | 104 9/32  | (2649)   | 15 3/8 | (391)      |      |
| 30-50-30 | 106 9/32  | (2699)   | 15 3/8 | (391)      |      |
| 30-54-30 | 110 9/32  | (2801)   | 15 3/8 | (391)      |      |

Details and Elevations not to scale.

For rough opening height of a Bay, add 1 7/16" to the Double Hung rough opening height.

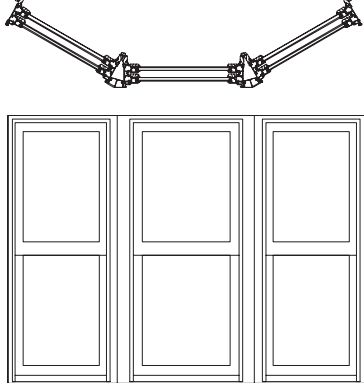
\* Not available with 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs.

Construction Details

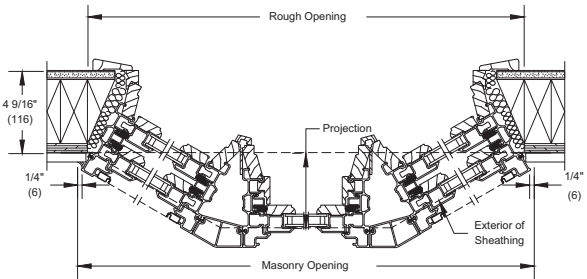


30° Bay with Center Picture Unit Jamb

30° Bay Center Operator

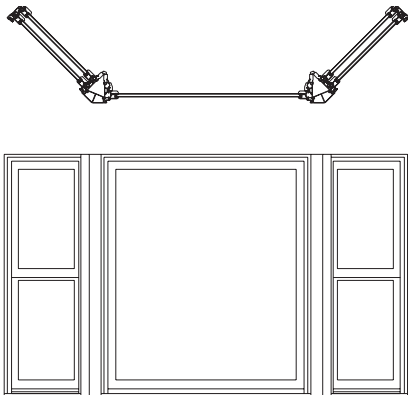


| CN Width |           | RO Width |        | Projection |      |
|----------|-----------|----------|--------|------------|------|
| Inches   | (mm)      | Inches   | (mm)   | Inches     | (mm) |
| 32-22-32 | 81 3/8    | (2067)   | 16 3/8 | (416)      |      |
| 32-26-32 | 85 3/8    | (2169)   | 16 3/8 | (416)      |      |
| 32-30-32 | 89 3/8    | (2270)   | 16 3/8 | (416)      |      |
| 32-32-32 | 91 47/64  | (2330)   | 16 3/8 | (416)      |      |
| 32-34-32 | 93 47/64  | (2381)   | 16 3/8 | (416)      |      |
| 32-36-32 | 95 47/64  | (2432)   | 16 3/8 | (416)      |      |
| 32-38-32 | 97 47/64  | (2483)   | 16 3/8 | (416)      |      |
| 32-42-32 | 101 47/64 | (2584)   | 16 3/8 | (416)      |      |
| 32-48-32 | 107 47/64 | (2737)   | 16 3/8 | (416)      |      |
| 32-50-32 | 109 47/64 | (2787)   | 16 3/8 | (416)      |      |
| 34-22-34 | 85 13/64  | (2164)   | 17 3/8 | (441)      |      |
| 34-26-34 | 89 13/64  | (2266)   | 17 3/8 | (441)      |      |
| 34-30-34 | 93 13/64  | (2367)   | 17 3/8 | (441)      |      |
| 34-32-34 | 95 13/64  | (2418)   | 17 3/8 | (441)      |      |
| 34-34-34 | 97 13/64  | (2469)   | 17 3/8 | (441)      |      |
| 34-36-34 | 99 13/64  | (2520)   | 17 3/8 | (441)      |      |
| 34-38-34 | 101 13/64 | (2571)   | 17 3/8 | (441)      |      |
| 34-42-34 | 105 13/64 | (2672)   | 17 3/8 | (441)      |      |
| 34-48-34 | 111 13/64 | (2825)   | 17 3/8 | (441)      |      |
| 34-50-34 | 113 13/64 | (2875)   | 17 3/8 | (441)      |      |
| 36-22-36 | 88 43/64  | (2252)   | 18 3/8 | (467)      |      |
| 36-26-36 | 92 43/64  | (2354)   | 18 3/8 | (467)      |      |
| 36-30-36 | 96 43/64  | (2455)   | 18 3/8 | (467)      |      |
| 36-32-36 | 98 43/64  | (2506)   | 18 3/8 | (467)      |      |
| 36-34-36 | 100 43/64 | (2557)   | 18 3/8 | (467)      |      |
| 36-36-36 | 102 43/64 | (2608)   | 18 3/8 | (467)      |      |
| 36-38-36 | 104 43/64 | (2659)   | 18 3/8 | (467)      |      |
| 36-42-36 | 108 43/64 | (2760)   | 18 3/8 | (467)      |      |
| 38-22-38 | 92 1/8    | (2340)   | 19 3/8 | (492)      |      |
| 38-26-38 | 96 1/8    | (2442)   | 19 3/8 | (492)      |      |
| 38-30-38 | 100 1/8   | (2543)   | 19 3/8 | (492)      |      |
| 38-32-38 | 102 1/8   | (2594)   | 19 3/8 | (492)      |      |
| 38-34-38 | 104 1/8   | (2645)   | 19 3/8 | (492)      |      |
| 38-36-38 | 106 1/8   | (2696)   | 19 3/8 | (492)      |      |
| 38-38-38 | 108 1/8   | (2747)   | 19 3/8 | (492)      |      |
| 38-42-38 | 112 1/8   | (2848)   | 19 3/8 | (492)      |      |
| 42-22-42 | 99 1/16   | (2516)   | 21 3/8 | (543)      |      |
| 42-26-42 | 103 1/16  | (2618)   | 21 3/8 | (543)      |      |
| 42-30-42 | 107 1/16  | (2719)   | 21 3/8 | (543)      |      |
| 42-32-42 | 109 1/16  | (2770)   | 21 3/8 | (543)      |      |
| 42-34-42 | 111 1/16  | (2821)   | 21 3/8 | (543)      |      |
| 42-36-42 | 113 1/16  | (2872)   | 21 3/8 | (543)      |      |
| 42-38-42 | 115 1/16  | (2923)   | 21 3/8 | (543)      |      |

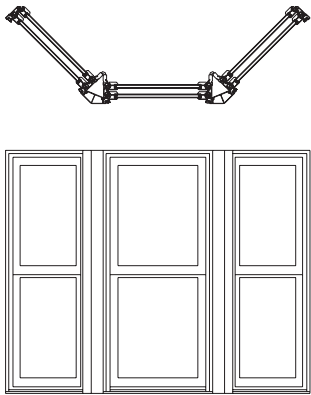


30° Bay with Operator Center Unit Jamb

45° Bay Center Picture



45° Bay Center Operator



| RO Width |          | Projection |          |       |
|----------|----------|------------|----------|-------|
| CN Width | Inches   | (mm)       | Inches   | (mm)  |
| 22-22-22 | 59 29/64 | (1510)     | 16 9/16  | (421) |
| 22-26-22 | 63 29/64 | (1612)     | 16 9/16  | (421) |
| 22-30-22 | 67 29/64 | (1713)     | 16 9/16  | (421) |
| 22-32-22 | 69 29/64 | (1764)     | 16 9/16  | (421) |
| 22-34-22 | 71 29/64 | (1815)     | 16 9/16  | (421) |
| 22-36-22 | 73 29/64 | (1866)     | 16 9/16  | (421) |
| 22-38-22 | 75 29/64 | (1917)     | 16 9/16  | (421) |
| 22-42-22 | 79 29/64 | (2018)     | 16 9/16  | (421) |
| 22-48-22 | 85 29/64 | (2171)     | 16 9/16  | (421) |
| 22-50-22 | 87 29/64 | (2221)     | 16 9/16  | (421) |
| 22-54-22 | 91 29/64 | (2323)     | 16 9/16  | (421) |
| 22-62-22 | 99 29/64 | (2526)     | 16 9/16  | (421) |
| 26-22-26 | 65 7/64  | (1654)     | 19 25/64 | (492) |
| 26-26-26 | 69 7/64  | (1755)     | 19 25/64 | (492) |
| 26-30-26 | 73 7/64  | (1857)     | 19 25/64 | (492) |
| 26-32-26 | 75 7/64  | (1908)     | 19 25/64 | (492) |
| 26-34-26 | 77 7/64  | (1959)     | 19 25/64 | (492) |
| 26-36-26 | 79 7/64  | (2009)     | 19 25/64 | (492) |
| 26-38-26 | 81 7/64  | (2060)     | 19 25/64 | (492) |
| 26-42-26 | 85 7/64  | (2162)     | 19 25/64 | (492) |
| 26-48-26 | 91 7/64  | (2314)     | 19 25/64 | (492) |
| 26-50-26 | 93 7/64  | (2365)     | 19 25/64 | (492) |
| 26-54-26 | 97 7/64  | (2467)     | 19 25/64 | (492) |
| 26-62-26 | 105 7/64 | (2670)     | 19 25/64 | (492) |

| RO Width |           | Projection |         |
|----------|-----------|------------|---------|
| CN Width | Inches    | (mm)       | Inches  |
| 30-22-30 | 70 49/64  | (1797)     | 22 7/32 |
| 30-26-30 | 74 49/64  | (1899)     | 22 7/32 |
| 30-30-30 | 78 49/64  | (2001)     | 22 7/32 |
| 30-32-30 | 80 49/64  | (2051)     | 22 7/32 |
| 30-34-30 | 82 49/64  | (2102)     | 22 7/32 |
| 30-36-30 | 84 49/64  | (2153)     | 22 7/32 |
| 30-38-30 | 86 49/64  | (2204)     | 22 7/32 |
| 30-42-30 | 90 49/64  | (2305)     | 22 7/32 |
| 30-48-30 | 96 49/64  | (2458)     | 22 7/32 |
| 30-50-30 | 98 49/64  | (2509)     | 22 7/32 |
| 30-54-30 | 102 49/64 | (2610)     | 22 7/32 |
| 30-62-30 | 110 49/64 | (2813)     | 22 7/32 |

| RO Height |          |
|-----------|----------|
| CN Height | Inches   |
| 24        | 25 11/16 |
| 36        | 37 11/16 |
| 40        | 41 11/16 |
| 44        | 45 11/16 |
| 48        | 49 11/16 |
| 52        | 53 11/16 |
| 56        | 57 11/16 |
| 60        | 61 11/16 |
| 64        | 65 11/16 |
| 68        | 69 11/16 |
| 72        | 73 11/16 |
| 76        | 77 11/16 |

Details and Elevations not to scale.

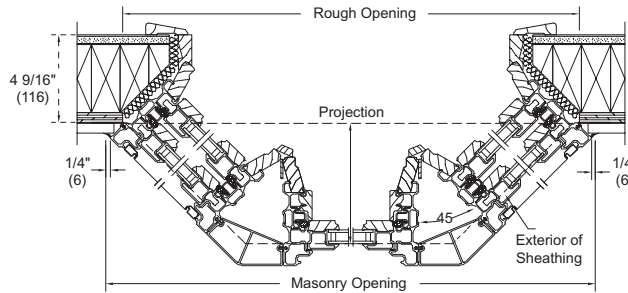
For rough opening height of a Bay, add 1 7/16" to the Double Hung rough opening height.

\* Not available with 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs.

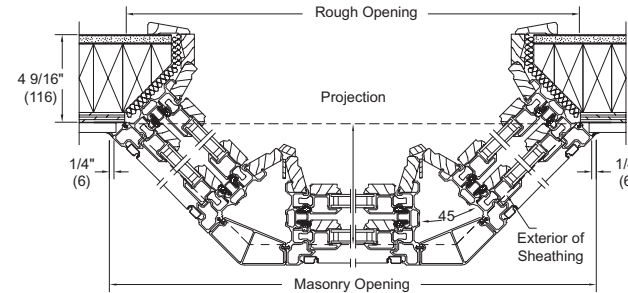
Note: When using Marvin Bays and Bows to replace products within existing openings, you will want to contact your local Marvin dealer for assistance and field verification of dimensions.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Construction Details



45° Bay with Stationary/Center Picture Unit Jamb



45° Bay with Center Operator Unit Jamb

DIRECT GLAZE ROUND TOPS

Casement Frame Type

True Half (RT1), Quarter Round (RT7/8), Elliptical (RT29)

|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |

|               |
|---------------|
| 1-2 1/4 (362) |
| 1-2 1/2 (368) |
| 1-2 (356)     |



ELDGR29 1W

|         |                |
|---------|----------------|
| MO (mm) | 3-4 1/2 (1029) |
| RO (mm) | 3-5 (1041)     |
| FS (mm) | 3-4 (1016)     |

|               |
|---------------|
| 1-8 1/4 (514) |
| 1-8 1/2 (521) |
| 1-8 (508)     |



ELDGR21 2W

|         |                |
|---------|----------------|
| MO (mm) | 4-0 1/2 (1232) |
| RO (mm) | 4-1 (1245)     |
| FS (mm) | 4-0 (1219)     |

|               |
|---------------|
| 2-0 1/4 (616) |
| 2-0 1/2 (622) |
| 2-0 (610)     |



ELDGR25 2W

|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |

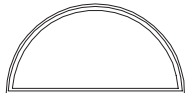
|               |
|---------------|
| 2-4 1/4 (718) |
| 2-4 1/2 (724) |
| 2-4 (711)     |



ELDGR RT CIRQ29 1W

|         |                |
|---------|----------------|
| MO (mm) | 4-8 1/2 (1435) |
| RO (mm) | 4-9 (1448)     |
| FS (mm) | 4-8 (1422)     |

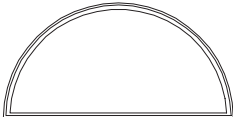
|               |
|---------------|
| 2-4 1/4 (718) |
| 2-4 1/2 (724) |
| 2-4 (711)     |



ELDGR29 2W

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |

|               |
|---------------|
| 3-0 1/4 (921) |
| 3-0 1/2 (927) |
| 3-0 (914)     |



ELDGR25 3W

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |

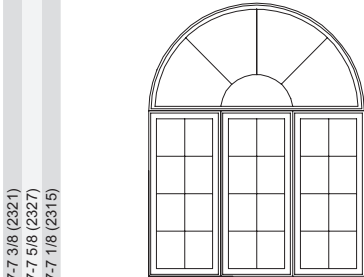
|               |
|---------------|
| 1-6 1/4 (464) |
| 1-6 1/2 (470) |
| 1-6 (457)     |



ELDGR7318

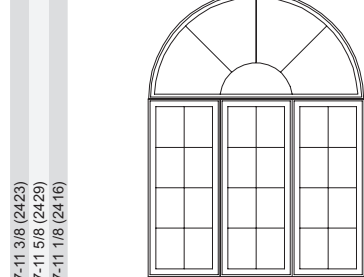
Multiple Assemblies

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |



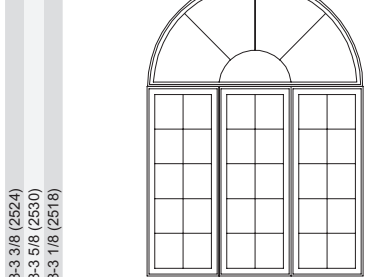
ELDGR25 3W / ELCA2555 3W

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |



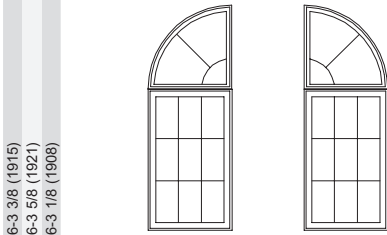
ELDGR25 3W / ELCA2559 3W

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |



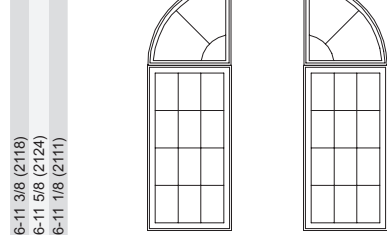
ELDGR25 3W / ELCA2563 3W

|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |



ELDG RT29 1W / ELCA2947 E

|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |



ELDG RT29 1W / ELCA2955 E

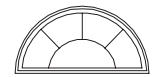
|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |



ELDG RT29 1W / ELCA2959 E

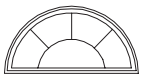
Lite Patterns

Open Hub



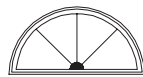
SDL

Open Hub

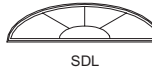


GBG

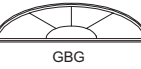
Closed Hub



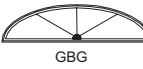
GBG



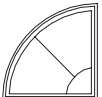
SDL



GBG



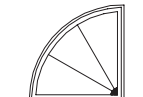
GBG



SDL



GBG



GBG

Details and Elevations not to scale.

E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

Any Casement unit in these combinations can be operating or stationary. Operating sash are viewed from the exterior.

Optional Round Top SDL, SDL with Spacer Bar and GBG are available in a standard cut, as shown to the left. (Round Top divided lites not available in other lite cuts.)

Optional Casement GBGs and SDLs are available in several lite cut variations, standard Rectangular cut shown.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullied up to 3 units wide by 2 units high.

MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 91 1/16" or 85" x 107 9/16".

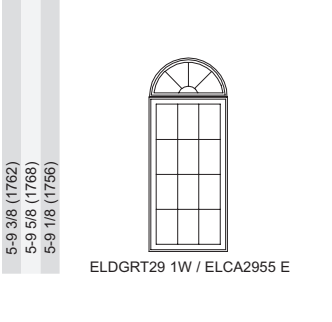
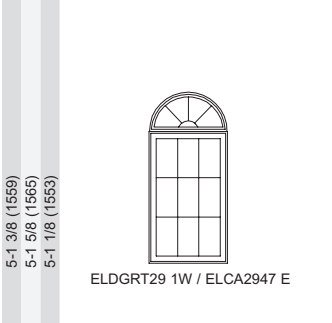
Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

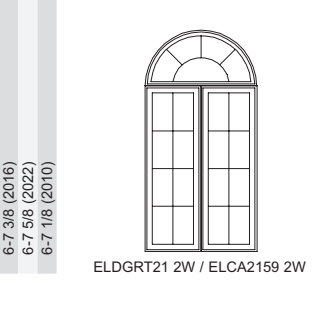
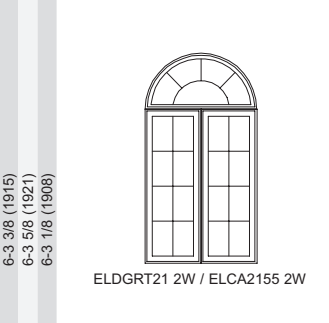
Casement Frame Type

Multiple Assemblies

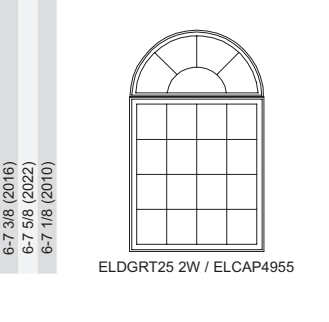
|         |               |
|---------|---------------|
| MO (mm) | 2-4 1/2 (724) |
| RO (mm) | 2-5 (737)     |
| FS (mm) | 2-4 (711)     |



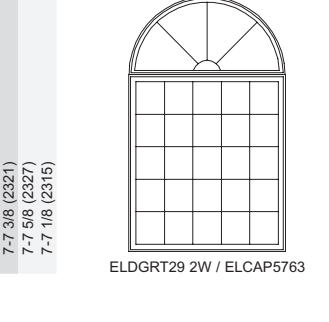
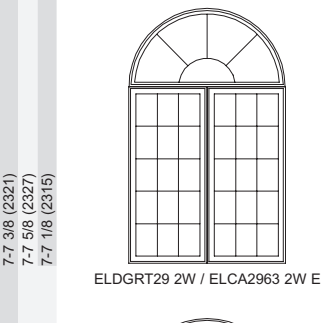
|         |                |
|---------|----------------|
| MO (mm) | 3-4 1/2 (1029) |
| RO (mm) | 3-5 (1041)     |
| FS (mm) | 3-4 (1016)     |



|         |                |
|---------|----------------|
| MO (mm) | 4-0 1/2 (1232) |
| RO (mm) | 4-1 (1245)     |
| FS (mm) | 4-0 (1219)     |



|         |                |
|---------|----------------|
| MO (mm) | 4-8 1/2 (1435) |
| RO (mm) | 4-9 (1448)     |
| FS (mm) | 4-8 (1422)     |



DIRECT GLAZE ROUND TOPS

Double Hung Frame Type

True Half (RT1)

|         |               |
|---------|---------------|
| MO (mm) | 2-6 (762)     |
| RO (mm) | 2-6 1/2 (775) |
| FS (mm) | 2-5 1/2 (749) |



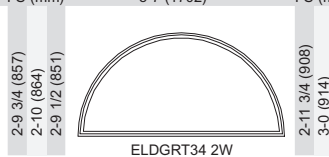
|         |                |
|---------|----------------|
| MO (mm) | 2-10 (864)     |
| RO (mm) | 2-10 1/2 (876) |
| FS (mm) | 2-9 1/2 (851)  |



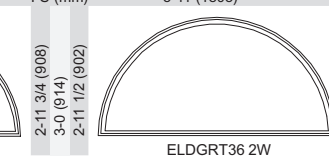
|         |               |
|---------|---------------|
| MO (mm) | 3-2 (965)     |
| RO (mm) | 3-2 1/2 (978) |
| FS (mm) | 3-1 1/2 (953) |



|         |                |
|---------|----------------|
| MO (mm) | 5-7 1/2 (1715) |
| RO (mm) | 5-8 (1727)     |
| FS (mm) | 5-7 (1702)     |

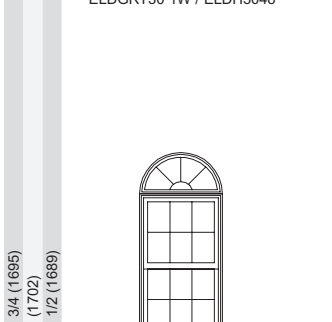
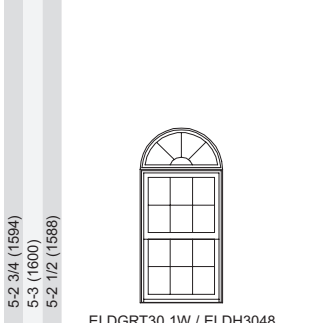


|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

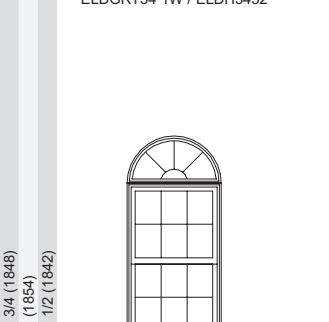
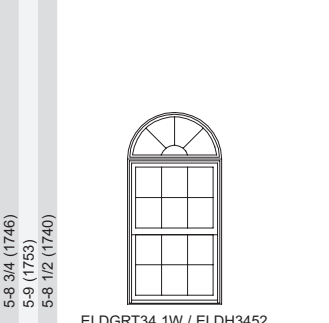


Multiple Assemblies

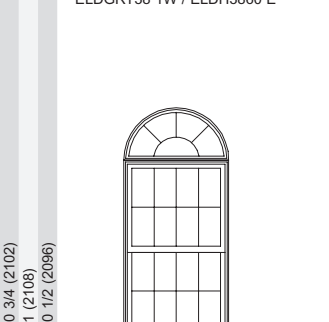
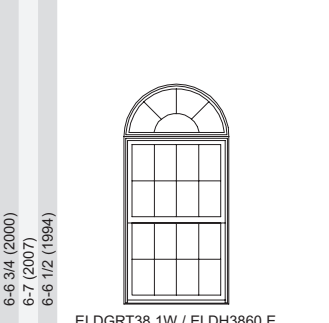
|         |               |
|---------|---------------|
| MO (mm) | 2-6 (762)     |
| RO (mm) | 2-6 1/2 (775) |
| FS (mm) | 2-5 1/2 (749) |



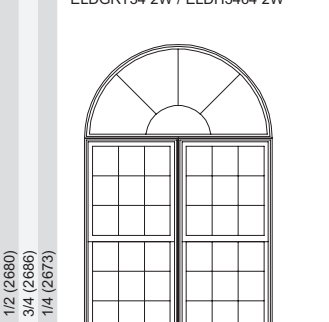
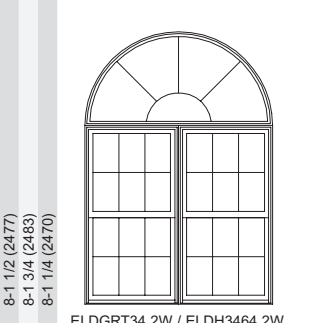
|         |                |
|---------|----------------|
| MO (mm) | 2-10 (864)     |
| RO (mm) | 2-10 1/2 (876) |
| FS (mm) | 2-9 1/2 (851)  |



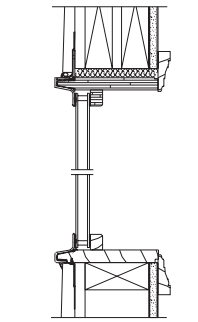
|         |               |
|---------|---------------|
| MO (mm) | 3-2 (965)     |
| RO (mm) | 3-2 1/2 (978) |
| FS (mm) | 3-1 1/2 (953) |



|         |                |
|---------|----------------|
| MO (mm) | 5-7 1/2 (1715) |
| RO (mm) | 5-8 (1727)     |
| FS (mm) | 5-7 (1702)     |

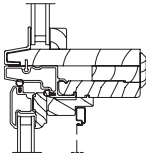


Construction Detail



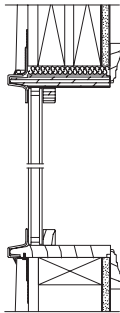
Casement  
Head Jamb and Sill

Horizontal Mullion Detail



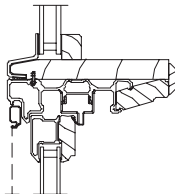
Casement Round Top  
Over Casement

Construction Detail



Double Hung/Door  
Head Jamb and Sill

Horizontal Mullion Detail



Double Hung Round Top  
Over Double Hung Operator

Details and Elevations not to scale.  
E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.  
When ordering 6 9/16" (167 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.  
Optional Round Top SDL, SDL with Spacer Bar and GBG are available in a standard cut, as shown on page 35. (Round Top divided lites not available in other lite cuts.)  
Optional Double Hung GBGs and SDLs are available in several lite cut variations, standard Rectangular cut shown.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

Door Frame Type

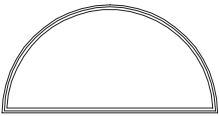
True Half (RT1), Elliptical (RT29)

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

2-11 3/4 (908)

3-0 (914)

2-11 1/2 (902)



ELDGR7236

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

1-6 1/4 (464)

1-6 1/2 (470)

1-6 (457)



ELDGR7218

Multiple Assemblies

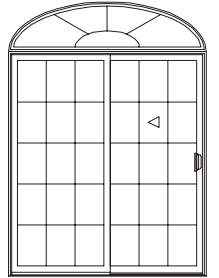
Sliding Patio Doors

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

8-4 1/4 (2546)

8-4 1/2 (2553)

8-4 (2540)

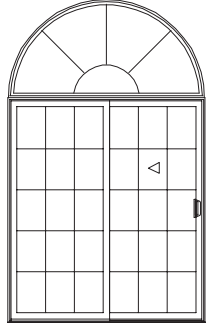


ELDGR7218 / ELSPD6068 OX

9-9 3/4 (2991)

9-10 (2997)

9-9 1/2 (2985)



ELDGR7236\* / ELSPD6068 OX

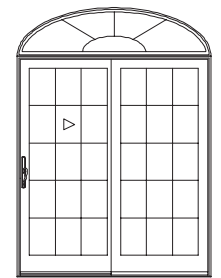
Sliding French Doors

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

8-4 1/4 (2546)

8-4 1/2 (2553)

8-4 (2540)

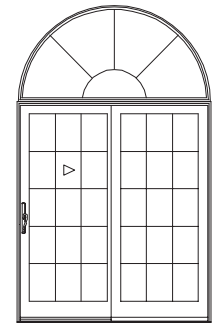


ELDGR7218 / ELSFD6068 XO

9-9 3/4 (2991)

9-10 (2997)

9-9 1/2 (2985)



ELDGR7236\* / ELSFD6068 XO

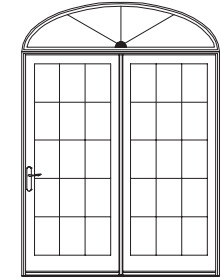
Inswing French Doors

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

8-4 1/4 (2546)

8-4 1/2 (2553)

8-4 (2540)

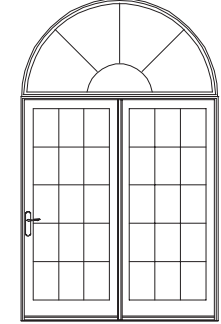


ELDGR7218 / ELIFD6068 XO

9-9 3/4 (2991)

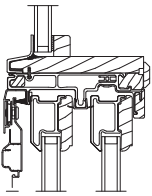
9-10 (2997)

9-9 1/2 (2985)

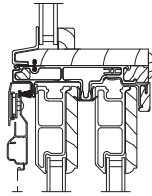


ELDGR7236\* / ELIFD6068 XO

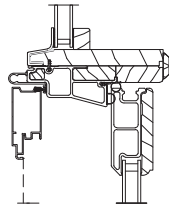
Horizontal Mullion Details



Round Top Over  
Sliding Patio Door



Round Top Over  
Sliding French Door



Round Top Over  
Inswing French Door

Details and Elevations not to scale.

\* Assembly available field mullied only.

Optional Round Top SDL, SDL with Spacer Bar and GBG are available in a standard cut, as shown on page 35. (Round Top divided lites not available in other lite cuts)

Optional Casement GBGs and SDLs are available in several lite cut variations, standard Rectangular cut shown.

ELDGR7236 and ELDGR7218 can be mullied above a CN 36 width 2W Elevate Double Hung.

For more information, please contact your Marvin representative.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullied up to 1W2H or 2W2H or 3W1H. See product Specifications for mulling limitations.

Field mull kits are available. Structural mullion reinforcement is required for some assemblies. Please consult your local Marvin representative for more information.

ALUMINUM DIRECT GLAZE ROUND TOPS

Casement Frame Type

True Half (RT1), Quarter Round (RT7/8)

|         |               |
|---------|---------------|
| MO (mm) | 2-8 1/2 (826) |
| RO (mm) | 2-9 (838)     |
| FS (mm) | 2-8 (813)     |

1-4 1/4 (413)

1-4 1/2 (419)

1-4 (406)



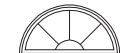
ELALDGR733 1W

|         |               |
|---------|---------------|
| MO (mm) | 3-0 1/2 (927) |
| RO (mm) | 3-1 (940)     |
| FS (mm) | 3-0 (914)     |

1-6 1/4 (464)

1-6 1/2 (470)

1-6 (457)



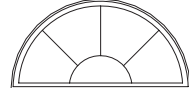
ELALDGR737 1W

|         |                |
|---------|----------------|
| MO (mm) | 5-4 1/2 (1638) |
| RO (mm) | 5-5 (1651)     |
| FS (mm) | 5-4 (1626)     |

2-8 1/4 (819)

2-8 1/2 (826)

2-8 (813)



ELALDGR733 2W

|         |               |
|---------|---------------|
| MO (mm) | 2-0 1/2 (622) |
| RO (mm) | 2-1 (635)     |
| FS (mm) | 2-0 (610)     |

2-0 1/4 (616)

2-0 1/2 (622)

2-0 (610)



L R  
ELALDGR725 1W

MULTIPLE ASSEMBLIES

Units may be factory mullied up to 3 units wide by 2 units high. Field mull kits are available. Structural mullion reinforcement is required for some assemblies.

MAXIMUM ROUGH OPENING 113 1/2" (2883 mm) wide x 91 1/16" (2313 mm) high or 85" (2159 mm) wide x 107 9/16" (2732 mm) high. Quarter Round shapes require a Casement with a continuous head jamb.

Please consult your local Marvin representative for more information.

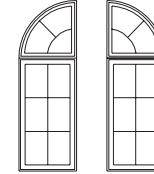
Multiple Assemblies

|         |               |
|---------|---------------|
| MO (mm) | 2-0 1/2 (622) |
| RO (mm) | 2-1 (635)     |
| FS (mm) | 2-0 (610)     |

5-11 3/8 (1813)

5-11 5/8 (1819)

5-11 1/8 (1807)



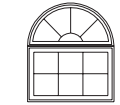
ELALDGR725 1W  
ELCA2547

|         |               |
|---------|---------------|
| MO (mm) | 3-0 1/2 (927) |
| RO (mm) | 3-1 (940)     |
| FS (mm) | 3-0 (914)     |

3-5 3/8 (1051)

3-5 5/8 (1057)

3-5 1/8 (1045)



ELALDGR737 1W  
ELAWN3723

|         |               |
|---------|---------------|
| MO (mm) | 3-0 1/2 (927) |
| RO (mm) | 3-1 (940)     |
| FS (mm) | 3-0 (914)     |

4-9 3/8 (1457)

4-9 5/8 (1464)

4-9 1/8 (1451)



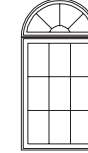
ELALDGR737 1W  
ELAWN3739

|         |               |
|---------|---------------|
| MO (mm) | 2-8 1/2 (826) |
| RO (mm) | 2-9 (838)     |
| FS (mm) | 2-8 (813)     |

5-3 3/8 (1610)

5-3 5/8 (1616)

5-3 1/8 (1603)



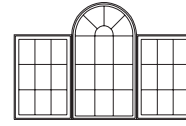
ELALDGR733 1W  
ELCA3347 E

|         |                |
|---------|----------------|
| MO (mm) | 8-4 1/2 (2553) |
| RO (mm) | 8-5 (2565)     |
| FS (mm) | 8-4 (2540)     |

5-5 3/8 (1661)

5-5 5/8 (1667)

5-5 1/8 (1654)



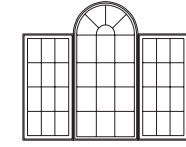
ELALDGR7365 / ELCA3347 E

|         |                |
|---------|----------------|
| MO (mm) | 7-8 1/2 (2350) |
| RO (mm) | 7-9 (2362)     |
| FS (mm) | 7-8 (2337)     |

6-5 3/8 (1665)

6-5 5/8 (1672)

6-5 1/8 (1659)



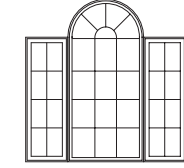
ELALDGR7377 / ELCA2959 E

|         |                |
|---------|----------------|
| MO (mm) | 6-4 1/2 (1943) |
| RO (mm) | 6-5 (1956)     |
| FS (mm) | 6-4 (1930)     |

6-5 3/8 (1665)

6-5 5/8 (1672)

6-5 1/8 (1659)



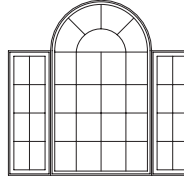
ELALDGR7377 / ELCA2159

|         |                |
|---------|----------------|
| MO (mm) | 7-4 1/2 (2248) |
| RO (mm) | 7-5 (2261)     |
| FS (mm) | 7-4 (2235)     |

6-11 3/8 (2118)

6-11 5/8 (2124)

6-11 1/8 (2111)



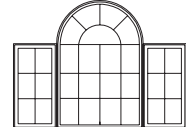
ELALDGR74983 / ELCA2159

|         |                |
|---------|----------------|
| MO (mm) | 8-0 1/2 (2451) |
| RO (mm) | 8-1 (2464)     |
| FS (mm) | 8-0 (2438)     |

5-11 3/8 (1813)

5-11 5/8 (1819)

5-11 1/8 (1807)



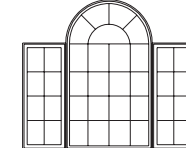
ELALDGR74971 / ELCA2547

|         |                |
|---------|----------------|
| MO (mm) | 8-0 1/2 (2451) |
| RO (mm) | 8-1 (2464)     |
| FS (mm) | 8-0 (2438)     |

6-11 3/8 (2118)

6-11 5/8 (2124)

6-11 1/8 (2111)



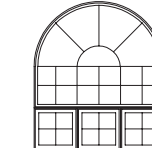
ELALDGR74983 / ELCA2559

|         |                |
|---------|----------------|
| MO (mm) | 6-0 1/2 (1842) |
| RO (mm) | 6-1 (1854)     |
| FS (mm) | 6-0 (1829)     |

6-10 1/2 (2096)

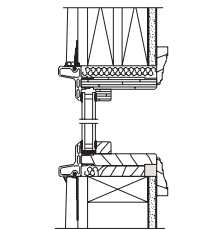
6-10 3/4 (2102)

6-10 1/4 (2089)



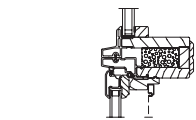
ELALDGR7359  
ELAWN2523 3W

Construction Detail



Casement Round Top  
Head Jamb and Sill

Horizontal Mullion Detail



Casement Round Top  
Over Casement

E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

Contact your sales representative for multiple assembly lite alignment. Certain assemblies do not allow for exact lite alignment.

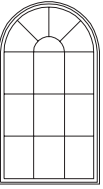
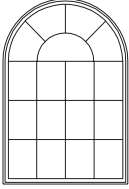
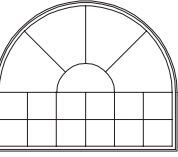
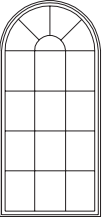
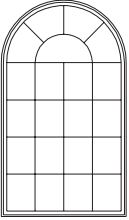
Not to scale. Optional Round Top SDL and SDL with Spacer Bar are available in standard cut shown above. GBG patterns shown on page 46. (Round Top divided lites not available in other lite cuts)

Optional Casement and Double Hung GBGs and SDLs are available in several lite variations, standard Rectangular cut shown.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

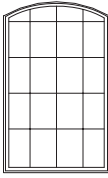
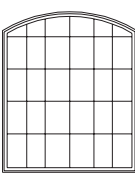
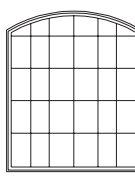
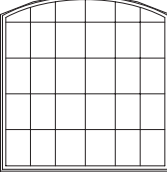
Casement Frame Type

True Half above Springline (RT2)

|                                                    |                                                                                                                  |                                                       |                                                                                                                  |                                                       |                                                                                                                    |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>MO (mm)</b>                                     | 3-0 1/2 (927)                                                                                                    | <b>MO (mm)</b>                                        | 4-0 1/2 (1232)                                                                                                   | <b>MO (mm)</b>                                        | 6-0 1/2 (1842)                                                                                                     |
| <b>RO (mm)</b>                                     | 3-1 (940)                                                                                                        | <b>RO (mm)</b>                                        | 4-1 (1245)                                                                                                       | <b>RO (mm)</b>                                        | 6-1 (1854)                                                                                                         |
| <b>FS (mm)</b>                                     | 3-0 (914)                                                                                                        | <b>FS (mm)</b>                                        | 4-0 (1219)                                                                                                       | <b>FS (mm)</b>                                        | 6-0 (1829)                                                                                                         |
| 5-5 3/8 (1661)<br>5-5 5/8 (1667)<br>5-5 1/8 (1654) | <br>SPLN 47ELCA<br>ELALDGRT3765 | 5-11 3/8 (1813)<br>5-11 5/8 (1819)<br>5-11 1/8 (1807) | <br>SPLN 47ELCA<br>ELALDGRT4971 | 4-11 3/8 (1508)<br>4-11 5/8 (1514)<br>4-11 1/8 (1502) | <br>SPLN 23ELAWN<br>ELALDGRT7359 |
| 6-5 3/8 (1965)<br>6-5 5/8 (1972)<br>6-5 1/8 (1959) | <br>SPLN 59ELCA<br>ELALDGRT3777 | 6-11 3/8 (2118)<br>6-11 5/8 (2124)<br>6-11 1/8 (2111) | <br>SPLN 59ELCA<br>ELALDGRT4983 |                                                       |                                                                                                                    |

Eyebrow above Springline (RT6)

|                                                     |                                                                                                                      |                                                 |                                                                                                                      |                                                 |                                                                                                                      |                                                 |                                                                                                                        |                                                 |                                                                                                                        |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>MO (mm)</b>                                      | 1-8 1/2 (521)                                                                                                        | <b>MO (mm)</b>                                  | 2-0 1/2 (622)                                                                                                        | <b>MO (mm)</b>                                  | 2-4 1/2 (724)                                                                                                        | <b>MO (mm)</b>                                  | 2-8 1/2 (826)                                                                                                          | <b>MO (mm)</b>                                  | 3-0 1/2 (927)                                                                                                          |
| <b>RO (mm)</b>                                      | 1-9 (533)                                                                                                            | <b>RO (mm)</b>                                  | 2-1 (635)                                                                                                            | <b>RO (mm)</b>                                  | 2-5 (737)                                                                                                            | <b>RO (mm)</b>                                  | 2-9 (838)                                                                                                              | <b>RO (mm)</b>                                  | 3-1 (940)                                                                                                              |
| <b>FS (mm)</b>                                      | 1-8 (508)                                                                                                            | <b>FS (mm)</b>                                  | 2-0 (610)                                                                                                            | <b>FS (mm)</b>                                  | 2-4 (711)                                                                                                            | <b>FS (mm)</b>                                  | 2-8 (813)                                                                                                              | <b>FS (mm)</b>                                  | 3-0 (914)                                                                                                              |
| 1-6 3/16 (482)<br>1-6 7/16 (486)<br>1-5 15/16 (456) | <br>SPLN 16ELCATR<br>ELALDGRT2118 | 1-7 1/4 (488)<br>1-7 1/2 (495)<br>1-7 (482)     | <br>SPLN 16ELCATR<br>ELALDGRT2519 | 1-8 1/2 (621)<br>1-8 3/4 (628)<br>1-8 1/4 (615) | <br>SPLN 16ELCATR<br>ELALDGRT2920 | 1-8 5/8 (624)<br>1-8 7/8 (630)<br>1-8 3/8 (618) | <br>SPLN 16ELCATR<br>ELALDGRT3320 | 1-10 (559)<br>1-10 1/4 (565)<br>1-9 3/4 (552)   | <br>SPLN 16ELCATR<br>ELALDGRT3722 |
|                                                     |                                                                                                                      | 2-2 5/8 (675)<br>2-2 7/8 (682)<br>2-2 3/8 (669) | <br>SPLN 23ELAWN<br>ELALDGRT2526  | 2-3 7/8 (709)<br>2-4 1/8 (715)<br>2-3 5/8 (702) | <br>SPLN 23ELAWN<br>ELALDGRT2928  | 2-4 (711)<br>2-4 1/4 (718)<br>2-3 3/4 (705)     | <br>SPLN 23ELAWN<br>ELALDGRT3328  | 2-5 3/8 (746)<br>2-5 5/8 (752)<br>2-5 1/8 (740) | <br>SPLN 23ELAWN<br>ELALDGRT3729  |

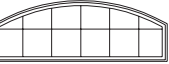
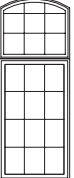
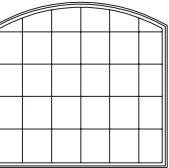
|                                                 |                                                                                                                      |                                                 |                                                                                                                      |                                                        |                                                                                                                       |                                                    |                                                                                                                        |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>MO (mm)</b>                                  | 3-4 1/2 (1029)                                                                                                       | <b>MO (mm)</b>                                  | 4-0 1/2 (1232)                                                                                                       | <b>MO (mm)</b>                                         | 4-8 1/2 (1435)                                                                                                        | <b>MO (mm)</b>                                     | 5-4 1/2 (1638)                                                                                                         |
| <b>RO (mm)</b>                                  | 3-5 (1041)                                                                                                           | <b>RO (mm)</b>                                  | 4-1 (1245)                                                                                                           | <b>RO (mm)</b>                                         | 4-9 (1448)                                                                                                            | <b>RO (mm)</b>                                     | 5-5 (1651)                                                                                                             |
| <b>FS (mm)</b>                                  | 3-4 (1016)                                                                                                           | <b>FS (mm)</b>                                  | 4-0 (1219)                                                                                                           | <b>FS (mm)</b>                                         | 4-8 (1422)                                                                                                            | <b>FS (mm)</b>                                     | 5-4 (1626)                                                                                                             |
| 1-9 3/8 (543)<br>1-9 5/8 (549)<br>1-9 7/8 (537) | <br>SPLN 16ELCATR<br>ELALDGRT4121 | 1-9 5/8 (549)<br>1-9 7/8 (556)<br>1-9 3/8 (543) | <br>SPLN 16ELCATR<br>ELALDGRT4921 | 1-11 13/16 (605)<br>2-0 1/16 (611)<br>1-11 9/16 (598)  | <br>SPLN 16ELCATR<br>ELALDGRT5724 | 1-11 1/2 (597)<br>1-11 3/4 (603)<br>1-11 1/4 (591) | <br>SPLN 16ELCATR<br>ELALDGRT6523 |
| 2-4 3/4 (730)<br>2-5 (737)<br>2-4 1/2 (724)     | <br>SPLN 23ELAWN<br>ELALDGRT4128  | 2-5 (737)<br>2-5 1/4 (743)<br>2-4 3/4 (730)     | <br>SPLN 23ELAWN<br>ELALDGRT4929  | 2-7 3/16 (793)<br>2-7 7/16 (799)<br>2-6 15/16 (786)    | <br>SPLN 23ELAWN<br>ELALDGRT5731  | 2-6 7/8 (784)<br>2-7 1/8 (791)<br>2-6 5/8 (778)    | <br>SPLN 23ELAWN<br>ELALDGRT6531  |
| 5-4 3/4 (1645)<br>5-5 (1651)<br>5-4 1/4 (1638)  | <br>SPLN 59ELCA<br>ELALDGRT4164   | 5-5 (1651)<br>5-5 1/4 (1657)<br>5-4 3/4 (1645)  | <br>SPLN 59ELCA<br>ELALDGRT4965   | 5-7 3/16 (1707)<br>5-7 7/16 (1713)<br>5-6 15/16 (1700) | <br>SPLN 59ELCA<br>ELALDGRT5767   | 5-6 7/8 (1699)<br>5-7 1/8 (1705)<br>5-6 5/8 (1692) | <br>SPLN 59ELCA<br>ELALDGRT6567   |

ALUMINUM DIRECT GLAZE ROUND TOPS

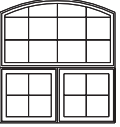
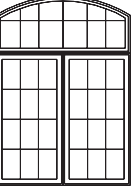
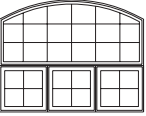
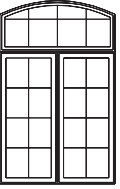
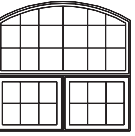
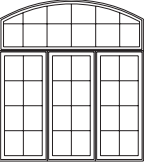
Casement Frame Type

Eyebrow above Springline (RT6)

Multiple Assemblies

|                                                 |                                                                                                                      |                                                    |                                                                                                                   |                                                       |                                                                                                                   |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>MO (mm)</b>                                  | 6-0 1/2 (1842)                                                                                                       | <b>MO (mm)</b>                                     | 2-4 1/2 (724)                                                                                                     | <b>MO (mm)</b>                                        | 2-8 1/2 (826)                                                                                                     |
| <b>RO (mm)</b>                                  | 6-1 (1854)                                                                                                           | <b>RO (mm)</b>                                     | 2-5 (737)                                                                                                         | <b>RO (mm)</b>                                        | 2-9 (838)                                                                                                         |
| <b>FS (mm)</b>                                  | 6-0 (1829)                                                                                                           | <b>FS (mm)</b>                                     | 2-4 (711)                                                                                                         | <b>FS (mm)</b>                                        | 2-8 (813)                                                                                                         |
| 2-1 5/8 (651)<br>2-1 7/8 (657)<br>2-1 3/8 (645) | <br>SPLN 16ELCATR<br>ELALDGRT7325 | 5-7 5/8 (1718)<br>5-7 7/8 (1724)<br>5-7 3/8 (1711) | <br>ELALDGRT2920<br>ELCA2947 E | 6-11 1/8 (2111)<br>6-11 3/8 (2118)<br>6-10 7/8 (2105) | <br>ELALDGRT3328<br>ELCA3355 E |
| 2-9 (838)<br>2-9 1/4 (845)<br>2-8 3/4 (832)     | <br>SPLN 23ELAWN<br>ELALDGRT7333  |                                                    |                                                                                                                   |                                                       |                                                                                                                   |
| 5-9 (1753)<br>5-9 1/4 (1759)<br>5-8 3/4 (1747)  | <br>SPLN 59ELCA<br>ELALDGRT7369   |                                                    |                                                                                                                   |                                                       |                                                                                                                   |

Multiple Assemblies

|                                                    |                                                                                                                       |                                                         |                                                                                                                       |                                                    |                                                                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>MO (mm)</b>                                     | 4-0 1/2 (1232)                                                                                                        | <b>MO (mm)</b>                                          | 4-8 1/2 (1435)                                                                                                        | <b>MO (mm)</b>                                     | 6-0 1/2 (1842)                                                                                                      |
| <b>RO (mm)</b>                                     | 4-1 (1245)                                                                                                            | <b>RO (mm)</b>                                          | 4-9 (1448)                                                                                                            | <b>RO (mm)</b>                                     | 6-1 (1854)                                                                                                          |
| <b>FS (mm)</b>                                     | 4-0 (1219)                                                                                                            | <b>FS (mm)</b>                                          | 4-8 (1422)                                                                                                            | <b>FS (mm)</b>                                     | 6-0 (1829)                                                                                                          |
| 4-4 1/8 (1324)<br>4-4 3/8 (1330)<br>4-3 7/8 (1318) | <br>ELALDGRT4929<br>ELAWN2523 2W | 6-6 15/16 (2005)<br>6-7 3/16 (2011)<br>6-6 11/16 (1998) | <br>ELALDGRT5724<br>ELCA2955 2W E | 4-8 1/8 (1425)<br>4-8 3/8 (1432)<br>4-7 7/8 (1419) | <br>ELDGRT7333<br>ELAWN2523 3W |
| 6-4 3/4 (1949)<br>6-5 (1956)<br>6-4 1/2 (1943)     | <br>ELALDGRT4921<br>ELCA2555 2W  | 4-6 5/16 (1354)<br>4-6 9/16 (1366)<br>4-6 1/16 (1373)   | <br>ELALDGRT5731<br>ELAWN2923 2W | 6-8 3/4 (2051)<br>6-9 (2057)<br>6-8 1/2 (2045)     | <br>ELDGRT7325<br>ELCA2555 3W  |

E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

Contact your sales representative for multiple assembly lite alignment. Certain assemblies do not allow for exact lite alignment.

Not to scale. Optional Round Top SDL and SDL with Spacer Bar are available in standard cut shown above. GBG patterns shown on page 46. (Round Top divided lites not available in other lite cuts)

Optional Casement and Double Hung GBGs and SDLs are available in several lite variations, standard Rectangular cut shown.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Units may be factory mulled up to 3 units wide by 2 units high. Field mull kits are available. Structural mullion reinforcement is required for some assemblies. Please consult your local Marvin representative for more information.

MAXIMUM ROUGH OPENING 113 1/2" (2883 mm) wide x 91 1/16" (2313 mm) high or 85" (2159 mm) wide x 107 9/16" (2732 mm) high. Quarter Round shapes require a Casement with a continuous head jamb.

Casement Frame Type

Eyebrow above Springline (RT6)      Multiple Assemblies

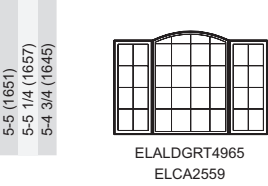
|         |                |
|---------|----------------|
| MO (mm) | 7-4 1/2 (2248) |
| RO (mm) | 7-5 (2261)     |
| FS (mm) | 7-4 (2235)     |



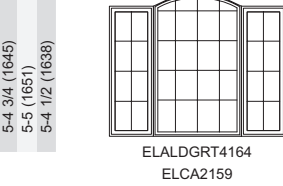
|         |                |
|---------|----------------|
| MO (mm) | 9-0 1/2 (2756) |
| RO (mm) | 9-1 (2769)     |
| FS (mm) | 9-0 (2743)     |



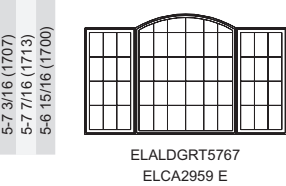
|         |                |
|---------|----------------|
| MO (mm) | 8-0 1/2 (2451) |
| RO (mm) | 8-1 (2464)     |
| FS (mm) | 8-0 (2438)     |



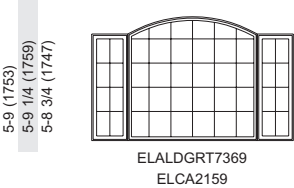
|         |                |
|---------|----------------|
| MO (mm) | 6-8 1/2 (2045) |
| RO (mm) | 6-9 (2057)     |
| FS (mm) | 6-8 (2032)     |



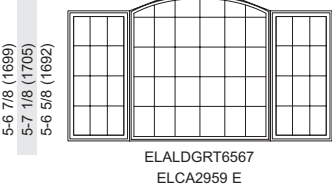
|         |                |
|---------|----------------|
| MO (mm) | 9-4 1/2 (2858) |
| RO (mm) | 9-5 (2870)     |
| FS (mm) | 9-4 (2845)     |



|         |                |
|---------|----------------|
| MO (mm) | 9-4 1/2 (2858) |
| RO (mm) | 9-5 (2870)     |
| FS (mm) | 9-4 (2845)     |



|         |                 |
|---------|-----------------|
| MO (mm) | 10-0 1/2 (3061) |
| RO (mm) | 10-1 (3073)     |
| FS (mm) | 10-0 (3048)     |

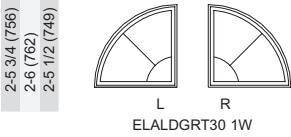


ALUMINUM DIRECT GLAZE ROUND TOPS

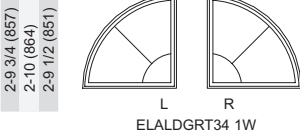
Double Hung/Door Frame Type

Quarter Round (RT7/8), True Half (RT1), Full Circle (RT27), Ellipse (RT28)

|         |               |
|---------|---------------|
| MO (mm) | 2-6 (762)     |
| RO (mm) | 2-6 1/2 (775) |
| FS (mm) | 2-5 1/2 (749) |



|         |                |
|---------|----------------|
| MO (mm) | 2-10 (864)     |
| RO (mm) | 2-10 1/2 (876) |
| FS (mm) | 2-9 1/2 (851)  |



|         |                |
|---------|----------------|
| MO (mm) | 3-0 (914)      |
| RO (mm) | 3-0 1/2 (927)  |
| FS (mm) | 2-11 1/2 (902) |



|         |                |
|---------|----------------|
| MO (mm) | 3-0 (914)      |
| RO (mm) | 3-0 1/2 (927)  |
| FS (mm) | 2-11 1/2 (902) |



|         |                |
|---------|----------------|
| MO (mm) | 3-6 (1067)     |
| RO (mm) | 3-6 1/2 (1080) |
| FS (mm) | 3-5 1/2 (1054) |



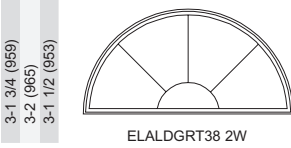
|         |                |
|---------|----------------|
| MO (mm) | 4-3 1/2 (1308) |
| RO (mm) | 4-4 (1321)     |
| FS (mm) | 4-3 (1295)     |



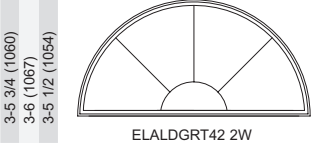
|         |                 |
|---------|-----------------|
| MO (mm) | 4-11 1/2 (1511) |
| RO (mm) | 5-0 (1524)      |
| FS (mm) | 4-11 (1499)     |



|         |                |
|---------|----------------|
| MO (mm) | 6-3 1/2 (1918) |
| RO (mm) | 6-4 (1930)     |
| FS (mm) | 6-3 (1905)     |



|         |                 |
|---------|-----------------|
| MO (mm) | 6-11 1/2 (2121) |
| RO (mm) | 7-0 (2134)      |
| FS (mm) | 6-11 (2108)     |



|         |                |
|---------|----------------|
| MO (mm) | 2-11 1/2 (902) |
| RO (mm) | 3-0 (914)      |
| FS (mm) | 2-11 (889)     |

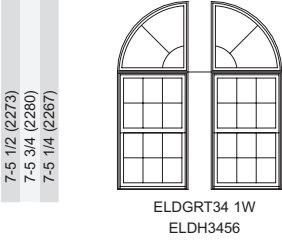


|         |               |
|---------|---------------|
| MO (mm) | 2-7 1/2 (800) |
| RO (mm) | 2-8 (813)     |
| FS (mm) | 2-7 (787)     |

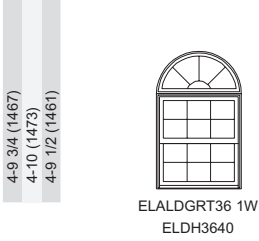


Multiple Assemblies

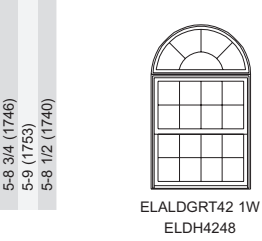
|         |                |
|---------|----------------|
| MO (mm) | 2-10 (864)     |
| RO (mm) | 2-10 1/2 (876) |
| FS (mm) | 2-9 1/2 (851)  |



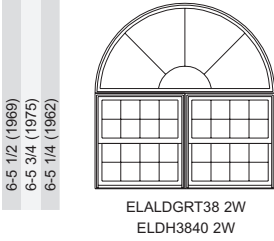
|         |                |
|---------|----------------|
| MO (mm) | 3-0 (914)      |
| RO (mm) | 3-0 1/2 (927)  |
| FS (mm) | 2-11 1/2 (902) |



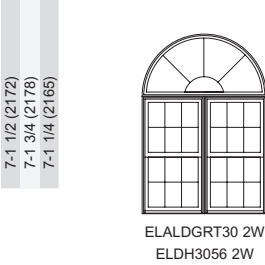
|         |                |
|---------|----------------|
| MO (mm) | 3-6 (1067)     |
| RO (mm) | 3-6 1/2 (1080) |
| FS (mm) | 3-5 1/2 (1054) |



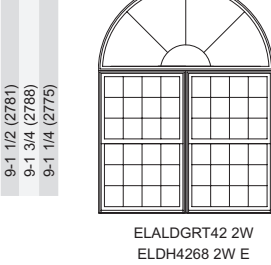
|         |                |
|---------|----------------|
| MO (mm) | 6-3 1/2 (1918) |
| RO (mm) | 6-4 (1930)     |
| FS (mm) | 6-3 (1905)     |



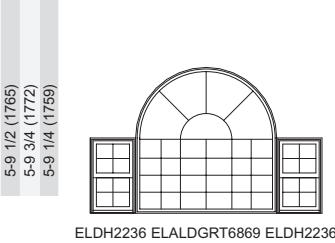
|         |                 |
|---------|-----------------|
| MO (mm) | 4-11 1/2 (1511) |
| RO (mm) | 5-0 (1524)      |
| FS (mm) | 4-11 (1499)     |



|         |                 |
|---------|-----------------|
| MO (mm) | 6-11 1/2 (2121) |
| RO (mm) | 7-0 (2134)      |
| FS (mm) | 6-11 (2108)     |



|         |                |
|---------|----------------|
| MO (mm) | 9-2 1/2 (2807) |
| RO (mm) | 9-3 (2819)     |
| FS (mm) | 9-2 (2794)     |



E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.

Contact your sales representative for multiple assembly lite alignment. Certain assemblies do not allow for exact lite alignment.

Not to scale. Optional Round Top SDL and SDL with Spacer Bar are available in standard cut shown above. GBG patterns shown on page 46. (Round Top divided lites not available in other lite cuts)

Optional Casement and Double Hung GBGs and SDLs are available in several lite variations, standard Rectangular cut shown.

MULTIPLE ASSEMBLIES

Units may be factory mulled up to 3 units wide by 2 units high. Field mull kits are available. Structural mullion reinforcement is required for some assemblies. Please consult your local Marvin representative for more information.

MAXIMUM ROUGH OPENING 113 1/2" (2883 mm) wide x 91 9/16" (2313 mm) high or 85" (2159 mm) wide x 107 9/16" (2732 mm) high. Quarter Round shapes require a Casement with a continuous head jamb.

Double Hung/Door Frame Type  
True Half above Springline (RT2)

|                |                |                 |                 |
|----------------|----------------|-----------------|-----------------|
| MO (mm)        | 5-7 1/2 (1715) | MO (mm)         | 5-11 1/2 (1816) |
| RO (mm)        | 5-8 (1727)     | RO (mm)         | 6-0 (1829)      |
| FS (mm)        | 5-7 (1702)     | FS (mm)         | 5-11 (1803)     |
| 5-9 1/2 (1765) |                | 4-10 7/8 (1495) |                 |
| 5-9 3/4 (1772) |                | 4-11 1/8 (1502) |                 |
| 5-9 1/4 (1759) |                | 4-10 5/8 (1489) |                 |
| SPLN 36ELDH    |                |                 |                 |
|                | ELALDGR7259    |                 |                 |

Eyebrow above Springline (RT6)

|                 |                 |                 |                 |                 |                |                 |                 |
|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| MO (mm)         | 2-2 (660)       | MO (mm)         | 2-6 (762)       | MO (mm)         | 2-10 (864)     | MO (mm)         | 3-0 (914)       |
| RO (mm)         | 2-2 1/2 (673)   | RO (mm)         | 2-6 1/2 (775)   | RO (mm)         | 2-10 1/2 (876) | RO (mm)         | 3-0 1/2 (927)   |
| FS (mm)         | 2-1 1/2 (648)   | FS (mm)         | 2-5 1/2 (749)   | FS (mm)         | 2-9 1/2 (851)  | FS (mm)         | 2-11 1/2 (902)  |
| 1-7 11/16 (500) |                 | 1-9 1/8 (536)   |                 | 1-9 13/16 (554) |                | 1-9 13/16 (554) |                 |
| 1-7 15/16 (506) |                 | 1-9 3/8 (542)   |                 | 1-10 1/16 (560) |                | 1-10 1/16 (560) |                 |
| 1-7 7/16 (494)  |                 | 1-8 7/8 (529)   |                 | 1-9 9/16 (548)  |                | 1-9 9/16 (548)  |                 |
| SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                | SPLN 16ELDHTR   |                 |
|                 | ELALDGR2619     |                 | ELALDGR3021     |                 | ELALDGR3421    |                 | ELALDGR3622     |
| MO (mm)         | 3-2 (965)       | MO (mm)         | 3-6 (1067)      | MO (mm)         | 4-3 1/2 (1308) | MO (mm)         | 4-11 1/2 (1511) |
| RO (mm)         | 3-2 1/2 (978)   | RO (mm)         | 3-6 1/2 (1080)  | RO (mm)         | 4-4 (1321)     | RO (mm)         | 5-0 (1524)      |
| FS (mm)         | 3-1 1/2 (953)   | FS (mm)         | 3-5 1/2 (1054)  | FS (mm)         | 4-3 (1295)     | FS (mm)         | 4-11 (1499)     |
| 1-8 5/8 (525)   |                 | 1-9 13/16 (554) |                 | 1-10 3/8 (569)  |                | 2-0 3/4 (629)   |                 |
| 1-8 7/8 (531)   |                 | 1-10 1/16 (560) |                 | 1-10 5/8 (575)  |                | 2-1 (636)       |                 |
| 1-8 3/8 (518)   |                 | 1-9 9/16 (548)  |                 | 1-10 1/8 (563)  |                | 2-0 1/2 (623)   |                 |
| SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                | SPLN 16ELDHTR   |                 |
|                 | ELALDGR3820     |                 | ELALDGR4222     |                 | ELALDGR5222    |                 | ELALDGR6025     |
| MO (mm)         | 5-7 1/2 (1715)  | MO (mm)         | 5-11 1/2 (1816) | MO (mm)         | 6-3 1/2 (1918) | MO (mm)         | 6-11 1/2 (2121) |
| RO (mm)         | 5-8 (1727)      | RO (mm)         | 6-0 (1829)      | RO (mm)         | 6-4 (1930)     | RO (mm)         | 7-0 (2134)      |
| FS (mm)         | 5-7 (1702)      | FS (mm)         | 5-11 (1803)     | FS (mm)         | 6-3 (1905)     | FS (mm)         | 6-11 (2108)     |
| 2-0 1/4 (616)   |                 | 2-1 3/8 (645)   |                 | 2-2 1/2 (674)   |                | 2-5 1/8 (741)   |                 |
| 2-0 1/2 (622)   |                 | 2-1 5/8 (651)   |                 | 2-2 3/4 (680)   |                | 2-5 3/8 (747)   |                 |
| 2-0 (610)       |                 | 2-1 1/8 (638)   |                 | 2-2 1/4 (668)   |                | 2-4 7/8 (734)   |                 |
| SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                 | SPLN 16ELDHTR   |                | SPLN 16ELDHTR   |                 |
|                 | ELALDGR6824     |                 | ELALDGR7225     |                 | ELALDGR7626    |                 | ELALDGR8429     |
| MO (mm)         | 4-3 1/2 (1308)  | MO (mm)         | 4-11 1/2 (1511) | MO (mm)         | 5-7 1/2 (1715) | MO (mm)         | 6-3 1/2 (1918)  |
| RO (mm)         | 4-4 (1321)      | RO (mm)         | 5-0 (1524)      | RO (mm)         | 5-8 (1727)     | RO (mm)         | 6-4 (1930)      |
| FS (mm)         | 4-3 (1295)      | FS (mm)         | 4-11 (1499)     | FS (mm)         | 5-7 (1702)     | FS (mm)         | 6-3 (1905)      |
| 5-6 3/8 (1687)  |                 | 5-8 3/4 (1747)  |                 | 5-8 1/4 (1734)  |                | 5-10 1/2 (1791) |                 |
| 5-6 5/8 (1693)  |                 | 5-9 (1753)      |                 | 5-8 1/2 (1741)  |                | 5-10 3/4 (1798) |                 |
| 5-6 1/8 (1680)  |                 | 5-8 1/2 (1741)  |                 | 5-8 (1728)      |                | 5-10 1/4 (1785) |                 |
| SPLN 60ELDH     |                 | SPLN 60ELDH     |                 | SPLN 60ELDH     |                | SPLN 60ELDH     |                 |
|                 | ELALDGR5266     |                 | ELALDGR6069     |                 | ELALDGR6868    |                 | ELALDGR7670     |
| MO (mm)         | 6-11 1/2 (2121) |                 |                 |                 |                |                 |                 |
| RO (mm)         | 7-0 (2134)      |                 |                 |                 |                |                 |                 |
| FS (mm)         | 6-11 (2108)     |                 |                 |                 |                |                 |                 |
| 6-1 1/8 (1858)  |                 |                 |                 |                 |                |                 |                 |
| 6-1 3/8 (1865)  |                 |                 |                 |                 |                |                 |                 |
| 6-0 7/8 (1852)  |                 |                 |                 |                 |                |                 |                 |
| SPLN 60ELDH     |                 |                 |                 |                 |                |                 |                 |
|                 | ELALDGR8473     |                 |                 |                 |                |                 |                 |

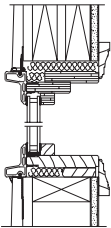
E = These windows meet National Egress Codes for fire evacuation. Local codes may differ.  
Not to scale. Optional Round Top SDL and SDL with Spacer Bar are available in standard cut shown above. GBG patterns shown on page 46. (Round Top divided lites not available in other lite cuts)  
Optional Casement and Double Hung GBGs and SDLs are available in several lite variations, standard Rectangular cut shown.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

ALUMINUM DIRECT GLAZE ROUND TOPS

Double Hung/Door Frame Type  
Eyebrow above Springline (RT6) Multiple Assemblies

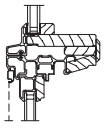
|                  |                |                  |                |                |                  |                 |                |
|------------------|----------------|------------------|----------------|----------------|------------------|-----------------|----------------|
| MO (mm)          | 3-0 (914)      | MO (mm)          | 3-6 (1067)     | MO (mm)        | 5-7 1/2 (1715)   | MO (mm)         | 6-3 1/2 (1918) |
| RO (mm)          | 3-0 1/2 (927)  | RO (mm)          | 3-6 1/2 (1080) | RO (mm)        | 5-8 (1727)       | RO (mm)         | 6-4 (1930)     |
| FS (mm)          | 2-11 1/2 (902) | FS (mm)          | 3-5 1/2 (1054) | FS (mm)        | 5-7 (1702)       | FS (mm)         | 6-3 (1905)     |
| 6-9 9/16 (2072)  |                | 7-9 9/16 (2376)  |                | 6-8 (2032)     |                  | 6-10 (2083)     |                |
| 6-9 13/16 (2078) |                | 7-9 13/16 (2383) |                | 6-8 1/4 (2038) |                  | 6-10 1/4 (2089) |                |
| 6-9 5/16 (2065)  |                | 7-9 5/16 (2370)  |                | 6-7 3/4 (2026) |                  | 6-9 3/4 (2076)  |                |
| ELALDGR3622      |                | ELALDGR4222      |                | ELALDGR6824    |                  | ELALDGR7626     |                |
| ELDH3660 E       |                | ELDH4272 E       |                | ELDH3456 2W    |                  | ELDH3856 2W     |                |
| MO (mm)          | 8-6 1/2 (2604) | MO (mm)          | 9-2 1/2 (2807) | MO (mm)        | 13-10 1/2 (4229) |                 |                |
| RO (mm)          | 8-7 (2616)     | RO (mm)          | 9-3 (2819)     | RO (mm)        | 13-11 (4242)     |                 |                |
| FS (mm)          | 8-6 (2591)     | FS (mm)          | 9-2 (2794)     | FS (mm)        | 13-10 (4216)     |                 |                |
| 5-6 3/8 (1686)   |                | 5-8 1/4 (1734)   |                | 6-1 1/8 (1857) |                  |                 |                |
| 5-6 5/8 (1692)   |                | 5-8 1/2 (1740)   |                | 6-1 3/8 (1864) |                  |                 |                |
| 5-6 1/8 (1680)   |                | 5-8 (1727)       |                | 6-0 7/8 (1851) |                  |                 |                |
| ELALDGR5266      |                | ELALDGR6868      |                | ELALDGR8473T   |                  |                 |                |
| ELDH2660         |                | ELDH2260         |                | ELDH4260 E     |                  |                 |                |
| MO (mm)          | 6-1 (1854)     |                  |                |                |                  |                 |                |
| RO (mm)          | 6-1 1/2 (1867) |                  |                |                |                  |                 |                |
| FS (mm)          | 6-0 1/2 (1842) |                  |                |                |                  |                 |                |
| 1-9 1/8 (537)    |                |                  |                |                |                  |                 |                |
| 1-9 3/8 (543)    |                |                  |                |                |                  |                 |                |
| 1-8 7/8 (530)    |                |                  |                |                |                  |                 |                |
| ELALDGR3021      |                |                  |                |                |                  |                 |                |
| ELDHT2216        |                |                  |                |                |                  |                 |                |

Construction Detail



Double Hung/Door Round Top  
Head Jamb and Sill

Horizontal Mullion Detail



Double Hung Round  
Top Over Double Hung

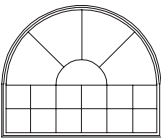
MULTIPLE ASSEMBLIES

Units may be factory mulled up to 3 units wide by 2 units high. Field mull kits are available. Structural mullion reinforcement is required for some assemblies. Please consult your local Marvin representative for more information.  
MAXIMUM ROUGH OPENING 113 1/2" (2883 mm) wide x 91 1/16" (2313 mm) high or 85" (2159 mm) wide x 107 9/16" (2732 mm) high. Quarter Round shapes require a Casement with a continuous head jamb.

Double Hung/Door Frame Type  
Half Round above Springline (RT2)

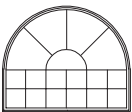
|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

4-10 7/8 (1495)  
4-11 1/8 (1502)  
4-10 5/8 (1489)



ELALDGRT7259

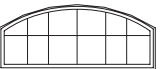
Lite Patterns

|     |            |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
|-----|------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| SDL | Open Hub   |  |  |  |  |  |
| GBG | Open Hub   |  |  |  |  | Not Available                                                                       |
| GBG | Closed Hub |  |  |  |  | Not Available                                                                       |

Eyebrow above Springline (RT6)

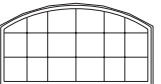
|         |                 |
|---------|-----------------|
| MO (mm) | 4-11 1/2 (1511) |
| RO (mm) | 5-0 (1524)      |
| FS (mm) | 4-11 (1499)     |

2-0 3/4 (629)  
2-1 (636)  
2-0 1/2 (623)



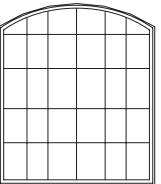
ELALDGRT6025

2-8 1/8 (817)  
2-8 3/8 (823)  
2-7 7/8 (810)



ELALDGRT6032

5-8 3/4 (1747)  
5-9 (1753)  
5-8 1/2 (1740)



ELALDGRT6069

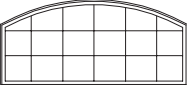
|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |

2-1 3/8 (645)  
2-1 5/8 (651)  
2-1 1/8 (638)



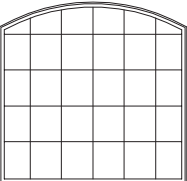
ELALDGRT7225

2-8 (832)  
2-9 (836)  
2-8 1/2 (826)



ELALDGRT7233

5-8 3/4 (1746)  
5-9 (1753)  
5-8 1/2 (1740)



ELALDGRT7269

T = Standard Tempered

Contact your Marvin representative for multiple assembly lite alignment.  
Certain assemblies do not allow for exact lite alignment.

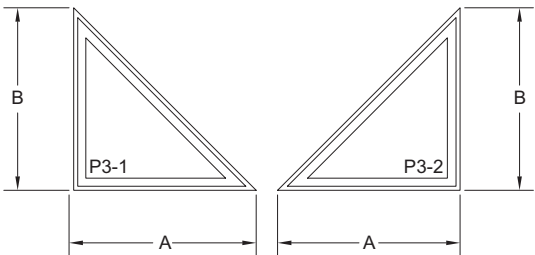
Not to scale. Optional Round Top SDL and SDL with Spacer Bar are available in standard cut shown above. GBG patterns shown above. (Round Top divided lites not available in other lite cuts) Optional Casement and Double Hung GBGs and SDLs are available in several lite variations, standard Rectangular cut shown.

Note: ELALDGRT7225, ELALDGRT7233, and ELALDGRT7269 can be mulled above a CN 36 width 2W Elevate Double Hung. GBGs may not line up in multiple assemblies. ELALDGRT7259 can be mulled above a CN 36 width 2W Elevate Double Hung.

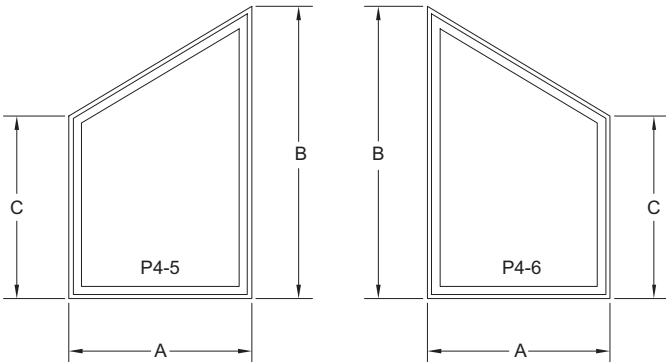
For more information, please contact your Marvin representative.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

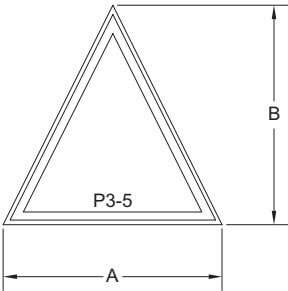
DIRECT GLAZE SPECIALTY SHAPES - Polygons



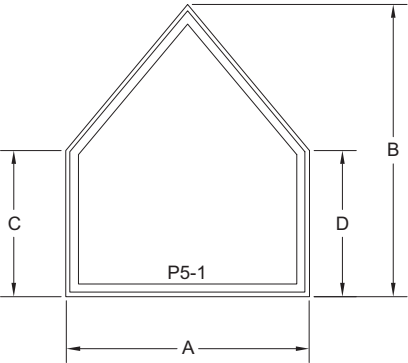
90° TRIANGLE



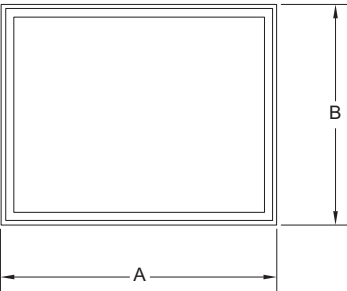
TRAPIZOID



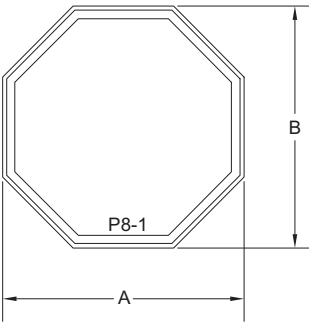
ISOSCELES TRIANGLE



PENTAGON



90° RECTANGLE



OCTAGON

HOW TO SPECIFY

When ordering a Trapezoid, Triangle, or Rectangle window, provide a sketch of the unit as viewed from the exterior, also include key Rough Opening dimensions.

EXAMPLE

To order a window of a Trapezoid opening provide the measurements of A, B, and C as indicated. For other shapes, give the dimensions shown.

To ensure the proper unit for field mulling applications, specify Casement/Awning or Double Hung/Door frame type.

SPECIFICATION NOTES

Maximum frame long dimension: 109" (2767)

Maximum frame short dimension at 109" (2767) long dimension: 64 3/4" (1645)

Tripane maximum frame long dimension: 102 13/16" (2611)

Tripane maximum frame short dimension at 102 13/16" (2611) long dimension: 61 13/16" (1570)

Minimum unit frame dimensions: 12 7/8" (327) x 12 7/8" (327)

Minimum P8-1 RO size: 19 1/8" (486) x 19 1/8" (486)

Minimum frame short dimension for P4-5, P4-6, P5-1: 7 1/2" (191)

Maximum frame square footage: 49 ft². All shapes shall be defined by the enclosed rectangle.

Tripane maximum frame square footage: 44.160 ft². All shapes shall be defined by the enclosed rectangle.

Product Spec 22762 Rev 19.0 states that the minimum frame angle is 15 degrees (3.22/12 pitch).

MULTIPLE ASSEMBLIES - RECTANGLES ONLY

Multiple assemblies of rectangles only can be factory mulled:

For ELDG units using ELCA/ELAWN frame type: up to 7 units wide by 1 unit high. MAXIMUM ROUGH OPENING not to exceed 113" x 71 5/8" or up to 4 units wide by 5 units high. MAXIMUM ROUGH OPENING not to exceed 85" x 94 3/4".

For ELDG units using ELDH/ELGL frame type: up to 5 units wide by 1 unit high. MAXIMUM ROUGH OPENING not to exceed 113 1/2" x 76 1/4" or up to 3 units wide by 5 units high. MAXIMUM ROUGH OPENING not to exceed 84" x 92".

For ELDG units mulling over ELSPD/ELSFD: up to 1 unit wide by 2 units high. MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2".

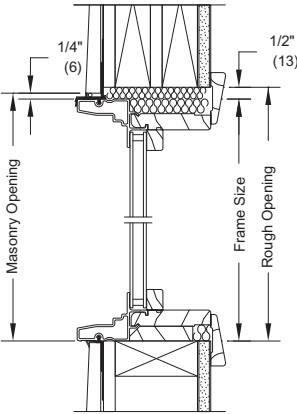
For ELDG units mulling over ELIFD/ELOFD: up to 2 units wide by 2 units high. MAXIMUM ROUGH OPENING not to exceed 73 5/8" x 100 1/2".

NOTE: Rectangular field assemblies with jamb extension: add 1/4" (6 mm) to width, and 1/8" (3 mm) to height of Frame, Rough, and Masonry Opening sizes for ELDG units using ELDH/ELGL frame type or ELDG units mulling to doors.

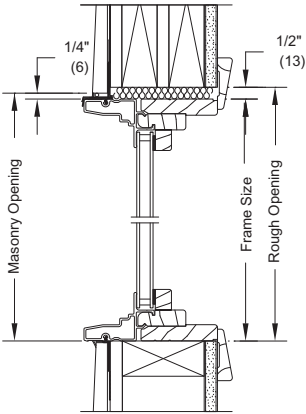
Field mulling window assemblies beyond the above limitations is not recommended.

Field mulling door assemblies beyond 110" x 112" is not recommended.

Construction Details

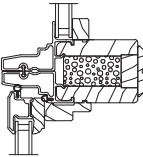


Direct Glaze Casement  
Frame Type  
Head Jamb and Sill

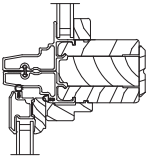


Direct Glaze Double Hung/Door  
Frame Type  
Head Jamb and Sill

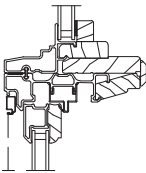
Mullion Details



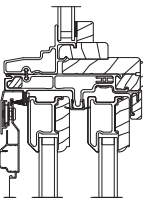
Direct Glaze  
Over Casement/Awning



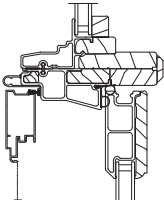
Direct Glaze  
Over Casement/Awning  
with Structural Mull  
Reinforcement Block\*



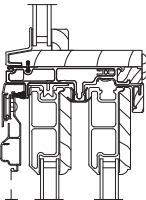
Direct Glaze  
Over Double Hung



Direct Glaze  
Over Sliding Patio Door



Direct Glaze  
Over Inswing French  
Door



Direct Glaze  
Over  
Sliding French Door

Details not to scale.  
Note: Drip cap supplied on direct glaze rectangles only.  
\* To be used on 2 wide by 2 high assemblies.  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

SLIDING PATIO DOOR

2 Panel

|                                                                   |                 |              |              |                 |              |              |                 |  |  |
|-------------------------------------------------------------------|-----------------|--------------|--------------|-----------------|--------------|--------------|-----------------|--|--|
| MO (mm)                                                           | 4-11 1/2 (1511) |              |              | 5-11 1/2 (1816) |              |              | 7-11 1/2 (2426) |  |  |
| RO (mm)                                                           | 5-0 (1524)      |              |              | 6-0 (1829)      |              |              | 8-0 (2438)      |  |  |
| FS (mm)                                                           | 4-11 (1499)     |              |              | 5-11 (1803)     |              |              | 7-11 (2413)     |  |  |
| DLO (mm)                                                          | 25 (635)        |              |              | 31 (787)        |              |              | 43 (1092)       |  |  |
| 6-7 3/4 (2026)<br>6-8 (2032)<br>6-7 1/2 (2019)<br>72 1/32 (1803)  |                 |              |              |                 |              |              |                 |  |  |
|                                                                   | ELSPD5065 XO    | ELSPD5065 OX | ELSPD6065 XO | ELSPD6065 OX    | ELSPD8065 XO | ELSPD8065 OX |                 |  |  |
|                                                                   |                 |              |              |                 |              |              |                 |  |  |
|                                                                   | ELSPD5068 XO    | ELSPD5068 OX | ELSPD6068 XO | ELSPD6068 OX    | ELSPD8068 XO | ELSPD8068 OX |                 |  |  |
| 7-2 1/4 (2191)<br>7-2 1/2 (2197)<br>7-2 (2184)<br>78 17/32 (1995) |                 |              |              |                 |              |              |                 |  |  |
|                                                                   | ELSPD5070 XO    | ELSPD5070 OX | ELSPD6070 XO | ELSPD6070 OX    | ELSPD8070 XO | ELSPD8070 OX |                 |  |  |
|                                                                   |                 |              |              |                 |              |              |                 |  |  |
|                                                                   | ELSPD5080 XO    | ELSPD5080 OX | ELSPD6080 XO | ELSPD6080 OX    | ELSPD8080 XO | ELSPD8080 OX |                 |  |  |

Details and Elevations not to scale.  
When ordering 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.  
Optional Direct Glaze GBGs and SDLs are available in a standard Rectangular cut, as shown. Alternate lite cuts available to align with doors using select lite cut options shown on page 3. Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 35. (Round Top divided lites not available in other lite cuts)  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

**MULTIPLE ASSEMBLIES**  
Multiple assembly units can be factory mullered up to 1 unit wide by 2 units high.  
MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2"  
Field mull kits available not to exceed 110" x 112"  
True Half Rounds are available field mullered only. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

3 Panel

| MO (mm)         | 7-5 (2261)         |                    |               |               | 8-11 (2718)        |
|-----------------|--------------------|--------------------|---------------|---------------|--------------------|
| RO (mm)         | 7-5 1/2 (2273)     |                    |               |               | 8-11 1/2 (2731)    |
| FS (mm)         | 7-4 1/2 (2248)     |                    |               |               | 8-10 1/2 (2705)    |
| DLO (mm)        | 25 (635)           |                    |               |               | 31 (787)           |
| 6-7 3/4 (2026)  |                    |                    |               |               |                    |
| 6-8 (2032)      | ELSPD7665 OXO - RH | ELSPD7665 OXO - LH | ELSPD7665 XOO | ELSPD7665 OOX | ELSPD9065 OXO - RH |
| 6-7 1/2 (2019)  |                    |                    |               |               |                    |
| 72 1/32 (1803)  | ELSPD7668 OXO - RH | ELSPD7668 OXO - LH | ELSPD7668 XOO | ELSPD7668 OOX | ELSPD9068 OXO - RH |
| 6-10 1/4 (2089) |                    |                    |               |               |                    |
| 6-10 1/2 (2096) | ELSPD7670 OXO - RH | ELSPD7670 OXO - LH | ELSPD7670 XOO | ELSPD7670 OOX | ELSPD9070 OXO - RH |
| 6-10 (2083)     |                    |                    |               |               |                    |
| 74 17/32 (1893) | ELSPD7680 OXO - RH | ELSPD7680 OXO - LH | ELSPD7680 XOO | ELSPD7680 OOX | ELSPD9080 OXO - RH |
| 7-2 1/4 (2191)  |                    |                    |               |               |                    |
| 7-2 1/2 (2197)  | ELSPD7670 OXO - RH | ELSPD7670 OXO - LH | ELSPD7670 XOO | ELSPD7670 OOX | ELSPD9070 OXO - RH |
| 7-2 (2184)      |                    |                    |               |               |                    |
| 78 17/32 (1995) | ELSPD7680 OXO - RH | ELSPD7680 OXO - LH | ELSPD7680 XOO | ELSPD7680 OOX | ELSPD9080 OXO - RH |
| 7-11 3/4 (2432) |                    |                    |               |               |                    |
| 8-0 (2436)      | ELSPD7680 OXO - RH | ELSPD7680 OXO - LH | ELSPD7680 XOO | ELSPD7680 OOX | ELSPD9080 OXO - RH |
| 7-11 1/2 (2426) |                    |                    |               |               |                    |
| 88 1/32 (2236)  | ELSPD7680 OXO - RH | ELSPD7680 OXO - LH | ELSPD7680 XOO | ELSPD7680 OOX | ELSPD9080 OXO - RH |

Details and Elevations not to scale.

When ordering 6 <sup>9</sup>/<sub>16</sub>" (167 mm) or 6 <sup>13</sup>/<sub>16</sub>" (173 mm) jambs, add <sup>1</sup>/<sub>4</sub>" (6 mm) to width and <sup>1</sup>/<sub>8</sub>" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.

Optional Direct Glaze GBGs and SDLs are available in a standard Rectangular cut, as shown. Alternate lite cuts available to align with doors using select lite cut options shown on page 3. Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 35. (Round Top divided lites not available in other lite cuts)

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SLIDING PATIO DOOR

3 Panel

| MO (mm)         | 8-11 (2718)        |               |               |                     | 11-11 (3632)     |
|-----------------|--------------------|---------------|---------------|---------------------|------------------|
| RO (mm)         | 8-11 1/2 (2731)    |               |               |                     | 11-11 1/2 (3645) |
| FS (mm)         | 8-10 1/2 (2705)    |               |               |                     | 11-10 1/2 (3620) |
| DLO (mm)        | 31 (787)           |               |               |                     | 43 (1092)        |
| 6-7 3/4 (2026)  |                    |               |               |                     |                  |
| 6-8 (2032)      | ELSPD9065 OXO - LH | ELSPD9065 XOO | ELSPD9065 OOX | ELSPD12065 OXO - RH |                  |
| 6-7 1/2 (2019)  |                    |               |               |                     |                  |
| 72 1/32 (1803)  | ELSPD9068 OXO - LH | ELSPD9068 XOO | ELSPD9068 OOX | ELSPD12068 OXO - RH |                  |
| 6-10 1/4 (2089) |                    |               |               |                     |                  |
| 6-10 1/2 (2096) | ELSPD9070 OXO - LH | ELSPD9070 XOO | ELSPD9070 OOX | ELSPD12070 OXO - RH |                  |
| 6-10 (2083)     |                    |               |               |                     |                  |
| 74 17/32 (1893) | ELSPD9080 OXO - LH | ELSPD9080 XOO | ELSPD9080 OOX | ELSPD12080 OXO - RH |                  |
| 7-2 1/4 (2191)  |                    |               |               |                     |                  |
| 7-2 1/2 (2197)  | ELSPD9070 OXO - LH | ELSPD9070 XOO | ELSPD9070 OOX | ELSPD12070 OXO - RH |                  |
| 7-2 (2184)      |                    |               |               |                     |                  |
| 78 17/32 (1995) | ELSPD9080 OXO - LH | ELSPD9080 XOO | ELSPD9080 OOX | ELSPD12080 OXO - RH |                  |
| 7-11 3/4 (2432) |                    |               |               |                     |                  |
| 8-0 (2436)      | ELSPD9080 OXO - LH | ELSPD9080 XOO | ELSPD9080 OOX | ELSPD12080 OXO - RH |                  |
| 7-11 1/2 (2426) |                    |               |               |                     |                  |
| 88 1/32 (2236)  | ELSPD9080 OXO - LH | ELSPD9080 XOO | ELSPD9080 OOX | ELSPD12080 OXO - RH |                  |

**MULTIPLE ASSEMBLIES**

Multiple assembly units can be factory mulled up to 1 unit wide by 2 units high.

MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2"

Field mull kits available not to exceed 110" x 112".

True Half Rounds are available field mulled only. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

3 Panel

| MO (mm)         | 11-11 (3632)     |  |  |
|-----------------|------------------|--|--|
| RO (mm)         | 11-11 1/2 (3645) |  |  |
| FS (mm)         | 11-10 1/2 (3620) |  |  |
| DLO (mm)        | 43 (1092)        |  |  |
| 6-7 3/4 (2026)  |                  |  |  |
| 6-8 (2032)      |                  |  |  |
| 6-7 1/2 (2019)  |                  |  |  |
| 72 1/32 (1803)  |                  |  |  |
| 6-10 1/4 (2089) |                  |  |  |
| 6-10 1/2 (2096) |                  |  |  |
| 6-10 (2083)     |                  |  |  |
| 74 17/32 (1893) |                  |  |  |
| 7-2 1/4 (2191)  |                  |  |  |
| 7-2 1/2 (2197)  |                  |  |  |
| 7-2 (2184)      |                  |  |  |
| 78 17/32 (1995) |                  |  |  |
| 7-11 3/4 (2432) |                  |  |  |
| 8-0 (2436)      |                  |  |  |
| 7-11 1/2 (2426) |                  |  |  |
| 88 1/32 (2236)  |                  |  |  |

Details and Elevations not to scale.

When ordering 6 <sup>9</sup>/<sub>16</sub>" (167 mm) or 6 <sup>13</sup>/<sub>16</sub>" (173 mm) jambs, add <sup>1</sup>/<sub>4</sub>" (6 mm) to width and <sup>1</sup>/<sub>8</sub>" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.

Optional Direct Glaze GBGs and SDLs are available in a standard Rectangular cut, as shown. Alternate lite cuts available to align with doors using select lite cut options shown on page 3. Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 35. (Round Top divided lites not available in other lite cuts)

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

SLIDING PATIO DOOR

4 Panel

| RO (mm)         | 9-9 1/2 (2985) |  | 11-9 1/2 (3594) | 15-9 1/2 (4813) |
|-----------------|----------------|--|-----------------|-----------------|
| FS (mm)         | 9-10 (2997)    |  | 11-10 (3607)    | 15-10 (4826)    |
| DLO (mm)        | 9-9 (2972)     |  | 11-9 (3581)     | 15-9 (4801)     |
|                 | 25 (635)       |  | 31 (787)        | 43 (1092)       |
| 6-7 3/4 (2026)  |                |  |                 |                 |
| 6-8 (2032)      |                |  |                 |                 |
| 6-7 1/2 (2019)  |                |  |                 |                 |
| 72 1/32 (1803)  |                |  |                 |                 |
| 6-10 1/4 (2089) |                |  |                 |                 |
| 6-10 1/2 (2096) |                |  |                 |                 |
| 6-10 (2083)     |                |  |                 |                 |
| 74 17/32 (1893) |                |  |                 |                 |
| 7-2 1/4 (2191)  |                |  |                 |                 |
| 7-2 1/2 (2197)  |                |  |                 |                 |
| 7-2 (2184)      |                |  |                 |                 |
| 78 17/32 (1995) |                |  |                 |                 |
| 7-11 3/4 (2432) |                |  |                 |                 |
| 8-0 (2436)      |                |  |                 |                 |
| 7-11 1/2 (2426) |                |  |                 |                 |
| 88 1/32 (2236)  |                |  |                 |                 |

**MULTIPLE ASSEMBLIES**

Multiple assembly units can be factory mulled up to 1 unit wide by 2 units high.

MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2"

Field mull kits available not to exceed 110" x 112".

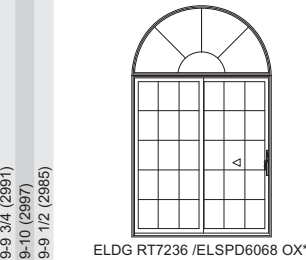
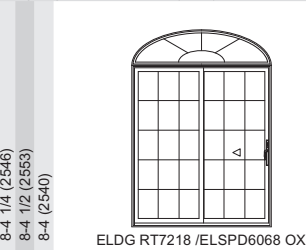
True Half Rounds are available field mulled only. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

SLIDING PATIO DOOR

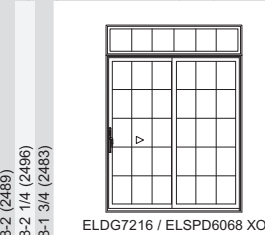
Round Top Over Sliding Patio Door

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |



Direct Glaze Over Sliding Patio Door

|         |                 |
|---------|-----------------|
| MO (mm) | 5-11 1/2 (1816) |
| RO (mm) | 6-0 (1829)      |
| FS (mm) | 5-11 (1803)     |



Details and Elevations not to scale.

When ordering 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.

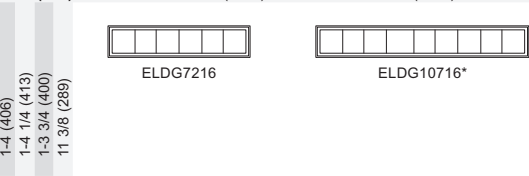
Optional Direct Glaze GBGs and SDLs are available in a standard Rectangular cut, as shown. Alternate lite cuts available to align with doors using select lite cut options shown on page 3. Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 35. (Round Top divided lites not available in other lite cuts)

\* This product is only available field mullled.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

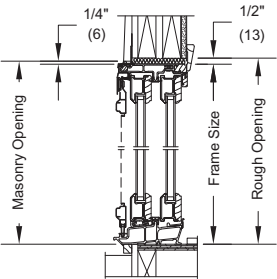
Direct Glaze Over Sliding Patio Door

|          |                 |                 |
|----------|-----------------|-----------------|
| MO (mm)  | 5-11 1/2 (1816) | 8-11 (2718)     |
| RO (mm)  | 6-0 (1829)      | 8-11 1/2 (2731) |
| FS (mm)  | 5-11 (1803)     | 8-10 1/2 (2705) |
| DLO (mm) | 66 5/8 (1692)   | 102 1/8 (2594)  |



SLIDING PATIO DOOR

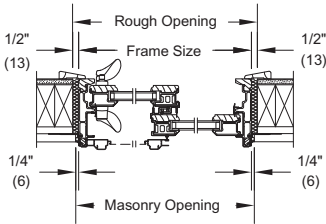
Construction Details



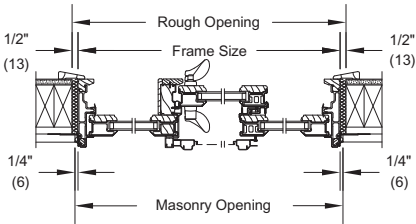
Head Jamb and Sill



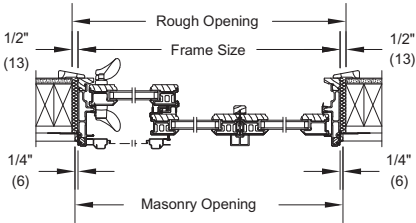
Direct Glaze Over Sliding Patio Door



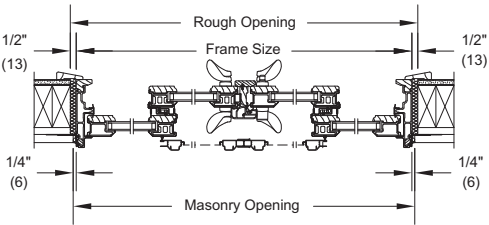
2 Panel XO Operator Jamb



3 Panel OXO Operator Jamb



3 Panel XOO Operator Jamb



4 Panel OXXO Operator Jamb

MULTIPLE ASSEMBLIES

Multiple assembly units can be factory mullled up to 1 unit wide by 2 units high.

MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2"

Field mull kits available not to exceed 110" x 112".

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Please consult your local Marvin representative for more information.

2 Panel

| MO (mm)         | 4-11 1/2 (1511) |  | 5-11 1/2 (1816) |  | 7-11 1/2 (2426) |  |
|-----------------|-----------------|--|-----------------|--|-----------------|--|
| RO (mm)         | 5-0 (1524)      |  | 6-0 (1829)      |  | 8-0 (2438)      |  |
| FS (mm)         | 4-11 (1499)     |  | 5-11 (1803)     |  | 7-11 (2413)     |  |
| DLO (mm)        | 22 3/8 (568)    |  | 28 3/8 (721)    |  | 40 3/8 (1026)   |  |
| 6-7 3/4 (2026)  |                 |  |                 |  |                 |  |
| 6-8 (2032)      |                 |  |                 |  |                 |  |
| 6-7 1/2 (2019)  |                 |  |                 |  |                 |  |
| 67 3/32 (1704)  |                 |  |                 |  |                 |  |
| 6-10 1/4 (2089) |                 |  |                 |  |                 |  |
| 6-10 1/2 (2096) |                 |  |                 |  |                 |  |
| 6-10 (2083)     |                 |  |                 |  |                 |  |
| 69 19/32 (1768) |                 |  |                 |  |                 |  |
| 7-2 1/4 (2191)  |                 |  |                 |  |                 |  |
| 7-2 1/2 (2197)  |                 |  |                 |  |                 |  |
| 7-2 (2184)      |                 |  |                 |  |                 |  |
| 73 19/32 (1869) |                 |  |                 |  |                 |  |
| 7-11 3/4 (2432) |                 |  |                 |  |                 |  |
| 8-0 (2436)      |                 |  |                 |  |                 |  |
| 7-11 1/2 (2426) |                 |  |                 |  |                 |  |
| 83 3/32 (2111)  |                 |  |                 |  |                 |  |

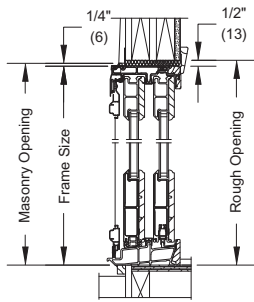
Direct Glaze Over  
Sliding French Door

| MO (mm)        | 5-11 1/2 (1816) |
|----------------|-----------------|
| RO (mm)        | 6-0 (1829)      |
| FS (mm)        | 5-11 (1803)     |
| 8-2 (2489)     |                 |
| 8-2 1/4 (2496) |                 |
| 8-1 3/4 (2483) |                 |

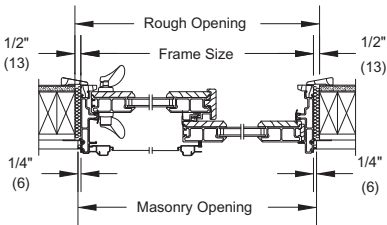
Round Top Over  
Sliding French Door

| MO (mm)        | 5-11 1/2 (1816) |
|----------------|-----------------|
| RO (mm)        | 6-0 (1829)      |
| FS (mm)        | 5-11 (1803)     |
| 8-4 1/4 (2546) |                 |
| 8-4 1/2 (2553) |                 |
| 8-4 (2540)     |                 |
| 9-9 3/4 (2891) |                 |
| 9-10 (2997)    |                 |
| 9-9 1/2 (2885) |                 |

Construction Details



Head Jamb and Sill



2 Panel Jamb - XO Operator

\* This product is only available field mulled.

SLIDING FRENCH DOOR

3 Panel

| MO (mm)         | 7-5 (2261)     |  |  |
|-----------------|----------------|--|--|
| RO (mm)         | 7-5 1/2 (2273) |  |  |
| FS (mm)         | 7-4 1/2 (2248) |  |  |
| DLO (mm)        | 22 3/8 (568)   |  |  |
| 6-7 3/4 (2026)  |                |  |  |
| 6-8 (2032)      |                |  |  |
| 6-7 1/2 (2019)  |                |  |  |
| 67 3/32 (1704)  |                |  |  |
| 6-10 1/4 (2089) |                |  |  |
| 6-10 1/2 (2096) |                |  |  |
| 6-10 (2083)     |                |  |  |
| 69 19/32 (1768) |                |  |  |
| 7-2 1/4 (2191)  |                |  |  |
| 7-2 1/2 (2197)  |                |  |  |
| 7-2 (2184)      |                |  |  |
| 73 19/32 (1869) |                |  |  |
| 7-11 3/4 (2432) |                |  |  |
| 8-0 (2436)      |                |  |  |
| 7-11 1/2 (2426) |                |  |  |
| 83 3/32 (2111)  |                |  |  |

Details and Elevations not to scale.

When ordering 6 <sup>9</sup>/<sub>16</sub>" (167 mm) or 6 <sup>13</sup>/<sub>16</sub>" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.

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**MULTIPLE ASSEMBLIES**

Multiple assembly units can be factory mulled up to 1 unit wide by 2 units high.

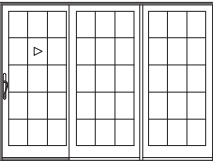
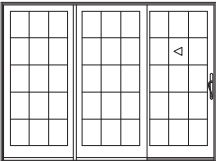
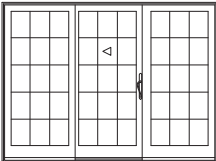
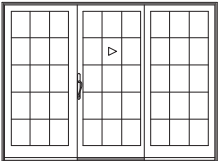
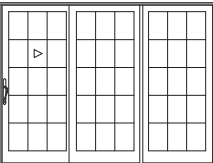
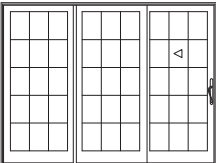
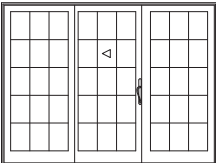
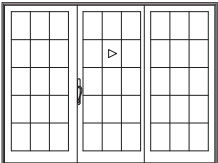
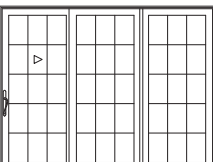
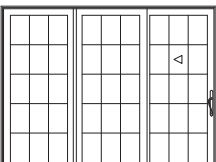
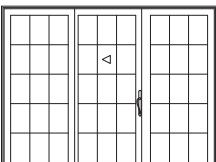
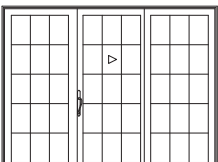
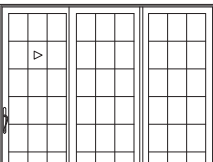
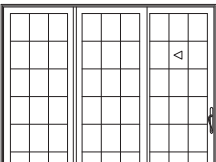
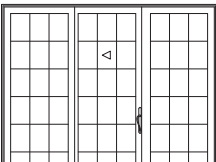
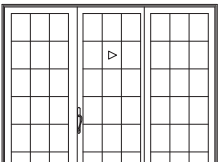
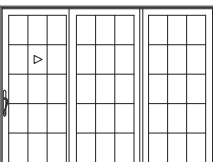
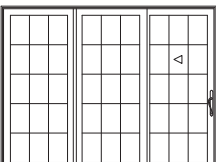
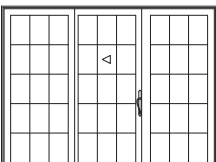
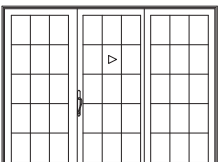
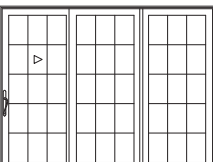
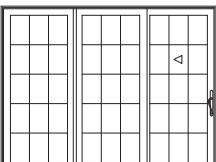
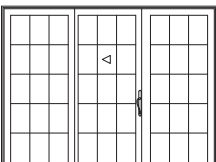
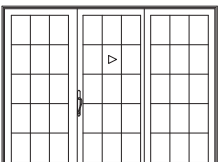
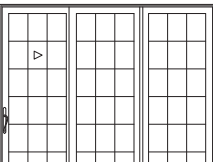
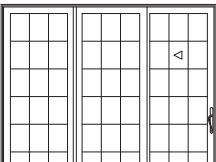
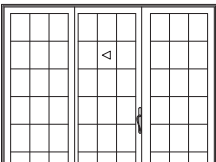
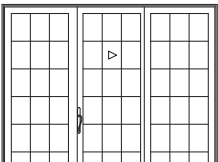
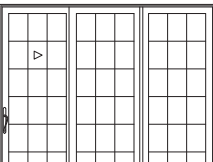
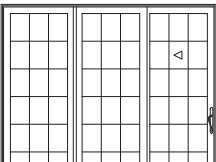
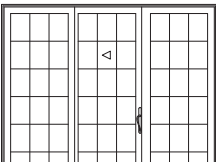
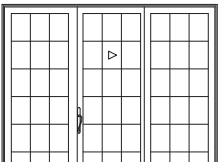
MAXIMUM ROUGH OPENING not to exceed 72" x 100 1/2"

Field mull kits available for up to 3 units wide by 2 units high not to exceed 110" x 112".

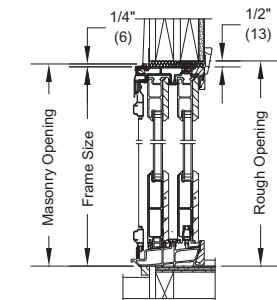
True Half Rounds are available field mulled only. Structural mullion reinforcement is required for some assemblies.

Please consult your local Marvin representative for more information.

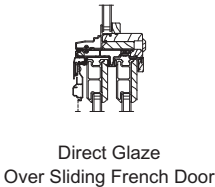
3 Panel

| MO (mm)         | 8-11 (2718)                                                                        |                                                                                    |                                                                                     |                                                                                      |
|-----------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)         | 8-11 1/2 (2731)                                                                    |                                                                                    |                                                                                     |                                                                                      |
| FS (mm)         | 8-10 1/2 (2705)                                                                    |                                                                                    |                                                                                     |                                                                                      |
| DLO (mm)        | 28 3/8 (721)                                                                       |                                                                                    |                                                                                     |                                                                                      |
| 6-7 3/4 (2026)  |   |   |   |   |
| 6-8 (2032)      | ELSFD 9065 XOO                                                                     | ELSFD 9065 OOX                                                                     | ELSFD 9065 OXO-LH                                                                   | ELSFD 9065 OXO-RH                                                                    |
| 6-7 1/2 (2019)  |   |   |   |   |
| 67 3/32 (1704)  | ELSFD 9068 XOO                                                                     | ELSFD 9068 OOX                                                                     | ELSFD 9068 OXO-LH                                                                   | ELSFD 9068 OXO-RH                                                                    |
| 6-10 1/4 (2089) |   |   |   |   |
| 6-10 1/2 (2096) | ELSFD 9070 XOO                                                                     | ELSFD 9070 OOX                                                                     | ELSFD 9070 OXO-LH                                                                   | ELSFD 9070 OXO-RH                                                                    |
| 6-10 (2083)     |  |  |  |  |
| 69 19/32 (1768) | ELSFD 9080 XOO                                                                     | ELSFD 9080 OOX                                                                     | ELSFD 9080 OXO-LH                                                                   | ELSFD 9080 OXO-RH                                                                    |
| 7-2 1/4 (2191)  |   |   |   |   |
| 7-2 1/2 (2197)  | ELSFD 9070 XOO                                                                     | ELSFD 9070 OOX                                                                     | ELSFD 9070 OXO-LH                                                                   | ELSFD 9070 OXO-RH                                                                    |
| 7-2 (2184)      |   |   |   |   |
| 73 19/32 (1869) | ELSFD 9070 XOO                                                                     | ELSFD 9070 OOX                                                                     | ELSFD 9070 OXO-LH                                                                   | ELSFD 9070 OXO-RH                                                                    |
| 7-11 3/4 (2432) |  |  |  |  |
| 8-0 (2438)      | ELSFD 9080 XOO                                                                     | ELSFD 9080 OOX                                                                     | ELSFD 9080 OXO-LH                                                                   | ELSFD 9080 OXO-RH                                                                    |
| 7-11 1/2 (2426) |  |  |  |  |
| 83 3/32 (2111)  | ELSFD 9080 XOO                                                                     | ELSFD 9080 OOX                                                                     | ELSFD 9080 OXO-LH                                                                   | ELSFD 9080 OXO-RH                                                                    |

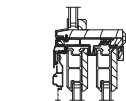
Construction Details



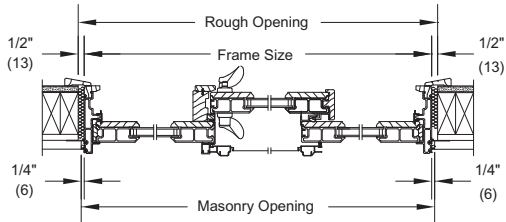
Head Jamb and Sill



Direct Glaze  
Over Sliding French Door



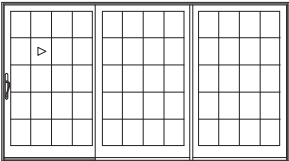
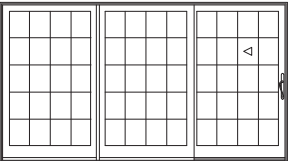
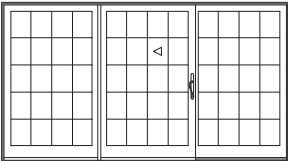
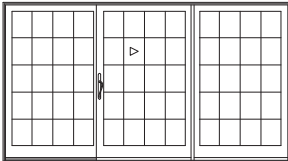
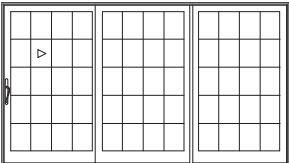
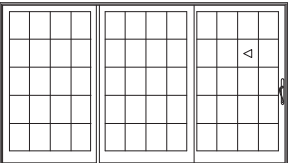
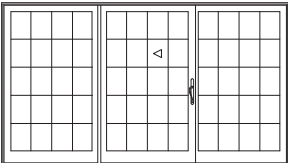
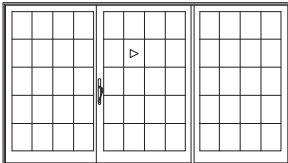
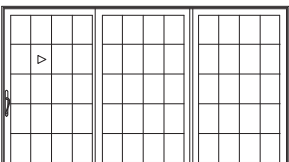
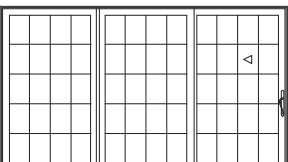
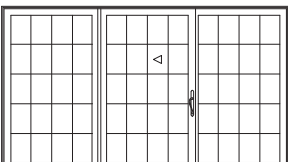
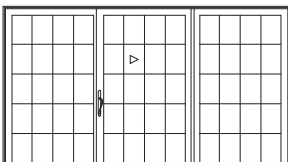
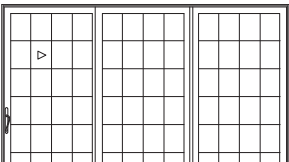
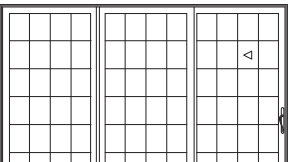
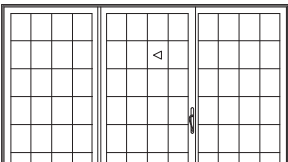
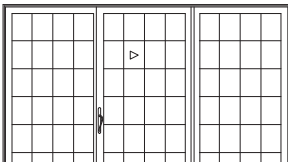
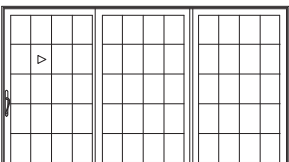
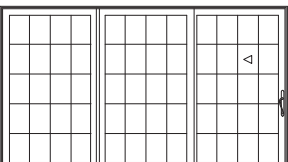
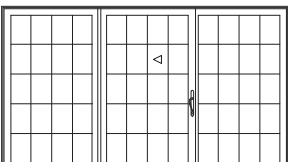
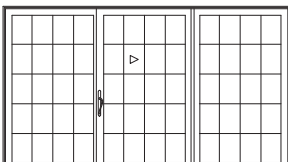
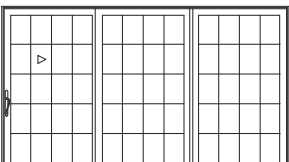
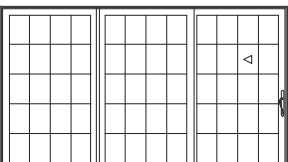
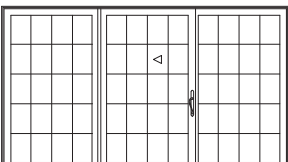
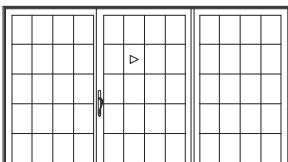
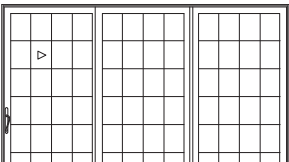
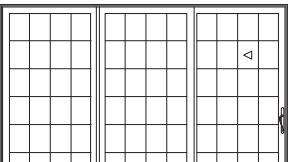
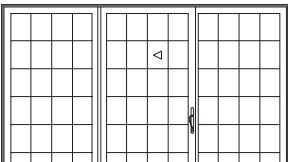
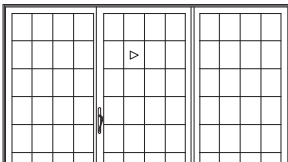
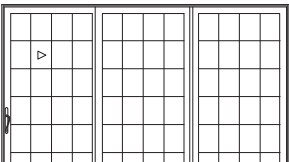
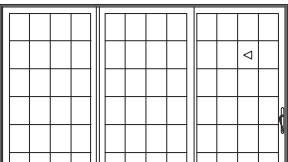
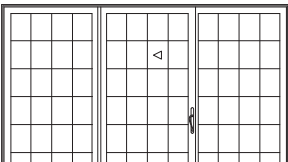
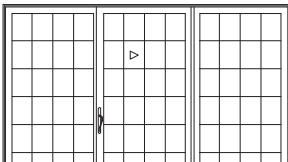
Round Top Over  
Sliding French Door



3 Panel Jamb - OXO - LH Operator

SLIDING FRENCH DOOR

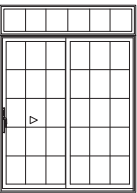
3 Panel

| MO (mm)         | 11-11 (3632)                                                                         |                                                                                      |                                                                                      |                                                                                      |
|-----------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)         | 11-11 1/2 (3645)                                                                     |                                                                                      |                                                                                      |                                                                                      |
| FS (mm)         | 11-10 1/2 (3620)                                                                     |                                                                                      |                                                                                      |                                                                                      |
| DLO (mm)        | 40 3/8 (1026)                                                                        |                                                                                      |                                                                                      |                                                                                      |
| 6-7 3/4 (2026)  |   |   |   |   |
| 6-8 (2032)      | ELSFD 12065 XOO                                                                      | ELSFD 12065 OOX                                                                      | ELSFD 12065 OXO-LH                                                                   | ELSFD 12065 OXO-RH                                                                   |
| 6-7 1/2 (2019)  |   |   |   |   |
| 67 3/32 (1704)  | ELSFD 12068 XOO                                                                      | ELSFD 12068 OOX                                                                      | ELSFD 12068 OXO-LH                                                                   | ELSFD 12068 OXO-RH                                                                   |
| 6-10 1/4 (2089) |   |   |   |   |
| 6-10 1/2 (2096) | ELSFD 12070 XOO                                                                      | ELSFD 12070 OOX                                                                      | ELSFD 12070 OXO-LH                                                                   | ELSFD 12070 OXO-RH                                                                   |
| 6-10 (2083)     |  |  |  |  |
| 69 19/32 (1768) | ELSFD 12080 XOO                                                                      | ELSFD 12080 OOX                                                                      | ELSFD 12080 OXO-LH                                                                   | ELSFD 12080 OXO-RH                                                                   |
| 7-2 1/4 (2191)  |   |   |   |   |
| 7-2 1/2 (2197)  | ELSFD 12070 XOO                                                                      | ELSFD 12070 OOX                                                                      | ELSFD 12070 OXO-LH                                                                   | ELSFD 12070 OXO-RH                                                                   |
| 7-2 (2184)      |   |   |   |   |
| 73 19/32 (1869) | ELSFD 12070 XOO                                                                      | ELSFD 12070 OOX                                                                      | ELSFD 12070 OXO-LH                                                                   | ELSFD 12070 OXO-RH                                                                   |
| 7-11 3/4 (2432) |  |  |  |  |
| 8-0 (2438)      | ELSFD 12080 XOO                                                                      | ELSFD 12080 OOX                                                                      | ELSFD 12080 OXO-LH                                                                   | ELSFD 12080 OXO-RH                                                                   |
| 7-11 1/2 (2426) |  |  |  |  |
| 83 3/32 (2111)  | ELSFD 12080 XOO                                                                      | ELSFD 12080 OOX                                                                      | ELSFD 12080 OXO-LH                                                                   | ELSFD 12080 OXO-RH                                                                   |

Direct Glaze Over Sliding Patio Door

| MO (mm)       | 5-11 1/2 (1816)                                                                       | 8-11 (2718)                                                                           |
|---------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| RO (mm)       | 6-0 (1829)                                                                            | 8-11 1/2 (2731)                                                                       |
| FS (mm)       | 5-11 (1803)                                                                           | 8-10 1/2 (2705)                                                                       |
| DLO (mm)      | 66 5/8 (1692)                                                                         | 102 1/8 (2594)                                                                        |
| 1-4 (406)     |  |  |
| 1-4 1/4 (413) | ELD G7216                                                                             | ELD G10716*                                                                           |
| 1-3 3/4 (400) |                                                                                       |                                                                                       |
| 11 3/8 (289)  |                                                                                       |                                                                                       |

Direct Glaze Over Sliding Patio Door

| MO (mm)        | 5-11 1/2 (1816)                                                                       |
|----------------|---------------------------------------------------------------------------------------|
| RO (mm)        | 6-0 (1829)                                                                            |
| FS (mm)        | 5-11 (1803)                                                                           |
| 8-2 (2489)     |  |
| 8-2 1/4 (2496) | ELD G7216 / ELSPD6068 XO                                                              |
| 8-1 3/4 (2483) |                                                                                       |

Details and Elevations not to scale.  
\* This product is only available field mullled  
When ordering 6 9/16" (167 mm) or 6 13/16" (173 mm) jambs, add 1/4" (6 mm) to width and 1/8" (3 mm) to height for Rough Opening, Frame Size and Masonry Opening.  
Optional Direct Glaze GBGs and SDLs are available in a standard Rectangular cut, as shown. Alternate lite cuts available to align with door using select lite cut options shown on page 3.  
Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 35. (Round Top divided lites not available in other lite cuts)  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

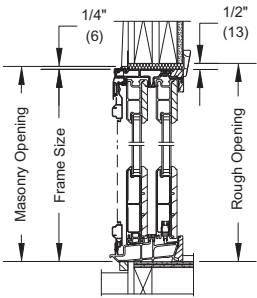
**MULTIPLE ASSEMBLIES**  
Field mull kits available not to exceed 110" x 112". True Half Rounds are available field mullled only. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

4 Panel

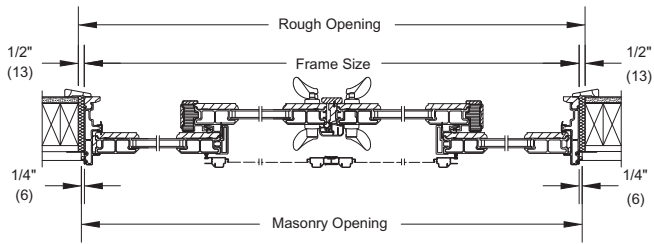
| MO (mm)  | 9-9 1/2 (2985) | 11-9 1/2 (3594) | 15-9 1/2 (4813) |
|----------|----------------|-----------------|-----------------|
| RO (mm)  | 9-10 (2997)    | 11-10 (3607)    | 15-10 (4826)    |
| FS (mm)  | 9-9 (2972)     | 11-9 (3581)     | 15-9 (4801)     |
| DLO (mm) | 22 3/8 (568)   | 28 3/8 (721)    | 40 3/8 (1026)   |

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| 6-7 3/4 (2026)  |                 |                 |                 |
| 6-8 (2032)      | ELSFD10065 OXXO | ELSFD12065 OXXO | ELSFD16065 OXXO |
| 6-7 1/2 (2019)  |                 |                 |                 |
| 67 3/32 (1704)  |                 |                 |                 |
| 6-10 1/4 (2089) |                 |                 |                 |
| 6-10 1/2 (2096) | ELSFD10068 OXXO | ELSFD12068 OXXO | ELSFD16068 OXXO |
| 6-10 (2083)     |                 |                 |                 |
| 69 19/32 (1768) |                 |                 |                 |
| 7-2 1/4 (2191)  |                 |                 |                 |
| 7-2 1/2 (2197)  | ELSFD10070 OXXO | ELSFD12070 OXXO | ELSFD16070 OXXO |
| 7-2 (2184)      |                 |                 |                 |
| 73 19/32 (1869) |                 |                 |                 |
| 7-11 3/4 (2432) |                 |                 |                 |
| 8-0 (2438)      | ELSFD10080 OXXO | ELSFD12080 OXXO | ELSFD16080 OXXO |
| 7-11 1/2 (2426) |                 |                 |                 |
| 83 3/32 (2111)  |                 |                 |                 |

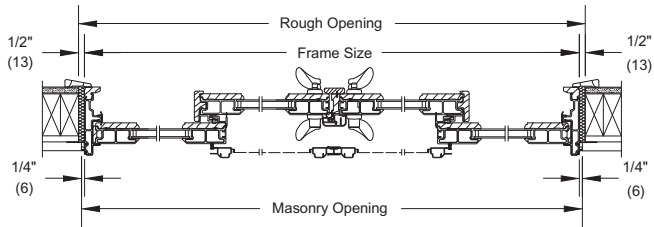
Construction Details



Head Jamb and Sill



4 Panel Jamb - OXXO Operator  
Frame Heights over 86"



4 Panel Jamb - OXXO Operator  
Frame Heights 86" or Less

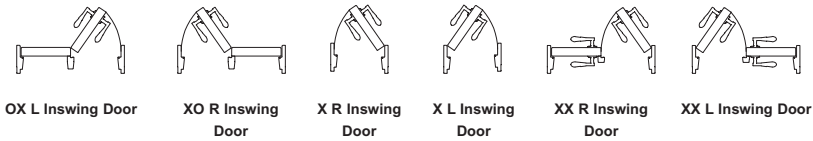
INSWING FRENCH DOOR

| MO (mm)  | 2-6 13/16 (783) | 2-8 13/16 (834) | 3-0 13/16 (935) |
|----------|-----------------|-----------------|-----------------|
| RO (mm)  | 2-7 5/16 (796)  | 2-9 5/16 (846)  | 3-1 5/16 (948)  |
| FS (mm)  | 2-6 5/16 (770)  | 2-8 5/16 (821)  | 3-0 5/16 (923)  |
| DLO (mm) | 21 11/32 (542)  | 23 11/32 (593)  | 27 11/32 (695)  |

|                 |             |               |               |             |               |               |
|-----------------|-------------|---------------|---------------|-------------|---------------|---------------|
| 6-7 3/4 (2026)  |             |               |               |             |               |               |
| 6-8 (2032)      | ELIFD2665 O | ELIFD2665 X R | ELIFD2665 X L | ELIFD2865 O | ELIFD2865 X R | ELIFD2865 X L |
| 6-7 1/2 (2019)  |             |               |               |             |               |               |
| 67 3/32 (1704)  |             |               |               |             |               |               |
| 6-10 1/4 (2089) |             |               |               |             |               |               |
| 6-10 1/2 (2096) | ELIFD2668 O | ELIFD2668 X R | ELIFD2668 X L | ELIFD2868 O | ELIFD2868 X R | ELIFD2868 X L |
| 6-10 (2083)     |             |               |               |             |               |               |
| 69 19/32 (1768) |             |               |               |             |               |               |
| 7-2 1/4 (2191)  |             |               |               |             |               |               |
| 7-2 1/2 (2197)  | ELIFD2670 O | ELIFD2670 X R | ELIFD2670 X L | ELIFD2870 O | ELIFD2870 X R | ELIFD2870 X L |
| 7-2 (2184)      |             |               |               |             |               |               |
| 73 19/32 (1869) |             |               |               |             |               |               |
| 7-11 3/4 (2432) |             |               |               |             |               |               |
| 8-0 (2438)      | ELIFD2680 O | ELIFD2680 X R | ELIFD2680 X L | ELIFD2880 O | ELIFD2880 X R | ELIFD2880 X L |
| 7-11 1/2 (2426) |             |               |               |             |               |               |
| 83 3/32 (2111)  |             |               |               |             |               |               |

Inswing Door Operation

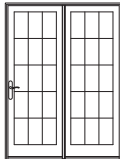
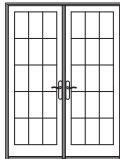
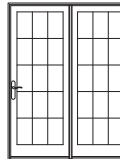
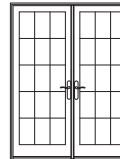
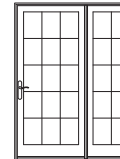
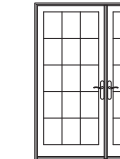
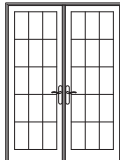
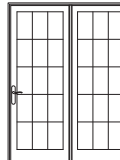
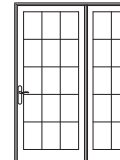
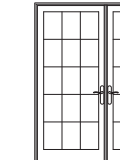
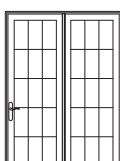
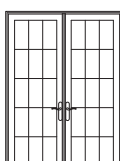
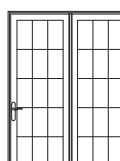
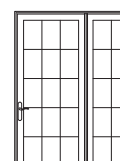
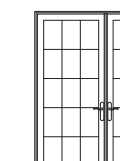
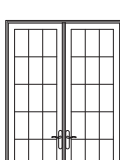
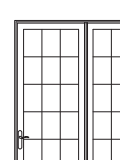
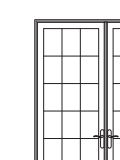
X signifies an operating door panel, O means stationary.  
Listing the panels in a door starts from the left to the right,  
looking from the exterior.



Details and Elevations not to scale.  
When ordering 6 13/16" jambs, add 1/4" to width and 1/8" to height of Frame Size (FS), Rough Opening (RO), or Masonry Opening (MO).  
O = Stationary      X = Operator  
L = Left Hand Panel      R = Right Hand Panel  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullied.  
MAXIMUM ROUGH OPENING not to exceed 109 15/16" x 96" maximum up to 3 units wide by 1 unit high.  
MAXIMUM ROUGH OPENING not to exceed 73 5/8" x 100 1/2" maximum up to 2 units wide by 2 unit high .  
Field mull kits available for up to 3 units wide by 2 units high not to exceed 110" x 112".  
True Half Rounds are available field mullied only. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

|                                                                   |                                                                                   |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                      |                                                                                      |  |  |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|--|
| MO (mm)                                                           | 4-11 1/2 (1511)                                                                   |                                                                                    |                                                                                    | 5-3 1/2 (1613)                                                                     |                                                                                     |                                                                                      | 5-11 1/2 (1816)                                                                      |  |  |
| RO (mm)                                                           | 5-0 (1524)                                                                        |                                                                                    |                                                                                    | 5-4 (1626)                                                                         |                                                                                     |                                                                                      | 6-0 (1829)                                                                           |  |  |
| FS (mm)                                                           | 4-11 (1499)                                                                       |                                                                                    |                                                                                    | 5-3 (1600)                                                                         |                                                                                     |                                                                                      | 5-11 (1803)                                                                          |  |  |
| DLO (mm)                                                          | 21 11/32 (542)                                                                    |                                                                                    |                                                                                    | 23 11/32 (593)                                                                     |                                                                                     |                                                                                      | 27 11/32 (695)                                                                       |  |  |
| 6-7 3/4 (2026)<br>6-8 (2032)<br>6-7 1/2 (2019)<br>67 3/32 (1704)  |  |   |   |   |  |   |                                                                                      |  |  |
|                                                                   | ELIFD5065 XO                                                                      | ELIFD5065 XX                                                                       | ELIFD5465 XO                                                                       | ELIFD5465 XX                                                                       | ELIFD6065 XO                                                                        | ELIFD6065 XX                                                                         |                                                                                      |  |  |
|                                                                   | 6-10 1/4 (2089)<br>6-10 1/2 (2096)<br>6-10 (2083)<br>69 19/32 (1768)              |   |   |   |    |   |   |  |  |
|                                                                   |                                                                                   | ELIFD5068 XO                                                                       | ELIFD5068 XX                                                                       | ELIFD5468 XO                                                                       | ELIFD5468 XX                                                                        | ELIFD6068 XO                                                                         | ELIFD6068 XX                                                                         |  |  |
| 7-2 1/4 (2191)<br>7-2 1/2 (2197)<br>7-2 (2184)<br>73 19/32 (1869) |                                                                                   |   |   |   |    |   |   |  |  |
|                                                                   |                                                                                   | ELIFD5070 XO                                                                       | ELIFD5070 XX                                                                       | ELIFD5470 XO                                                                       | ELIFD5470 XX                                                                        | ELIFD6070 XO                                                                         | ELIFD6070 XX                                                                         |  |  |
|                                                                   | 7-11 3/4 (2432)<br>8-0 (2438)<br>7-11 1/2 (2426)<br>83 3/32 (2111)                |  |  |  |   |  |  |  |  |
|                                                                   |                                                                                   | ELIFD5080 XO                                                                       | ELIFD5080 XX                                                                       | ELIFD5480 XO                                                                       | ELIFD5480 XX                                                                        | ELIFD6080 XO                                                                         | ELIFD6080 XX                                                                         |  |  |

Direct Glaze

|                                                             |                                                                                     |                 |                   |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|-------------------|
| MO (mm)                                                     | 3-0 13/16 (935)                                                                     | 5-11 1/2 (1816) | 8-11 13/16 (2738) |
| RO (mm)                                                     | 3-1 5/16 (948)                                                                      | 6-0 (1829)      | 9-0 5/16 (2751)   |
| FS (mm)                                                     | 3-0 5/16 (923)                                                                      | 5-11 (1803)     | 8-11 5/16 (2726)  |
| DLO (mm)                                                    | 31 15/16 (811)                                                                      | 66 5/8 (1962)   | 102 15/16 (2615)  |
| 1-4 (406)<br>1-4 1/4 (413)<br>1-3 3/4 (400)<br>11 3/8 (289) |  |                 |                   |
|                                                             | ELDYG3616                                                                           |                 |                   |
|                                                             |  |                 |                   |
|                                                             | ELDYG7216                                                                           |                 |                   |
|                                                             |  |                 |                   |
|                                                             | ELDYG10816*                                                                         |                 |                   |

Details and Elevations not to scale.  
\* This product is only available field mullled.

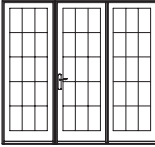
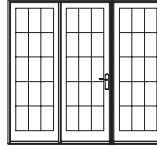
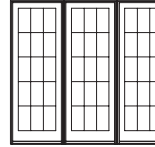
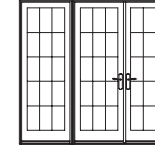
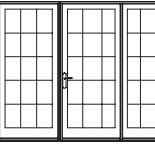
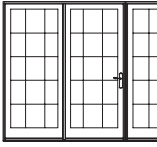
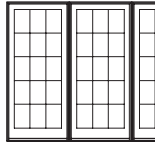
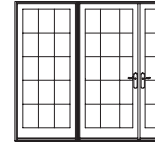
O = Stationary X = Operator

Optional Direct Glaze GBGs, SDLs and SDLs with Spacer Bar are available in a standard rectangular cut, as shown. Alternate lite cuts available to align with doors using select lite cut options shown on page 3.

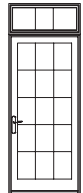
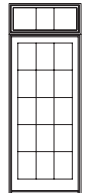
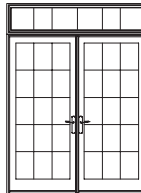
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

INSWING FRENCH DOOR

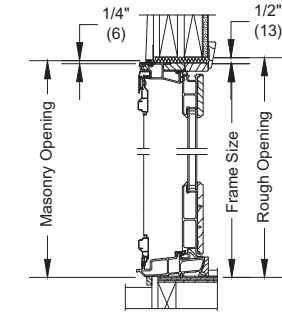
Multiple Assemblies – 3 Panel

|                                                   |                                                                                     |                   |                                                                                     |                   |
|---------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------|
| MO (mm)                                           | 7-5 13/16 (2281)                                                                    | 7-5 13/16 (2281)  | 7-7 7/16 (2323)                                                                     | 7-5 13/16 (2281)  |
| RO (mm)                                           | 7-6 5/16 (2294)                                                                     | 7-6 5/16 (2294)   | 7-7 15/16 (2335)                                                                    | 7-6 5/16 (2294)   |
| FS (mm)                                           | 7-5 5/16 (2269)                                                                     | 7-5 5/16 (2269)   | 7-6 15/16 (2310)                                                                    | 7-5 5/16 (2269)   |
| 6-10 1/4 (2089)<br>6-10 1/2 (2096)<br>6-10 (2083) |  |                   |  |                   |
|                                                   | ELIFD2668 / ELIFD5068 XO                                                            |                   | ELIFD5068 OX / ELIFD2668                                                            |                   |
|                                                   |  |                   |  |                   |
|                                                   | ELIFD2668 / ELIFD2668 / ELIFD2668                                                   |                   | ELIFD2668 / ELIFD5068 XXL**                                                         |                   |
| MO (mm)                                           | 8-11 13/16 (2738)                                                                   | 8-11 13/16 (2738) | 9-1 7/16 (2780)                                                                     | 8-11 13/16 (2738) |
| RO (mm)                                           | 9-0 5/16 (2751)                                                                     | 9-0 5/16 (2751)   | 9-1 15/16 (2792)                                                                    | 9-0 5/16 (2751)   |
| FS (mm)                                           | 8-11 5/16 (2726)                                                                    | 8-11 5/16 (2726)  | 9-0 15/16 (2767)                                                                    | 8-11 5/16 (2726)  |
| 6-10 1/4 (2089)<br>6-10 1/2 (2096)<br>6-10 (2083) |  |                   |  |                   |
|                                                   | ELIFD3068 / ELIFD6068 XO                                                            |                   | ELIFD6068 OX / ELIFD3068                                                            |                   |
|                                                   |  |                   |  |                   |
|                                                   | ELIFD3068 / ELIFD3068 / ELIFD3068                                                   |                   | ELIFD3068 / ELIFD6068 XXL**                                                         |                   |

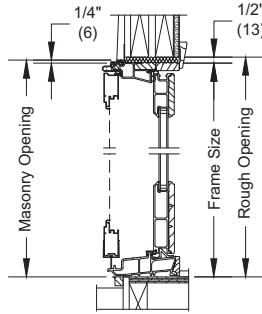
Direct Glaze Over Inswing French Door

|                                                |                                                                                      |                                                                                      |                                                                                      |
|------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| MO (mm)                                        | 3-0 13/16 (935)                                                                      | 3-0 13/16 (935)                                                                      | 5-11 1/2 (1816)                                                                      |
| RO (mm)                                        | 3-1 5/16 (948)                                                                       | 3-1 5/16 (948)                                                                       | 6-0 (1829)                                                                           |
| FS (mm)                                        | 3-0 5/16 (923)                                                                       | 3-0 5/16 (923)                                                                       | 5-11 (1803)                                                                          |
| 8-2 (2489)<br>8-2 1/4 (2496)<br>8-1 3/4 (2483) |  |  |  |
|                                                | ELDG3616 / ELIFD3068 XR                                                              | ELDG3616 / ELIFD3068 O                                                               | ELDG7216 / ELIFD6068 XXL                                                             |

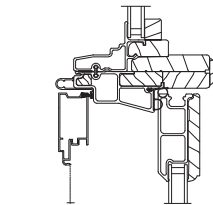
Construction Details



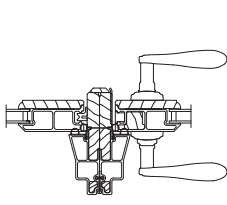
Head Jamb and Sill  
with Sliding Screen



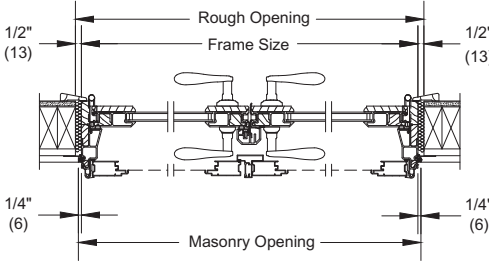
Head Jamb and Sill  
with Swinging Screen



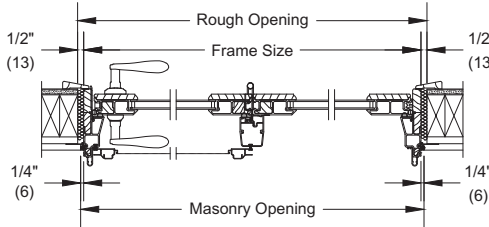
Direct Glaze Over Inswing  
French Door



Vertical Mullion  
O-XO operator



Jamb - XX Operator



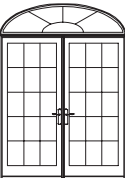
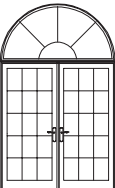
Jamb - XO Operator

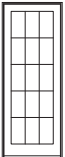
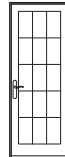
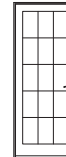
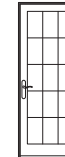
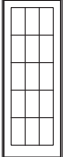
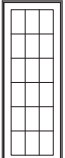
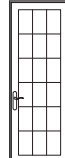
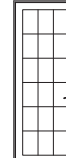
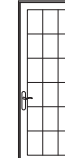
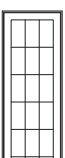
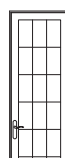
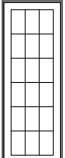
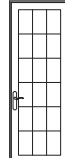
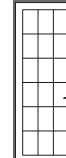
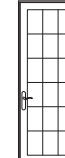
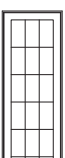
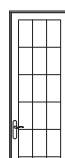
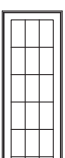
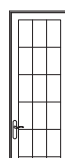
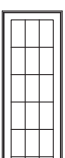
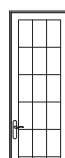
Details and Elevations not to scale.  
\* This product is only available field mullled.  
\*\* 2 and 3 panel XX configurations also available in XX R.  
O = Stationary X = Operator  
Optional Round Top SDL and SDL with Spacer Bar are available in a standard cut, as shown. Round Top GBG cuts are shown on page 3. (Round Top divided lites only available in standard lite cut)  
For further details and drawings visit the 'Tools and Documents' section at Marvin.com.

MULTIPLE ASSEMBLIES

Multiple assemblies can be factory mullled.  
MAXIMUM ROUGH OPENING not to exceed 109 15/16" x 96" maximum up to 3 units wide by 1 unit high.  
MAXIMUM ROUGH OPENING not to exceed 73 5/8" x 100 1/2" maximum up to 2 units wide by 2 unit high.  
Field mull kits available not to exceed 110" x 112". True Half Rounds are available field mullled only. Structural mullion reinforcement is required for some assemblies.  
Please consult your local Marvin representative for more information.

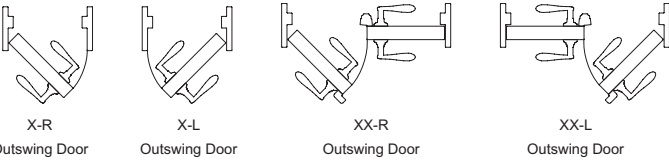
Round Top Over  
Inswing French Door

|                                                 |                                                                                     |
|-------------------------------------------------|-------------------------------------------------------------------------------------|
| MO (mm)                                         | 5-11 1/2 (1816)                                                                     |
| RO (mm)                                         | 6-0 (1829)                                                                          |
| FS (mm)                                         | 5-11 (1803)                                                                         |
| 8-4 1/4 (2546)<br>8-4 1/2 (2553)<br>8-4 (2540)  |  |
|                                                 | ELDGR7218 / ELIFD6068 XXL                                                           |
| 9-9 3/4 (2991)<br>9-10 (2997)<br>9-9 1/2 (2985) |  |
|                                                 | ELDGR7236* / ELIFD6068 XXL                                                          |

| MO (mm)                                                              | 2-6 13/16 (783)                                                                    |                                                                                    |                                                                                    | 2-8 13/16 (834)                                                                    |                                                                                    |                                                                                    | 3-0 13/16 (935)                                                                     |                                                                                      |                                                                                      |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| RO (mm)                                                              | 2-7 5/16 (796)                                                                     |                                                                                    |                                                                                    | 2-9 5/16 (846)                                                                     |                                                                                    |                                                                                    | 3-1 5/16 (948)                                                                      |                                                                                      |                                                                                      |
| FS (mm)                                                              | 2-6 5/16 (770)                                                                     |                                                                                    |                                                                                    | 2-8 5/16 (821)                                                                     |                                                                                    |                                                                                    | 3-0 5/16 (923)                                                                      |                                                                                      |                                                                                      |
| DLO (mm)                                                             | 21 11/32 (542)                                                                     |                                                                                    |                                                                                    | 23 11/32 (593)                                                                     |                                                                                    |                                                                                    | 27 11/32 (695)                                                                      |                                                                                      |                                                                                      |
| 6-7 3/4 (2026)<br>6-8 (2032)<br>6-7 1/2 (2019)<br>67 3/32 (1704)     |   |   |   |   |   |   |   |   |   |
|                                                                      | ELOFD2665 O                                                                        | ELOFD2665 XR                                                                       | ELOFD2665 XL                                                                       | ELOFD2865 O                                                                        | ELOFD2865 XR                                                                       | ELOFD2865 XL                                                                       | ELOFD3065 O                                                                         | ELOFD3065 XR                                                                         | ELOFD3065 XL                                                                         |
|                                                                      |   |   |   |   |   |   |   |   |   |
|                                                                      | ELOFD2668 O                                                                        | ELOFD2668 XR                                                                       | ELOFD2668 XL                                                                       | ELOFD2868 O                                                                        | ELOFD2868 XR                                                                       | ELOFD2868 XL                                                                       | ELOFD3068 O                                                                         | ELOFD3068 XR                                                                         | ELOFD3068 XL                                                                         |
| 6-10 1/4 (2089)<br>6-10 1/2 (2096)<br>6-10 (2083)<br>69 19/32 (1768) |   |   |   |   |   |   |   |   |   |
|                                                                      | ELOFD2670 O                                                                        | ELOFD2670 XR                                                                       | ELOFD2670 XL                                                                       | ELOFD2870 O                                                                        | ELOFD2870 XR                                                                       | ELOFD2870 XL                                                                       | ELOFD3070 O                                                                         | ELOFD3070 XR                                                                         | ELOFD3070 XL                                                                         |
|                                                                      |  |  |  |  |  |  |  |  |  |
|                                                                      | ELOFD2680 O                                                                        | ELOFD2680 XR                                                                       | ELOFD2680 XL                                                                       | ELOFD2880 O                                                                        | ELOFD2880 XR                                                                       | ELOFD2880 XL                                                                       | ELOFD3080 O                                                                         | ELOFD3080 XR                                                                         | ELOFD3080 XL                                                                         |
| 7-2 1/4 (2191)<br>7-2 1/2 (2197)<br>7-2 (2184)<br>73 19/32 (1869)    |   |   |   |   |   |   |   |   |   |
|                                                                      | ELOFD2670 O                                                                        | ELOFD2670 XR                                                                       | ELOFD2670 XL                                                                       | ELOFD2870 O                                                                        | ELOFD2870 XR                                                                       | ELOFD2870 XL                                                                       | ELOFD3070 O                                                                         | ELOFD3070 XR                                                                         | ELOFD3070 XL                                                                         |
|                                                                      |  |  |  |  |  |  |  |  |  |
|                                                                      | ELOFD2680 O                                                                        | ELOFD2680 XR                                                                       | ELOFD2680 XL                                                                       | ELOFD2880 O                                                                        | ELOFD2880 XR                                                                       | ELOFD2880 XL                                                                       | ELOFD3080 O                                                                         | ELOFD3080 XR                                                                         | ELOFD3080 XL                                                                         |
| 7-11 3/4 (2432)<br>8-0 (2438)<br>7-11 1/2 (2426)<br>83 3/32 (2111)   |  |  |  |  |  |  |  |  |  |
|                                                                      | ELOFD2680 O                                                                        | ELOFD2680 XR                                                                       | ELOFD2680 XL                                                                       | ELOFD2880 O                                                                        | ELOFD2880 XR                                                                       | ELOFD2880 XL                                                                       | ELOFD3080 O                                                                         | ELOFD3080 XR                                                                         | ELOFD3080 XL                                                                         |
|                                                                      |  |  |  |  |  |  |  |  |  |
|                                                                      | ELOFD2680 O                                                                        | ELOFD2680 XR                                                                       | ELOFD2680 XL                                                                       | ELOFD2880 O                                                                        | ELOFD2880 XR                                                                       | ELOFD2880 XL                                                                       | ELOFD3080 O                                                                         | ELOFD3080 XR                                                                         | ELOFD3080 XL                                                                         |

Outswing Door Operation

X signifies an operating door panel, O means stationary. Listing the panels in a door starts from the left to the right, looking from the exterior.



Direct Glaze Over Outswing French Door

| MO (mm)  | 3-0 13/16 (935) | 5-11 1/2 (1816) | 8-11 13/16 (2738) |
|----------|-----------------|-----------------|-------------------|
| RO (mm)  | 3-1 5/16 (948)  | 6-0 (1829)      | 9-0 5/16 (2751)   |
| FS (mm)  | 3-0 5/16 (923)  | 5-11 (1803)     | 8-11 5/16 (2726)  |
| DLO (mm) | 31 15/16 (811)  | 66 5/8 (1692)   | 102 15/16 (2615)  |



ELD3616



ELD7216

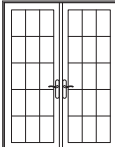


ELD10816

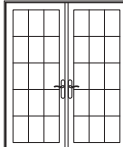
64

OUTSWING FRENCH DOOR

| MO (mm)  | 4-11 1/2 (1511) | 5-3 1/2 (1613) | 5-11 1/2 (1816) |
|----------|-----------------|----------------|-----------------|
| RO (mm)  | 5-0 (1524)      | 5-4 (1626)     | 6-0 (1829)      |
| FS (mm)  | 4-11 (1499)     | 5-3 (1600)     | 5-11 (1803)     |
| DLO (mm) | 21 11/32 (542)  | 23 11/32 (593) | 27 11/32 (695)  |



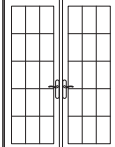
ELOFD5065 XXL



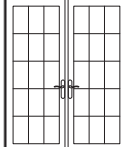
ELOFD5465 XXL



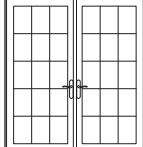
ELOFD6065 XXL



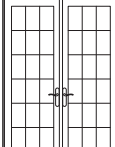
ELOFD5068 XXL



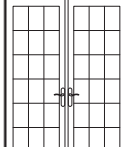
ELOFD5468 XXL



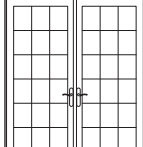
ELOFD6068 XXL



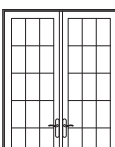
ELOFD5070 XXL



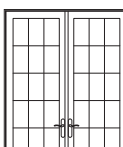
ELOFD5470 XXL



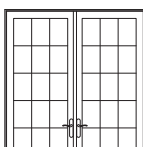
ELOFD6070 XXL



ELOFD5080 XXL

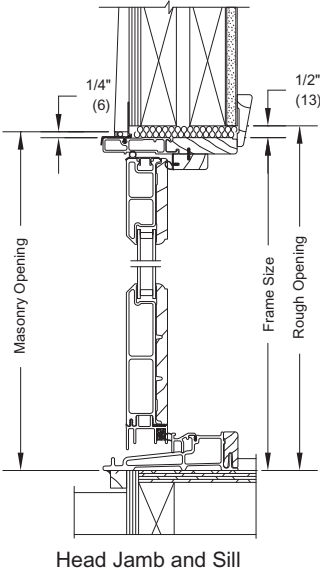


ELOFD5480 XXL



ELOFD6080 XXL

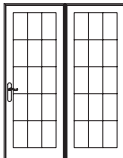
Construction Details



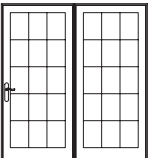
Head Jamb and Sill

Multiple Assemblies – 2 Panel

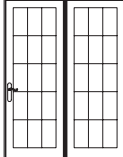
| MO (mm) | 5-1 1/8 (1553) | 6-1 1/8 (1857) |
|---------|----------------|----------------|
| RO (mm) | 5-1 5/8 (1565) | 6-1 5/8 (1870) |
| FS (mm) | 5-0 5/8 (1540) | 6-0 5/8 (1845) |



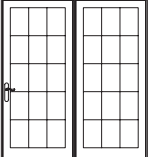
ELOFD2665 / ELOFD2665\*



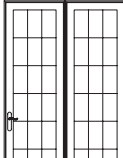
ELOFD3065 / ELOFD3065\*



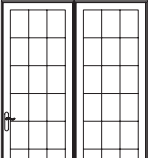
ELOFD2668 / ELOFD2668\*



ELOFD3068 / ELOFD3068\*

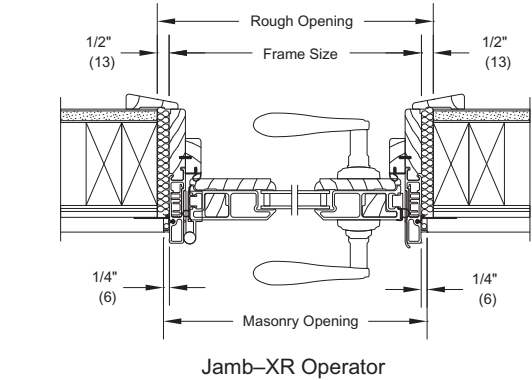


ELOFD2680 / ELOFD2680\*

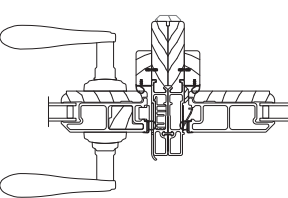


ELOFD3080 / ELOFD3080\*

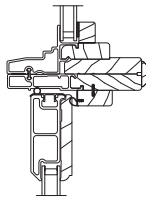
\* 2 panel mullied assembly



Jamb-XR Operator



Vertical Mullion  
XR-O



Direct Glaze Over  
Outswing French Door

65











WDMA AND PERFORMANCE GRADE (PG)

WDMA STANDARDS

The Window and Door Manufacturers Association (WDMA) in conjunction with other organizations in the industry has developed standards that make it easy to compare windows from different manufacturers, testing product performance regarding air and water infiltration, as well as physELCAI loads on the exterior and interior (very important when you consider the pressure differentials that can occur in coastal areas, as well as forced entry resistance). Marvin products are rated in accordance with the North AmerELCAn Fenestration Standard (AAMA/WDMA CSA 101/I.S.2/ A440) and are certified in compliance with the WDMA Hallmark program.

PERFORMANCE GRADE (PG)

A performance grade rating, as created by AAMA/WDMA/CSA Standards, is a measure of the overall tested performance of a window or door that addresses all of the applELCAble requirements of the Standards. A product receives a PG rating if it meets all performance requirements, including: air infiltration resistance, water penetration resistance, structural performance, ease of operation, durability, weatherability, and resistance to forced entry. The higher a PG number a product has, the better the performance. As a frame of reference: PG40 means that a product is tested structurally to a minimum 60 pounds per square foot (psf) and must withstand water penetration under conditions equal to 8 inches of rain per hour driven by a minimum of 50 mph winds.

|                               |             |
|-------------------------------|-------------|
| Casement                      | LC-PG50-C   |
| Casement Picture              | LC-PG50-FW  |
| Awning                        | LC-PG50-AP  |
| Double Hung                   | LC-PG40-H*  |
| Double Hung Picture           | LC-PG40-FW* |
| Casement Narrow Frame         | LC-PG50-C   |
| Casement Narrow Frame Picture | LC-PG50-FW  |
| Awning Narrow Frame           | LC-PG50-AP  |
| Double Hung Insert            | LC-PG40-H** |
| Double Hung Insert Picture    | LC-PG40-FW  |
| Gliders                       | LC-PG30-HS  |

|                                 |               |
|---------------------------------|---------------|
| Direct Glaze Round Top          | SP-PG50       |
| Aluminum Direct Glaze Round Top | LC-PG50-FW    |
| Direct Glaze                    | CW-PG50-FW    |
| Sliding Patio Doors             | LC-PG40-SD*** |
| Sliding French Doors            | LC-PG40****   |
| Inswing French Doors            | LC-PG30       |
| Outswing French Doors           | LC-PG50       |

\* All Double Hung units taller than CN76 have a rating of LC-PG35, High Performance Kit: Optional high performance upgrade kit increases design pressure rating of units to LC-PG50, and increases units taller than CN76 to LC-PG40.

\*\*Insert Double Hung units wider than CN42 have a rating of LC-PG35.

\*\*\*ELSPD 2 and 3 panel call sizes wider than CN60 or taller than CN70 are LC-PG30-SD, ELSPD 3 and 4 panel call sizes wider than CN90 are LC-PG25-SD

\*\*\*\*ELSFD 2 and 3 panel call sizes taller than CN70 or wider than CN90 are LC-PG30-SD, ELSFD 4 panel units are LC-PG30-SD, High performance option available for ELSFD 2 and 3 panel units up to CN90 widths and CN80 heights which increases design pressure rating of units to LC-PG50-SD



SOUND TRANSMISSION

| PRODUCT TYPE | EXTERIOR GLAZING | AIR SPACE | INTERIOR GLAZING OR CENTER GLAZING | AIRSPACE | INTERIOR GLAZING | STC | OITC |
|--------------|------------------|-----------|------------------------------------|----------|------------------|-----|------|
|--------------|------------------|-----------|------------------------------------|----------|------------------|-----|------|

Casement/Awning

|        |             |               |                          |              |            |    |    |
|--------|-------------|---------------|--------------------------|--------------|------------|----|----|
| ELCA   | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)               | --           | --         | 28 | 24 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 3/16" (4.7)              | --           | --         | 32 | 28 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 1/8" (3.1)               | 13/32" (9.8) | 1/8" (3.1) | 28 | 24 |
|        | 1/8" (3.1)  | 5/16" (7.5)   | 9/32" (6.9) PVB laminate | --           | --         | 33 | 29 |
|        | 5/32" (3.9) | 9/32" (7.0)   | 9/32" (6.9) SGP laminate | --           | --         | 30 | 27 |
| ELCA P | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)               | --           | --         | 29 | 24 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 3/16" (4.7)              | --           | --         | 32 | 27 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 1/8" (3.1)               | 13/32" (9.8) | 1/8" (3.1) | 30 | 24 |
|        | 1/8" (3.1)  | 5/16" (7.5)   | 9/32" (6.9) PVB laminate | --           | --         | 32 | 28 |
|        | 5/32" (3.9) | 9/32" (7.0)   | 9/32" (6.9) SGP laminate | --           | --         | 31 | 27 |
| ELAWN  | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)               | --           | --         | 27 | 23 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 3/16" (4.7)              | --           | --         | 31 | 27 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 1/8" (3.1)               | 13/32" (9.8) | 1/8" (3.1) | 28 | 21 |
|        | 1/8" (3.1)  | 5/16" (7.5)   | 9/32" (6.9) PVB laminate | --           | --         | 32 | 27 |
|        | 5/32" (3.9) | 9/32" (7.0)   | 9/32" (6.9) SGP laminate | --           | --         | 30 | 27 |

Double Hung

|        |             |               |                          |    |    |    |    |
|--------|-------------|---------------|--------------------------|----|----|----|----|
| ELDH   | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)               | -- | -- | 27 | 23 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 3/16" (4.7)              | -- | -- | 30 | 26 |
|        | 1/8" (3.1)  | 5/16" (7.5)   | 9/32" (6.9) PVB laminate | -- | -- | 32 | 28 |
| ELDH P | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)               | -- | -- | 27 | 23 |
|        | 1/8" (3.1)  | 13/32" (9.8)  | 3/16" (4.7)              | -- | -- | 31 | 26 |
|        | 1/8" (3.1)  | 5/16" (7.5)   | 9/32" (6.9) PVB laminate | -- | -- | 32 | 27 |
|        | 5/32" (3.9) | 9/32" (7.0)   | 9/32" (6.9) SGP laminate | -- | -- | 31 | 27 |

Casement Narrow Frame

|          |            |               |             |    |    |    |    |
|----------|------------|---------------|-------------|----|----|----|----|
| ELCANF   | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 28 | 25 |
|          | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 33 | 29 |
| ELAWN NF | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 28 | 24 |
|          | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 32 | 27 |
| ELCANF P | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 26 | 22 |
|          | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 31 | 27 |

Double Hung Insert

|          |            |               |             |    |    |    |    |
|----------|------------|---------------|-------------|----|----|----|----|
| ELDHIN   | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 29 | 24 |
|          | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 31 | 27 |
| ELDHIN P | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 27 | 23 |
|          | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 31 | 26 |

Glider

|      |            |               |             |    |    |    |    |
|------|------------|---------------|-------------|----|----|----|----|
| ELGL | 1/8" (3.1) | 15/32" (11.5) | 1/8" (3.1)  | -- | -- | 28 | 23 |
|      | 1/8" (3.1) | 13/32" (9.8)  | 3/16" (4.7) | -- | -- | 30 | 27 |

Sliding Patio Door

|       |            |               |             |    |    |    |    |
|-------|------------|---------------|-------------|----|----|----|----|
| ELSPD | 1/8" (3.1) | 17/32" (13.0) | 1/8" (3.1)  | -- | -- | 27 | 23 |
|       | 1/8" (3.1) | 15/32" (11.5) | 3/16" (4.7) | -- | -- | 30 | 26 |

Sliding French Door

|       |            |               |             |    |    |    |    |
|-------|------------|---------------|-------------|----|----|----|----|
| ELSFD | 1/8" (3.1) | 17/32" (13.0) | 1/8" (3.1)  | -- | -- | 28 | 24 |
|       | 1/8" (3.1) | 15/32" (11.5) | 3/16" (4.7) | -- | -- | 31 | 27 |

Inswing French Door

|       |            |               |             |    |    |    |    |
|-------|------------|---------------|-------------|----|----|----|----|
| ELIFD | 1/8" (3.1) | 17/32" (13.0) | 1/8" (3.1)  | -- | -- | 29 | 24 |
|       | 1/8" (3.1) | 15/32" (11.5) | 3/16" (4.7) | -- | -- | 32 | 27 |

Outswing French Door

|       |             |               |                          |    |    |    |    |
|-------|-------------|---------------|--------------------------|----|----|----|----|
| ELOFD | 1/8" (3.1)  | 17/32" (13.0) | 1/8" (3.1)               | -- | -- | 30 | 24 |
|       | 1/8" (3.1)  | 15/32" (11.5) | 3/16" (4.7)              | -- | -- | 32 | 27 |
|       | 5/32" (3.9) | 5/16" (8.0)   | 9/32" (6.9) SGP laminate | -- | -- | 32 | 29 |

Direct Glaze

|                                   |             |               |                            |              |            |    |    |
|-----------------------------------|-------------|---------------|----------------------------|--------------|------------|----|----|
| ELDG (CASEMENT FRAME)             | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)                 | --           | --         | 28 | 23 |
|                                   | 1/8" (3.1)  | 17/32" (13.0) | 3/16" (4.7)                | --           | --         | 32 | 27 |
|                                   | 1/8" (3.1)  | 13/32" (9.8)  | 1/8" (3.1)                 | 13/32" (9.8) | 1/8" (3.1) | 28 | 23 |
|                                   | 5/16" (3.9) | 17/32" (13.0) | 9/32" (6.9) PVB laminate   | --           | --         | 33 | 28 |
|                                   | 1/4" (5.7)  | 13/32" (9.8)  | 13/32" (10.1) SGP laminate | --           | --         | 35 | 31 |
| ELDG (DOUBLE HUNG AND DOOR FRAME) | 1/8" (3.1)  | 15/32" (11.5) | 1/8" (3.1)                 | --           | --         | 27 | 22 |
|                                   | 1/8" (3.1)  | 17/32" (13.0) | 3/16" (4.7)                | --           | --         | 32 | 27 |
|                                   | 5/16" (3.9) | 17/32" (13.0) | 9/32" (6.9) PVB laminate   | --           | --         | 34 | 28 |
|                                   | 1/4" (5.7)  | 13/32" (9.8)  | 13/32" (10.1) SGP laminate | --           | --         | 34 | 30 |

Sound Transmission Class (STC) and Outdoor-Indoor Transmission Class (OITC) values are subject to change. Values are generated in accordance with ASTM E90(09) and ASTM 1332(03) test Specifications. Tested glass types available in units using 3.1 mm standard glass thickness.

Contact your Marvin retailer for details.

For further details and drawings visit the 'Tools and Documents' section at Marvin.com.







ALTITUDE GUIDELINES

Sliding French Door

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 50    | 60    | 76    | 80    | 90    | 100   | 120   | 160   |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | N/A   | 10000 | 10000 | 10000 | N/A   |
| 80                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Sliding French Door STC

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 50    | 60    | 76    | 90    | 100   | 120*  |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

\*STC is only available on CN120 OXXO units (not CN120 3-panel units)

Inswing French Door

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 26    | 28    | 30    | 50    | 54    | 60    |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 80                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Inswing French Door STC

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 26    | 28    | 30    | 50    | 54    | 60    |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Outswing French Door

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 26    | 28    | 30    | 50    | 54    | 60    |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 80                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Outswing French Door STC

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 26    | 28    | 30    | 50    | 54    | 60    |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Direct Glaze over Sliding French Door

| ALTITUDE LIMITS (FEET) |          |      |     |
|------------------------|----------|------|-----|
| UNIT SIZE              |          | 72   | 107 |
| 16                     | Annealed | 4000 | N/A |
|                        | Tempered | N/A  | N/A |

Direct Glaze over Sliding French Door STC

| ALTITUDE LIMITS (FEET) |          |      |
|------------------------|----------|------|
| UNIT SIZE              |          | 72   |
| 16                     | Annealed | 3000 |
|                        | Tempered | N/A  |

Direct Glaze over Inswing French Door

| ALTITUDE LIMITS (FEET) |          |      |      |
|------------------------|----------|------|------|
| UNIT SIZE              |          | 36   | 72   |
| 16                     | Annealed | 4000 | 4000 |
|                        | Tempered | N/A  | N/A  |

Direct Glaze over Inswing French Door

| ALTITUDE LIMITS (FEET) |          |      |      |
|------------------------|----------|------|------|
| UNIT SIZE              |          | 36   | 72   |
| 16                     | Annealed | 3000 | 3000 |
|                        | Tempered | N/A  | N/A  |

ALTITUDE GUIDELINES

Sliding Patio Door

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 50    | 60    | 76    | 80    | 90    | 100   | 120   | 160   |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | N/A   | 10000 | 10000 | 10000 | 10000 |
| 80                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Sliding Patio Door STC

| ALTITUDE LIMITS (FEET) |          |       |       |       |       |       |       |       |       |
|------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| UNIT SIZE              |          | 50    | 60    | 76    | 80    | 90    | 100   | 120   | 160   |
| 65                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 68                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |
| 70                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | N/A   | 10000 | 10000 | 10000 | 10000 |
| 80                     | Annealed | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
|                        | Tempered | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 | 10000 |

Direct Glaze over Sliding Patio Door

| ALTITUDE LIMITS (FEET) |          |      |     |
|------------------------|----------|------|-----|
| UNIT SIZE              |          | 72   | 107 |
| 16                     | Annealed | 4000 | N/A |
|                        | Tempered | N/A  | N/A |

Direct Glaze over Sliding Patio Door STC

| ALTITUDE LIMITS (FEET) |          |      |     |
|------------------------|----------|------|-----|
| UNIT SIZE              |          | 72   | 107 |
| 16                     | Annealed | 3000 | N/A |
|                        | Tempered | N/A  | N/A |

CASEMENT

| GLASS DESCRIPTION            | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|------------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg     |            | 0.23     | 0.20 | 0.45 | 48 | N, NC, SC, S | 1, 2               |
|                              | SDLS < 1 " | 0.23     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.23     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.23     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air     |            | 0.26     | 0.20 | 0.45 | 44 | N, NC, SC, S | 1                  |
|                              | SDLS < 1 " | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
|                              | SDLN < 1 " | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
|                              | GBG        | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg         |            | 0.27     | 0.20 | 0.46 | 59 | N, NC, SC, S | 1                  |
|                              | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
|                              | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
|                              | GBG        | 0.27     | 0.18 | 0.42 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air         |            | 0.30     | 0.20 | 0.46 | 56 | NC, SC, S    |                    |
|                              | SDLS < 1 " | 0.30     | 0.19 | 0.42 | 56 | NC, SC, S    |                    |
|                              | SDLN < 1 " | 0.30     | 0.19 | 0.42 | 56 | NC, SC, S    |                    |
|                              | GBG        | 0.30     | 0.19 | 0.42 | 56 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg         |            | 0.27     | 0.30 | 0.51 | 59 | N, NC        | 1                  |
|                              | SDLS < 1 " | 0.27     | 0.27 | 0.46 | 59 | N, NC        | 1                  |
|                              | SDLN < 1 " | 0.27     | 0.27 | 0.46 | 59 | N, NC        | 1                  |
|                              | GBG        | 0.27     | 0.27 | 0.46 | 59 | N, NC        | 1                  |
| 11/16" IG Low E2 Air         |            | 0.31     | 0.30 | 0.51 | 55 |              |                    |
|                              | SDLS < 1 " | 0.31     | 0.28 | 0.46 | 55 |              |                    |
|                              | SDLN < 1 " | 0.31     | 0.28 | 0.46 | 55 |              |                    |
|                              | GBG        | 0.31     | 0.28 | 0.46 | 55 |              |                    |
| 11/16" IG Low E1 Arg         |            | 0.28     | 0.49 | 0.56 | 58 | N            | 1, 2               |
|                              | SDLS < 1 " | 0.28     | 0.45 | 0.51 | 58 | N            | 1, 2               |
|                              | SDLN < 1 " | 0.28     | 0.45 | 0.51 | 58 | N            | 1, 2               |
|                              | GBG        | 0.28     | 0.45 | 0.51 | 58 | N            | 1, 2               |
| 11/16" IG Low E1 Air         |            | 0.31     | 0.49 | 0.56 | 55 |              | 1, 2               |
|                              | SDLS < 1 " | 0.31     | 0.45 | 0.51 | 55 |              | 1                  |
|                              | SDLN < 1 " | 0.31     | 0.45 | 0.51 | 55 |              | 1                  |
|                              | GBG        | 0.31     | 0.45 | 0.51 | 55 |              | 1                  |
| 11/16" IG Arg                |            | 0.41     | 0.56 | 0.59 | 45 |              |                    |
|                              | SDLS < 1 " | 0.41     | 0.51 | 0.53 | 45 |              |                    |
|                              | SDLN < 1 " | 0.41     | 0.51 | 0.53 | 45 |              |                    |
|                              | GBG        | 0.41     | 0.51 | 0.53 | 45 |              |                    |
| 11/16" IG Air                |            | 0.43     | 0.56 | 0.59 | 44 |              |                    |
|                              | SDLS < 1 " | 0.43     | 0.51 | 0.53 | 44 |              |                    |
|                              | SDLN < 1 " | 0.43     | 0.51 | 0.53 | 44 |              |                    |
|                              | GBG        | 0.43     | 0.51 | 0.53 | 44 |              |                    |
| 1 1/8" Tripane Low E2/E1 Arg |            | 0.20     | 0.27 | 0.45 | 69 | N, NC        | 1, 2, 3            |
|                              | SDLS < 1 " | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
|                              | SDLN < 1 " | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
|                              | GBG        | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
| 1 1/8" Tripane Low E2/E1 Air |            | 0.22     | 0.27 | 0.45 | 65 | N, NC        | 1, 2               |
|                              | SDLS < 1 " | 0.22     | 0.25 | 0.41 | 65 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.22     | 0.25 | 0.41 | 65 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.23     | 0.25 | 0.41 | 65 | N, NC, SC, S | 1, 2               |

THERMAL PERFORMANCE

CASEMENT PICTURE-TRANSOM

| GLASS DESCRIPTION            | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|------------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg     |            | 0.22     | 0.22 | 0.51 | 47 | N, NC, SC, S | 1, 2               |
|                              | SDLS < 1 " | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air     |            | 0.25     | 0.22 | 0.51 | 43 | N, NC, SC, S | 1, 2               |
|                              | SDLS < 1 " | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3 Arg         |            | 0.26     | 0.23 | 0.53 | 59 | N, NC, SC, S | 1                  |
|                              | SDLS < 1 " | 0.26     | 0.20 | 0.47 | 59 | N, NC, SC, S | 1                  |
|                              | SDLN < 1 " | 0.26     | 0.20 | 0.47 | 59 | N, NC, SC, S | 1                  |
|                              | GBG        | 0.26     | 0.20 | 0.47 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air         |            | 0.30     | 0.23 | 0.53 | 55 | NC, SC, S    |                    |
|                              | SDLS < 1 " | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
|                              | SDLN < 1 " | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
|                              | GBG        | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg         |            | 0.26     | 0.34 | 0.58 | 58 | N, NC        | 1                  |
|                              | SDLS < 1 " | 0.26     | 0.31 | 0.52 | 58 | N, NC        | 1                  |
|                              | SDLN < 1 " | 0.26     | 0.31 | 0.52 | 58 | N, NC        | 1                  |
|                              | GBG        | 0.26     | 0.31 | 0.52 | 58 | N, NC        | 1                  |
| 11/16" IG Low E2 Air         |            | 0.30     | 0.34 | 0.58 | 55 | NC           |                    |
|                              | SDLS < 1 " | 0.30     | 0.31 | 0.52 | 55 | NC           |                    |
|                              | SDLN < 1 " | 0.30     | 0.31 | 0.52 | 55 | NC           |                    |
|                              | GBG        | 0.30     | 0.31 | 0.52 | 55 | NC           |                    |
| 11/16" IG Low E1 Arg         |            | 0.27     | 0.56 | 0.64 | 58 | N            | 1, 2, 3            |
|                              | SDLS < 1 " | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
|                              | SDLN < 1 " | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
|                              | GBG        | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
| 11/16" IG Low E1 Air         |            | 0.31     | 0.56 | 0.64 | 54 |              | 1, 2, 3            |
|                              | SDLS < 1 " | 0.31     | 0.50 | 0.57 | 54 |              | 1, 2               |
|                              | SDLN < 1 " | 0.31     | 0.50 | 0.57 | 54 |              | 1, 2               |
|                              | GBG        | 0.31     | 0.50 | 0.57 | 54 |              | 1, 2               |
| 11/16" IG Arg                |            | 0.42     | 0.63 | 0.67 | 45 |              |                    |
|                              | SDLS < 1 " | 0.42     | 0.57 | 0.60 | 45 |              |                    |
|                              | SDLN < 1 " | 0.42     | 0.57 | 0.60 | 45 |              |                    |
|                              | GBG        | 0.42     | 0.57 | 0.60 | 45 |              |                    |
| 11/16" IG Air                |            | 0.45     | 0.63 | 0.67 | 43 |              |                    |
|                              | SDLS < 1 " | 0.45     | 0.57 | 0.60 | 43 |              |                    |
|                              | SDLN < 1 " | 0.45     | 0.57 | 0.60 | 43 |              |                    |
|                              | GBG        | 0.45     | 0.57 | 0.60 | 43 |              |                    |
| 1 1/8" Tripane Low E2/E1 Arg |            | 0.18     | 0.31 | 0.51 | 69 | N, NC        | 1, 2, 3            |
|                              | SDLS < 1 " | 0.18     | 0.28 | 0.46 | 69 | N, NC        | 1, 2, 3            |
|                              | SDLN < 1 " | 0.18     | 0.28 | 0.46 | 69 | N, NC        | 1, 2, 3            |
|                              | GBG        | 0.23     | 0.28 | 0.46 | 69 | N, NC        | 1, 2               |
| 1 1/8" Tripane Low E2/E1 Air |            | 0.21     | 0.31 | 0.51 | 66 | N, NC        | 1, 2, 3            |
|                              | SDLS < 1 " | 0.21     | 0.28 | 0.46 | 66 | N, NC        | 1, 2, 3            |
|                              | SDLN < 1 " | 0.21     | 0.28 | 0.46 | 66 | N, NC        | 1, 2, 3            |
|                              | GBG        | 0.25     | 0.28 | 0.46 | 66 | N, NC        | 1, 2               |

AWNING

| GLASS DESCRIPTION            | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|------------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg     |            | 0.24     | 0.20 | 0.45 | 46 | N, NC, SC, S | 1, 2               |
|                              | SDLS < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air     |            | 0.27     | 0.20 | 0.45 | 42 | N, NC, SC, S | 1                  |
|                              | SDLS < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                              | SDLN < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                              | GBG        | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg         |            | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
|                              | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 58 | N, NC, SC, S | 1                  |
|                              | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 58 | N, NC, SC, S | 1                  |
|                              | GBG        | 0.27     | 0.18 | 0.42 | 58 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air         |            | 0.30     | 0.20 | 0.46 | 54 | NC, SC, S    |                    |
|                              | SDLS < 1 " | 0.30     | 0.19 | 0.42 | 54 | NC, SC, S    |                    |
|                              | SDLN < 1 " | 0.30     | 0.19 | 0.42 | 54 | NC, SC, S    |                    |
|                              | GBG        | 0.30     | 0.19 | 0.42 | 54 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg         |            | 0.27     | 0.30 | 0.51 | 57 | N, NC        | 1                  |
|                              | SDLS < 1 " | 0.27     | 0.27 | 0.46 | 57 | N, NC        | 1                  |
|                              | SDLN < 1 " | 0.27     | 0.27 | 0.46 | 57 | N, NC        | 1                  |
|                              | GBG        | 0.27     | 0.27 | 0.46 | 57 | N, NC        | 1                  |
| 11/16" IG Low E2 Air         |            | 0.31     | 0.30 | 0.51 | 54 |              |                    |
|                              | SDLS < 1 " | 0.31     | 0.28 | 0.46 | 54 |              |                    |
|                              | SDLN < 1 " | 0.31     | 0.28 | 0.46 | 54 |              |                    |
|                              | GBG        | 0.31     | 0.28 | 0.46 | 54 |              |                    |
| 11/16" IG Low E1 Arg         |            | 0.28     | 0.49 | 0.56 | 57 | N            | 1, 2               |
|                              | SDLS < 1 " | 0.28     | 0.45 | 0.51 | 57 | N            | 1, 2               |
|                              | SDLN < 1 " | 0.28     | 0.45 | 0.51 | 57 | N            | 1, 2               |
|                              | GBG        | 0.28     | 0.45 | 0.51 | 57 | N            | 1, 2               |
| 11/16" IG Low E1 Air         |            | 0.31     | 0.49 | 0.56 | 53 |              | 1, 2               |
|                              | SDLS < 1 " | 0.31     | 0.45 | 0.51 | 53 |              | 1                  |
|                              | SDLN < 1 " | 0.31     | 0.45 | 0.51 | 53 |              | 1                  |
|                              | GBG        | 0.31     | 0.45 | 0.51 | 53 |              | 1                  |
| 11/16" IG Arg                |            | 0.42     | 0.56 | 0.59 | 45 |              |                    |
|                              | SDLS < 1 " | 0.42     | 0.51 | 0.53 | 45 |              |                    |
|                              | SDLN < 1 " | 0.42     | 0.51 | 0.53 | 45 |              |                    |
|                              | GBG        | 0.42     | 0.51 | 0.53 | 45 |              |                    |
| 11/16" IG Air                |            | 0.44     | 0.56 | 0.59 | 43 |              |                    |
|                              | SDLS < 1 " | 0.44     | 0.51 | 0.53 | 43 |              |                    |
|                              | SDLN < 1 " | 0.44     | 0.51 | 0.53 | 43 |              |                    |
|                              | GBG        | 0.44     | 0.51 | 0.53 | 43 |              |                    |
| 1 1/8" Tripane Low E2/E1 Arg |            | 0.20     | 0.27 | 0.45 | 69 | N, NC        | 1, 2, 3            |
|                              | SDLS < 1 " | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
|                              | SDLN < 1 " | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
|                              | GBG        | 0.20     | 0.25 | 0.41 | 69 | N, NC, SC, S | 1, 2, 3            |
| 1 1/8" Tripane Low E2/E1 Air |            | 0.22     | 0.27 | 0.45 | 66 | N, NC        | 1, 2               |
|                              | SDLS < 1 " | 0.22     | 0.25 | 0.41 | 66 | N, NC, SC, S | 1, 2               |
|                              | SDLN < 1 " | 0.22     | 0.25 | 0.41 | 66 | N, NC, SC, S | 1, 2               |
|                              | GBG        | 0.23     | 0.25 | 0.41 | 66 | N, NC, SC, S | 1, 2               |

THERMAL PERFORMANCE

DOUBLE HUNG

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.24     | 0.21 | 0.48 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.24     | 0.19 | 0.42 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.19 | 0.42 | 46 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.24     | 0.19 | 0.42 | 46 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.27     | 0.21 | 0.48 | 42 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.42 | 42 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.42 | 42 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.19 | 0.42 | 42 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg     |            | 0.27     | 0.21 | 0.49 | 57 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.43 | 57 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.43 | 57 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.19 | 0.43 | 57 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.31     | 0.21 | 0.49 | 53 | S            |                    |
|                          | SDLS < 1 " | 0.31     | 0.19 | 0.43 | 53 | S            |                    |
|                          | SDLN < 1 " | 0.31     | 0.19 | 0.43 | 53 | S            |                    |
|                          | GBG        | 0.31     | 0.19 | 0.43 | 53 | S            |                    |
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.32 | 0.54 | 56 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.28 | 0.48 | 56 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.28 | 0.48 | 56 | NC           | 1                  |
|                          | GBG        | 0.28     | 0.28 | 0.48 | 56 | NC           | 1                  |
| 11/16" IG Low E2 Air     |            | 0.32     | 0.32 | 0.54 | 53 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.29 | 0.48 | 53 |              |                    |
|                          | SDLN < 1 " | 0.32     | 0.29 | 0.48 | 53 |              |                    |
|                          | GBG        | 0.32     | 0.29 | 0.48 | 53 |              |                    |
| 11/16" IG Low E1 Arg     |            | 0.29     | 0.52 | 0.60 | 56 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.47 | 0.53 | 56 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.47 | 0.53 | 56 | N            | 1, 2               |
|                          | GBG        | 0.29     | 0.47 | 0.53 | 56 | N            | 1, 2               |
| 11/16" IG Low E1 Air     |            | 0.32     | 0.52 | 0.60 | 52 |              | 1, 2               |
|                          | SDLS < 1 " | 0.32     | 0.46 | 0.53 | 52 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.46 | 0.53 | 52 |              | 1                  |
|                          | GBG        | 0.32     | 0.46 | 0.53 | 52 |              | 1                  |
| 11/16" IG Arg            |            | 0.43     | 0.59 | 0.62 | 45 |              |                    |
|                          | SDLS < 1 " | 0.43     | 0.53 | 0.55 | 45 |              |                    |
|                          | SDLN < 1 " | 0.43     | 0.53 | 0.55 | 45 |              |                    |
|                          | GBG        | 0.43     | 0.53 | 0.55 | 45 |              |                    |
| 11/16" IG Air            |            | 0.45     | 0.59 | 0.62 | 43 |              |                    |
|                          | SDLS < 1 " | 0.45     | 0.53 | 0.55 | 43 |              |                    |
|                          | SDLN < 1 " | 0.45     | 0.53 | 0.55 | 43 |              |                    |
|                          | GBG        | 0.45     | 0.53 | 0.55 | 43 |              |                    |

DOUBLE HUNG PICTURE-TRANSOM

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.22     | 0.22 | 0.50 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.22     | 0.20 | 0.44 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.20 | 0.44 | 48 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.22     | 0.20 | 0.44 | 48 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.25     | 0.22 | 0.50 | 44 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3 Arg     |            | 0.26     | 0.22 | 0.51 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.20 | 0.45 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.20 | 0.45 | 60 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.26     | 0.20 | 0.45 | 60 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.30     | 0.22 | 0.51 | 57 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.30     | 0.20 | 0.45 | 57 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.30     | 0.20 | 0.45 | 57 | NC, SC, S    |                    |
|                          | GBG        | 0.30     | 0.20 | 0.45 | 57 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg     |            | 0.26     | 0.33 | 0.57 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.30 | 0.51 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.30 | 0.51 | 60 | N, NC        | 1                  |
|                          | GBG        | 0.26     | 0.30 | 0.51 | 60 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.30     | 0.33 | 0.57 | 56 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.30 | 0.51 | 56 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.30 | 0.51 | 56 | NC           |                    |
|                          | GBG        | 0.30     | 0.30 | 0.51 | 56 | NC           |                    |
| 11/16" IG Low E1 Arg     |            | 0.27     | 0.54 | 0.62 | 59 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.27     | 0.49 | 0.56 | 59 | N            | 1, 2, 3            |
|                          | SDLN < 1 " | 0.27     | 0.49 | 0.56 | 59 | N            | 1, 2, 3            |
|                          | GBG        | 0.27     | 0.49 | 0.56 | 59 | N            | 1, 2, 3            |
| 11/16" IG Low E1 Air     |            | 0.31     | 0.54 | 0.62 | 56 |              | 1, 2               |
|                          | SDLS < 1 " | 0.31     | 0.49 | 0.56 | 56 |              | 1, 2               |
|                          | SDLN < 1 " | 0.31     | 0.49 | 0.56 | 56 |              | 1, 2               |
|                          | GBG        | 0.31     | 0.49 | 0.56 | 56 |              | 1, 2               |
| 11/16" IG Arg            |            | 0.42     | 0.62 | 0.65 | 46 |              |                    |
|                          | SDLS < 1 " | 0.42     | 0.55 | 0.58 | 46 |              |                    |
|                          | SDLN < 1 " | 0.42     | 0.55 | 0.58 | 46 |              |                    |
|                          | GBG        | 0.42     | 0.55 | 0.58 | 46 |              |                    |
| 11/16" IG Air            |            | 0.44     | 0.62 | 0.65 | 44 |              |                    |
|                          | SDLS < 1 " | 0.44     | 0.55 | 0.58 | 44 |              |                    |
|                          | SDLN < 1 " | 0.44     | 0.55 | 0.58 | 44 |              |                    |
|                          | GBG        | 0.44     | 0.55 | 0.58 | 44 |              |                    |

THERMAL PERFORMANCE

CASEMENT NARROW FRAME

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.24     | 0.20 | 0.45 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.24     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.24     | 0.18 | 0.41 | 48 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.26     | 0.20 | 0.45 | 44 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.26     | 0.18 | 0.41 | 44 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg     |            | 0.27     | 0.20 | 0.46 | 60 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.18 | 0.42 | 60 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.18 | 0.42 | 60 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.18 | 0.42 | 60 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.31     | 0.20 | 0.46 | 56 | S            |                    |
|                          | SDLS < 1 " | 0.31     | 0.19 | 0.42 | 56 | S            |                    |
|                          | SDLN < 1 " | 0.31     | 0.19 | 0.42 | 56 | S            |                    |
|                          | GBG        | 0.31     | 0.19 | 0.42 | 56 | S            |                    |
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.30 | 0.51 | 59 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.27 | 0.46 | 59 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.27 | 0.46 | 59 | NC           | 1                  |
|                          | GBG        | 0.28     | 0.27 | 0.46 | 59 | NC           | 1                  |
| 11/16" IG Low E2 Air     |            | 0.31     | 0.30 | 0.51 | 56 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.28 | 0.46 | 56 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.28 | 0.46 | 56 |              |                    |
|                          | GBG        | 0.31     | 0.28 | 0.46 | 56 |              |                    |
| 11/16" IG Low E1 Arg     |            | 0.28     | 0.49 | 0.56 | 59 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.28     | 0.45 | 0.51 | 59 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.28     | 0.45 | 0.51 | 59 | N            | 1, 2               |
|                          | GBG        | 0.28     | 0.45 | 0.51 | 59 | N            | 1, 2               |
| 11/16" IG Low E1 Air     |            | 0.32     | 0.49 | 0.56 | 55 |              | 1                  |
|                          | SDLS < 1 " | 0.32     | 0.45 | 0.51 | 55 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.45 | 0.51 | 55 |              | 1                  |
|                          | GBG        | 0.32     | 0.45 | 0.51 | 55 |              | 1                  |
| 11/16" IG Arg            |            | 0.42     | 0.56 | 0.58 | 46 |              |                    |
|                          | SDLS < 1 " | 0.42     | 0.51 | 0.53 | 46 |              |                    |
|                          | SDLN < 1 " | 0.42     | 0.51 | 0.53 | 46 |              |                    |
|                          | GBG        | 0.42     | 0.51 | 0.53 | 46 |              |                    |
| 11/16" IG Air            |            | 0.43     | 0.56 | 0.58 | 44 |              |                    |
|                          | SDLS < 1 " | 0.43     | 0.51 | 0.53 | 44 |              |                    |
|                          | SDLN < 1 " | 0.43     | 0.51 | 0.53 | 44 |              |                    |
|                          | GBG        | 0.43     | 0.51 | 0.53 | 44 |              |                    |

CASEMENT NARROW FRAME PICTURE-TRANSOM

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.22     | 0.22 | 0.51 | 47 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.22     | 0.20 | 0.46 | 47 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.25     | 0.22 | 0.51 | 43 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.25     | 0.20 | 0.46 | 43 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3 Arg     |            | 0.26     | 0.23 | 0.53 | 59 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.21 | 0.47 | 59 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.21 | 0.47 | 59 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.26     | 0.21 | 0.47 | 59 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.30     | 0.23 | 0.53 | 55 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
|                          | GBG        | 0.30     | 0.21 | 0.47 | 55 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg     |            | 0.27     | 0.34 | 0.58 | 59 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.31 | 0.52 | 59 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.31 | 0.52 | 59 | N, NC        | 1                  |
|                          | GBG        | 0.27     | 0.31 | 0.52 | 59 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.31     | 0.34 | 0.58 | 55 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.31 | 0.52 | 55 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.31 | 0.52 | 55 |              |                    |
|                          | GBG        | 0.31     | 0.31 | 0.52 | 55 |              |                    |
| 11/16" IG Low E1 Arg     |            | 0.27     | 0.56 | 0.64 | 58 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
|                          | SDLN < 1 " | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
|                          | GBG        | 0.27     | 0.50 | 0.57 | 58 | N            | 1, 2, 3            |
| 11/16" IG Low E1 Air     |            | 0.31     | 0.56 | 0.64 | 55 |              | 1, 2               |
|                          | SDLS < 1 " | 0.31     | 0.50 | 0.57 | 55 |              | 1, 2               |
|                          | SDLN < 1 " | 0.31     | 0.50 | 0.57 | 55 |              | 1, 2               |
|                          | GBG        | 0.31     | 0.50 | 0.57 | 55 |              | 1, 2               |
| 11/16" IG Arg            |            | 0.43     | 0.64 | 0.67 | 45 |              |                    |
|                          | SDLS < 1 " | 0.43     | 0.57 | 0.60 | 45 |              |                    |
|                          | SDLN < 1 " | 0.43     | 0.57 | 0.60 | 45 |              |                    |
|                          | GBG        | 0.43     | 0.57 | 0.60 | 45 |              |                    |
| 11/16" IG Air            |            | 0.45     | 0.63 | 0.67 | 44 |              |                    |
|                          | SDLS < 1 " | 0.45     | 0.57 | 0.60 | 44 |              |                    |
|                          | SDLN < 1 " | 0.45     | 0.57 | 0.60 | 44 |              |                    |
|                          | GBG        | 0.45     | 0.57 | 0.60 | 44 |              |                    |

THERMAL PERFORMANCE

AWNING NARROW FRAME

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.24     | 0.20 | 0.45 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.27     | 0.20 | 0.45 | 42 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg     |            | 0.27     | 0.20 | 0.46 | 58 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.42 | 58 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.42 | 58 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.19 | 0.42 | 58 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.31     | 0.20 | 0.46 | 54 | S            |                    |
|                          | SDLS < 1 " | 0.31     | 0.19 | 0.42 | 54 | S            |                    |
|                          | SDLN < 1 " | 0.31     | 0.19 | 0.42 | 54 | S            |                    |
|                          | GBG        | 0.31     | 0.19 | 0.42 | 54 | S            |                    |
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.30 | 0.51 | 58 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.28 | 0.46 | 58 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.28 | 0.46 | 58 | NC           | 1                  |
|                          | GBG        | 0.28     | 0.28 | 0.46 | 58 | NC           | 1                  |
| 11/16" IG Low E2 Air     |            | 0.31     | 0.30 | 0.51 | 54 |              |                    |
|                          | SDLS < 1 " | 0.31     | 0.28 | 0.46 | 54 |              |                    |
|                          | SDLN < 1 " | 0.31     | 0.28 | 0.46 | 54 |              |                    |
|                          | GBG        | 0.31     | 0.28 | 0.46 | 54 |              |                    |
| 11/16" IG Low E1 Arg     |            | 0.29     | 0.49 | 0.56 | 57 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.45 | 0.51 | 57 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.45 | 0.51 | 57 | N            | 1, 2               |
|                          | GBG        | 0.29     | 0.45 | 0.51 | 57 | N            | 1, 2               |
| 11/16" IG Low E1 Air     |            | 0.32     | 0.49 | 0.56 | 54 |              | 1                  |
|                          | SDLS < 1 " | 0.32     | 0.45 | 0.51 | 54 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.45 | 0.51 | 54 |              | 1                  |
|                          | GBG        | 0.32     | 0.45 | 0.51 | 54 |              | 1                  |
| 11/16" IG Arg            |            | 0.42     | 0.56 | 0.59 | 45 |              |                    |
|                          | SDLS < 1 " | 0.42     | 0.51 | 0.53 | 45 |              |                    |
|                          | SDLN < 1 " | 0.42     | 0.51 | 0.53 | 45 |              |                    |
|                          | GBG        | 0.42     | 0.51 | 0.53 | 45 |              |                    |
| 11/16" IG Air            |            | 0.44     | 0.56 | 0.59 | 43 |              |                    |
|                          | SDLS < 1 " | 0.44     | 0.51 | 0.53 | 43 |              |                    |
|                          | SDLN < 1 " | 0.44     | 0.51 | 0.53 | 43 |              |                    |
|                          | GBG        | 0.44     | 0.51 | 0.53 | 43 |              |                    |

DOUBLE HUNG INSERT

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.24     | 0.20 | 0.46 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.24     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.27     | 0.20 | 0.46 | 42 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.27     | 0.18 | 0.41 | 42 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Arg     |            | 0.28     | 0.20 | 0.47 | 57 | NC, SC, S    | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.19 | 0.42 | 57 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.28     | 0.19 | 0.42 | 57 | NC, SC, S    |                    |
|                          | GBG        | 0.28     | 0.19 | 0.42 | 57 | NC, SC, S    |                    |
| 11/16" IG Low E3 Air     |            | 0.31     | 0.21 | 0.47 | 53 | S            |                    |
|                          | SDLS < 1 " | 0.31     | 0.19 | 0.42 | 53 | S            |                    |
|                          | SDLN < 1 " | 0.31     | 0.19 | 0.42 | 53 | S            |                    |
|                          | GBG        | 0.31     | 0.19 | 0.42 | 53 | S            |                    |
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.31 | 0.53 | 56 | NC           | 1                  |
|                          | SDLS < 1 " | 0.28     | 0.28 | 0.47 | 56 | NC           | 1                  |
|                          | SDLN < 1 " | 0.28     | 0.28 | 0.47 | 56 | NC           | 1                  |
|                          | GBG        | 0.28     | 0.28 | 0.47 | 56 | NC           | 1                  |
| 11/16" IG Low E2 Air     |            | 0.32     | 0.31 | 0.53 | 53 |              |                    |
|                          | SDLS < 1 " | 0.32     | 0.28 | 0.47 | 53 |              |                    |
|                          | SDLN < 1 " | 0.32     | 0.28 | 0.47 | 53 |              |                    |
|                          | GBG        | 0.32     | 0.28 | 0.47 | 53 |              |                    |
| 11/16" IG Low E1 Arg     |            | 0.29     | 0.51 | 0.58 | 56 | N            | 1, 2               |
|                          | SDLS < 1 " | 0.29     | 0.45 | 0.52 | 56 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.29     | 0.45 | 0.52 | 56 | N            | 1, 2               |
|                          | GBG        | 0.29     | 0.45 | 0.52 | 56 | N            | 1, 2               |
| 11/16" IG Low E1 Air     |            | 0.32     | 0.50 | 0.58 | 53 |              | 1                  |
|                          | SDLS < 1 " | 0.32     | 0.45 | 0.52 | 53 |              | 1                  |
|                          | SDLN < 1 " | 0.32     | 0.45 | 0.52 | 53 |              | 1                  |
|                          | GBG        | 0.32     | 0.45 | 0.52 | 53 |              | 1                  |
| 11/16" IG Arg            |            | 0.43     | 0.57 | 0.60 | 45 |              |                    |
|                          | SDLS < 1 " | 0.43     | 0.51 | 0.54 | 45 |              |                    |
|                          | SDLN < 1 " | 0.43     | 0.51 | 0.54 | 45 |              |                    |
|                          | GBG        | 0.43     | 0.51 | 0.54 | 45 |              |                    |
| 11/16" IG Air            |            | 0.45     | 0.57 | 0.60 | 43 |              |                    |
|                          | SDLS < 1 " | 0.45     | 0.51 | 0.54 | 43 |              |                    |
|                          | SDLN < 1 " | 0.45     | 0.51 | 0.54 | 43 |              |                    |
|                          | GBG        | 0.45     | 0.51 | 0.54 | 43 |              |                    |

THERMAL PERFORMANCE

DOUBLE HUNG INSERT PICTURE-TRANSOM

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|--------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.22     | 0.21 | 0.48 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.22     | 0.19 | 0.43 | 48 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.22     | 0.19 | 0.43 | 48 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.22     | 0.19 | 0.43 | 48 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3/ERS Air |            | 0.25     | 0.21 | 0.48 | 44 | N, NC, SC, S | 1, 2               |
|                          | SDLS < 1 " | 0.25     | 0.19 | 0.43 | 44 | N, NC, SC, S | 1, 2               |
|                          | SDLN < 1 " | 0.25     | 0.19 | 0.43 | 44 | N, NC, SC, S | 1, 2               |
|                          | GBG        | 0.25     | 0.19 | 0.43 | 44 | N, NC, SC, S | 1, 2               |
| 11/16" IG Low E3 Arg     |            | 0.26     | 0.21 | 0.50 | 61 | N, NC, SC, S | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.19 | 0.44 | 61 | N, NC, SC, S | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.19 | 0.44 | 61 | N, NC, SC, S | 1                  |
|                          | GBG        | 0.26     | 0.19 | 0.44 | 61 | N, NC, SC, S | 1                  |
| 11/16" IG Low E3 Air     |            | 0.29     | 0.22 | 0.50 | 57 | NC, SC, S    |                    |
|                          | SDLS < 1 " | 0.29     | 0.20 | 0.44 | 57 | NC, SC, S    |                    |
|                          | SDLN < 1 " | 0.29     | 0.20 | 0.44 | 57 | NC, SC, S    |                    |
|                          | GBG        | 0.29     | 0.20 | 0.44 | 57 | NC, SC, S    |                    |
| 11/16" IG Low E2 Arg     |            | 0.26     | 0.32 | 0.55 | 60 | N, NC        | 1                  |
|                          | SDLS < 1 " | 0.26     | 0.29 | 0.49 | 60 | N, NC        | 1                  |
|                          | SDLN < 1 " | 0.26     | 0.29 | 0.49 | 60 | N, NC        | 1                  |
|                          | GBG        | 0.26     | 0.29 | 0.49 | 60 | N, NC        | 1                  |
| 11/16" IG Low E2 Air     |            | 0.30     | 0.32 | 0.55 | 57 | NC           |                    |
|                          | SDLS < 1 " | 0.30     | 0.29 | 0.49 | 57 | NC           |                    |
|                          | SDLN < 1 " | 0.30     | 0.29 | 0.49 | 57 | NC           |                    |
|                          | GBG        | 0.30     | 0.29 | 0.49 | 57 | NC           |                    |
| 11/16" IG Low E1 Arg     |            | 0.27     | 0.53 | 0.61 | 60 | N            | 1, 2, 3            |
|                          | SDLS < 1 " | 0.27     | 0.47 | 0.54 | 60 | N            | 1, 2               |
|                          | SDLN < 1 " | 0.27     | 0.47 | 0.54 | 60 | N            | 1, 2               |
|                          | GBG        | 0.27     | 0.47 | 0.54 | 60 | N            | 1, 2               |
| 11/16" IG Low E1 Air     |            | 0.31     | 0.53 | 0.61 | 56 |              | 1, 2               |
|                          | SDLS < 1 " | 0.31     | 0.47 | 0.54 | 56 |              | 1                  |
|                          | SDLN < 1 " | 0.31     | 0.47 | 0.54 | 56 |              | 1                  |
|                          | GBG        | 0.31     | 0.47 | 0.54 | 56 |              | 1                  |
| 11/16" IG Arg            |            | 0.42     | 0.60 | 0.63 | 46 |              |                    |
|                          | SDLS < 1 " | 0.42     | 0.54 | 0.56 | 46 |              |                    |
|                          | SDLN < 1 " | 0.42     | 0.54 | 0.56 | 46 |              |                    |
|                          | GBG        | 0.42     | 0.54 | 0.56 | 46 |              |                    |
| 11/16" IG Air            |            | 0.44     | 0.60 | 0.63 | 45 |              |                    |
|                          | SDLS < 1 " | 0.44     | 0.54 | 0.56 | 45 |              |                    |
|                          | SDLN < 1 " | 0.44     | 0.54 | 0.56 | 45 |              |                    |
|                          | GBG        | 0.44     | 0.54 | 0.56 | 45 |              |                    |

GLIDER

| GLASS DESCRIPTION        | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|--------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 11/16" IG Low E3/ERS Arg |            | 0.24     | 0.21 | 0.48 | 47 | N, NC, SC, S | 1, 2                  |
|                          | SDLS < 1 " | 0.24     | 0.19 | 0.42 | 47 | N, NC, SC, S | 1, 2                  |
|                          | SDLN < 1 " | 0.24     | 0.19 | 0.42 | 47 | N, NC, SC, S | 1, 2                  |
|                          | GBG        | 0.24     | 0.19 | 0.42 | 47 | N, NC, SC, S | 1, 2                  |
| 11/16" IG Low E3/ERS Air |            | 0.27     | 0.21 | 0.48 | 43 | N, NC, SC, S | 1                     |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.42 | 43 | N, NC, SC, S | 1                     |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.42 | 43 | N, NC, SC, S | 1                     |
|                          | GBG        | 0.27     | 0.19 | 0.42 | 43 | N, NC, SC, S | 1                     |
| 11/16" IG Low E3 Arg     |            | 0.27     | 0.21 | 0.49 | 58 | N, NC, SC, S | 1                     |
|                          | SDLS < 1 " | 0.27     | 0.19 | 0.43 | 58 | N, NC, SC, S | 1                     |
|                          | SDLN < 1 " | 0.27     | 0.19 | 0.43 | 58 | N, NC, SC, S | 1                     |
|                          | GBG        | 0.27     | 0.19 | 0.43 | 58 | N, NC, SC, S | 1                     |
| 11/16" IG Low E3 Air     |            | 0.31     | 0.21 | 0.49 | 54 | S            |                       |
|                          | SDLS < 1 " | 0.31     | 0.19 | 0.43 | 54 | S            |                       |
|                          | SDLN < 1 " | 0.31     | 0.19 | 0.43 | 54 | S            |                       |
|                          | GBG        | 0.31     | 0.19 | 0.43 | 54 | S            |                       |
| 11/16" IG Low E2 Arg     |            | 0.28     | 0.32 | 0.54 | 57 | N, NC        | 1                     |
|                          | SDLS < 1 " | 0.28     | 0.28 | 0.48 | 57 | NC           | 1                     |
|                          | SDLN < 1 " | 0.28     | 0.28 | 0.48 | 57 | NC           | 1                     |
|                          | GBG        | 0.28     | 0.28 | 0.48 | 57 | NC           | 1                     |
| 11/16" IG Low E2 Air     |            | 0.32     | 0.32 | 0.54 | 54 |              |                       |
|                          | SDLS < 1 " | 0.32     | 0.29 | 0.48 | 54 |              |                       |
|                          | SDLN < 1 " | 0.32     | 0.29 | 0.48 | 54 |              |                       |
|                          | GBG        | 0.32     | 0.29 | 0.48 | 54 |              |                       |
| 11/16" IG Low E1 Arg     |            | 0.29     | 0.52 | 0.60 | 57 | N            | 1, 2, 3               |
|                          | SDLS < 1 " | 0.29     | 0.47 | 0.53 | 57 | N            | 1, 2                  |
|                          | SDLN < 1 " | 0.29     | 0.47 | 0.53 | 57 | N            | 1, 2                  |
|                          | GBG        | 0.29     | 0.47 | 0.53 | 57 | N            | 1, 2                  |
| 11/16" IG Low E1 Air     |            | 0.32     | 0.52 | 0.60 | 53 |              | 1, 2                  |
|                          | SDLS < 1 " | 0.32     | 0.46 | 0.53 | 53 |              | 1                     |
|                          | SDLN < 1 " | 0.32     | 0.46 | 0.53 | 53 |              | 1                     |
|                          | GBG        | 0.32     | 0.46 | 0.53 | 53 |              | 1                     |
| 11/16" IG Arg            |            | 0.43     | 0.59 | 0.62 | 45 |              |                       |
|                          | SDLS < 1 " | 0.43     | 0.53 | 0.55 | 45 |              |                       |
|                          | SDLN < 1 " | 0.43     | 0.53 | 0.55 | 45 |              |                       |
|                          | GBG        | 0.43     | 0.53 | 0.55 | 45 |              |                       |
| 11/16" IG Air            |            | 0.45     | 0.59 | 0.62 | 43 |              |                       |
|                          | SDLS < 1 " | 0.45     | 0.53 | 0.55 | 43 |              |                       |
|                          | SDLN < 1 " | 0.45     | 0.53 | 0.55 | 43 |              |                       |
|                          | GBG        | 0.45     | 0.53 | 0.55 | 43 |              |                       |

THERMAL PERFORMANCE

DIRECT GLAZE ROUND TOPS

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.22     | 0.23 | 0.55 | 46 | N, NC, SC, S | 1, 2                  |
|                        | SDLS < 1 " | 0.22     | 0.21 | 0.49 | 46 | N, NC, SC, S | 1, 2                  |
|                        | SDLN < 1 " | 0.22     | 0.21 | 0.49 | 46 | N, NC, SC, S | 1, 2                  |
|                        | GBG        | 0.22     | 0.21 | 0.49 | 46 | N, NC, SC, S | 1, 2                  |
| 3/4" IG Low E3/ERS Air |            | 0.25     | 0.24 | 0.55 | 42 | N, NC, SC, S | 1, 2                  |
|                        | SDLS < 1 " | 0.25     | 0.21 | 0.49 | 42 | N, NC, SC, S | 1, 2                  |
|                        | SDLN < 1 " | 0.25     | 0.21 | 0.49 | 42 | N, NC, SC, S | 1, 2                  |
|                        | GBG        | 0.25     | 0.21 | 0.49 | 42 | N, NC, SC, S | 1, 2                  |
| 3/4" IG Low E3 Arg     |            | 0.27     | 0.24 | 0.56 | 55 | N, NC, SC, S | 1                     |
|                        | SDLS < 1 " | 0.27     | 0.22 | 0.50 | 55 | N, NC, SC, S | 1                     |
|                        | SDLN < 1 " | 0.27     | 0.22 | 0.50 | 55 | N, NC, SC, S | 1                     |
|                        | GBG        | 0.27     | 0.22 | 0.50 | 55 | N, NC, SC, S | 1                     |
| 3/4" IG Low E3 Air     |            | 0.31     | 0.24 | 0.56 | 52 | S            |                       |
|                        | SDLS < 1 " | 0.31     | 0.22 | 0.50 | 52 | S            |                       |
|                        | SDLN < 1 " | 0.31     | 0.22 | 0.50 | 52 | S            |                       |
|                        | GBG        | 0.31     | 0.22 | 0.50 | 52 | S            |                       |
| 3/4" IG Low E2 Arg     |            | 0.28     | 0.36 | 0.62 | 55 | N, NC        | 1                     |
|                        | SDLS < 1 " | 0.28     | 0.33 | 0.56 | 55 | N, NC        | 1                     |
|                        | SDLN < 1 " | 0.28     | 0.33 | 0.56 | 55 | N, NC        | 1                     |
|                        | GBG        | 0.28     | 0.33 | 0.56 | 55 | N, NC        | 1                     |
| 3/4" IG Low E2 Air     |            | 0.32     | 0.36 | 0.62 | 52 |              |                       |
|                        | SDLS < 1 " | 0.32     | 0.33 | 0.56 | 52 |              |                       |
|                        | SDLN < 1 " | 0.32     | 0.33 | 0.56 | 52 |              |                       |
|                        | GBG        | 0.32     | 0.33 | 0.56 | 52 |              |                       |
| 3/4" IG Low E1 Arg     |            | 0.29     | 0.60 | 0.69 | 55 | N            | 1, 2, 3               |
|                        | SDLS < 1 " | 0.29     | 0.54 | 0.62 | 55 | N            | 1, 2, 3               |
|                        | SDLN < 1 " | 0.29     | 0.54 | 0.62 | 55 | N            | 1, 2, 3               |
|                        | GBG        | 0.29     | 0.54 | 0.62 | 55 | N            | 1, 2, 3               |
| 3/4" IG Low E1 Air     |            | 0.33     | 0.59 | 0.69 | 52 |              | 1, 2                  |
|                        | SDLS < 1 " | 0.33     | 0.54 | 0.62 | 52 |              | 1, 2                  |
|                        | SDLN < 1 " | 0.33     | 0.54 | 0.62 | 52 |              | 1, 2                  |
|                        | GBG        | 0.33     | 0.54 | 0.62 | 52 |              | 1, 2                  |
| 3/4" IG Arg            |            | 0.45     | 0.68 | 0.71 | 43 |              |                       |
|                        | SDLS < 1 " | 0.45     | 0.61 | 0.64 | 43 |              |                       |
|                        | SDLN < 1 " | 0.45     | 0.61 | 0.64 | 43 |              |                       |
|                        | GBG        | 0.45     | 0.61 | 0.64 | 43 |              |                       |
| 3/4" IG Air            |            | 0.47     | 0.68 | 0.71 | 41 |              |                       |
|                        | SDLS < 1 " | 0.47     | 0.61 | 0.64 | 41 |              |                       |
|                        | SDLN < 1 " | 0.47     | 0.61 | 0.64 | 41 |              |                       |
|                        | GBG        | 0.47     | 0.61 | 0.64 | 41 |              |                       |

ALUMINUM DIRECT GLAZE ROUND TOPS

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.24     | 0.23 | 0.54 | 39 | N, NC, SC, S | 1, 2                  |
|                        | SDLS < 1 " | 0.24     | 0.21 | 0.48 | 39 | N, NC, SC, S | 1, 2                  |
|                        | SDLN < 1 " | 0.24     | 0.21 | 0.48 | 39 | N, NC, SC, S | 1, 2                  |
|                        | GBG        | 0.24     | 0.21 | 0.48 | 39 | N, NC, SC, S | 1, 2                  |
| 3/4" IG Low E3/ERS Air |            | 0.26     | 0.23 | 0.54 | 36 | N, NC, SC, S | 1                     |
|                        | SDLS < 1 " | 0.26     | 0.21 | 0.48 | 36 | N, NC, SC, S | 1                     |
|                        | SDLN < 1 " | 0.26     | 0.21 | 0.48 | 36 | N, NC, SC, S | 1                     |
|                        | GBG        | 0.26     | 0.21 | 0.48 | 36 | N, NC, SC, S | 1                     |
| 3/4" IG Low E3 Arg     |            | 0.29     | 0.24 | 0.55 | 50 | NC, SC, S    |                       |
|                        | SDLS < 1 " | 0.29     | 0.21 | 0.50 | 50 | NC, SC, S    |                       |
|                        | SDLN < 1 " | 0.29     | 0.21 | 0.50 | 50 | NC, SC, S    |                       |
|                        | GBG        | 0.29     | 0.21 | 0.50 | 50 | NC, SC, S    |                       |
| 3/4" IG Low E3 Air     |            | 0.32     | 0.24 | 0.55 | 47 | S            |                       |
|                        | SDLS < 1 " | 0.32     | 0.22 | 0.50 | 47 | S            |                       |
|                        | SDLN < 1 " | 0.32     | 0.22 | 0.50 | 47 | S            |                       |
|                        | GBG        | 0.32     | 0.22 | 0.50 | 47 | S            |                       |
| 3/4" IG Low E2 Arg     |            | 0.29     | 0.36 | 0.61 | 50 | NC           | 1                     |
|                        | SDLS < 1 " | 0.29     | 0.32 | 0.55 | 50 | NC           |                       |
|                        | SDLN < 1 " | 0.29     | 0.32 | 0.55 | 50 | NC           |                       |
|                        | GBG        | 0.29     | 0.32 | 0.55 | 50 | NC           |                       |
| 3/4" IG Low E2 Air     |            | 0.33     | 0.36 | 0.61 | 47 |              |                       |
|                        | SDLS < 1 " | 0.33     | 0.33 | 0.55 | 47 |              |                       |
|                        | SDLN < 1 " | 0.33     | 0.33 | 0.55 | 47 |              |                       |
|                        | GBG        | 0.33     | 0.33 | 0.55 | 47 |              |                       |
| 3/4" IG Low E1 Arg     |            | 0.30     | 0.59 | 0.68 | 50 | N            | 1, 2, 3               |
|                        | SDLS < 1 " | 0.30     | 0.53 | 0.61 | 50 | N            | 1, 2                  |
|                        | SDLN < 1 " | 0.30     | 0.53 | 0.61 | 50 | N            | 1, 2                  |
|                        | GBG        | 0.30     | 0.53 | 0.61 | 50 | N            | 1, 2                  |
| 3/4" IG Low E1 Air     |            | 0.34     | 0.59 | 0.68 | 47 |              | 1, 2                  |
|                        | SDLS < 1 " | 0.34     | 0.53 | 0.61 | 47 |              | 1                     |
|                        | SDLN < 1 " | 0.34     | 0.53 | 0.61 | 47 |              | 1                     |
|                        | GBG        | 0.34     | 0.53 | 0.61 | 47 |              | 1                     |
| 3/4" IG Arg            |            | 0.45     | 0.67 | 0.70 | 39 |              |                       |
|                        | SDLS < 1 " | 0.45     | 0.60 | 0.63 | 39 |              |                       |
|                        | SDLN < 1 " | 0.45     | 0.60 | 0.63 | 39 |              |                       |
|                        | GBG        | 0.45     | 0.60 | 0.63 | 39 |              |                       |
| 3/4" IG Air            |            | 0.47     | 0.67 | 0.70 | 38 |              |                       |
|                        | SDLS < 1 " | 0.47     | 0.60 | 0.63 | 38 |              |                       |
|                        | SDLN < 1 " | 0.47     | 0.60 | 0.63 | 38 |              |                       |
|                        | GBG        | 0.47     | 0.60 | 0.63 | 38 |              |                       |

THERMAL PERFORMANCE

DIRECT GLAZE SPECIALTY SHAPES - Polygons

| GLASS DESCRIPTION            | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|------------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 11/16" IG Low E3/ERS Arg     |            | 0.22     | 0.23 | 0.53 | 47 | N, NC, SC, S | 1, 2                  |
|                              | SDLS < 1 " | 0.22     | 0.21 | 0.48 | 47 | N, NC, SC, S | 1, 2                  |
|                              | SDLN < 1 " | 0.22     | 0.21 | 0.48 | 47 | N, NC, SC, S | 1, 2                  |
|                              | GBG        | 0.22     | 0.21 | 0.48 | 47 | N, NC, SC, S | 1, 2                  |
| 11/16" IG Low E3/ERS Air     |            | 0.25     | 0.23 | 0.53 | 43 | N, NC, SC, S | 1, 2                  |
|                              | SDLS < 1 " | 0.25     | 0.21 | 0.48 | 43 | N, NC, SC, S | 1, 2                  |
|                              | SDLN < 1 " | 0.25     | 0.21 | 0.48 | 43 | N, NC, SC, S | 1, 2                  |
|                              | GBG        | 0.25     | 0.21 | 0.48 | 43 | N, NC, SC, S | 1, 2                  |
| 11/16" IG Low E3 Arg         |            | 0.26     | 0.23 | 0.54 | 60 | N, NC, SC, S | 1                     |
|                              | SDLS < 1 " | 0.26     | 0.21 | 0.49 | 60 | N, NC, SC, S | 1                     |
|                              | SDLN < 1 " | 0.26     | 0.21 | 0.49 | 60 | N, NC, SC, S | 1                     |
|                              | GBG        | 0.26     | 0.21 | 0.49 | 60 | N, NC, SC, S | 1                     |
| 11/16" IG Low E3 Air         |            | 0.30     | 0.24 | 0.54 | 56 | NC, SC, S    |                       |
|                              | SDLS < 1 " | 0.30     | 0.21 | 0.49 | 56 | NC, SC, S    |                       |
|                              | SDLN < 1 " | 0.30     | 0.21 | 0.49 | 56 | NC, SC, S    |                       |
|                              | GBG        | 0.30     | 0.21 | 0.49 | 56 | NC, SC, S    |                       |
| 11/16" IG Low E2 Arg         |            | 0.26     | 0.35 | 0.60 | 60 | N, NC        | 1                     |
|                              | SDLS < 1 " | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                     |
|                              | SDLN < 1 " | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                     |
|                              | GBG        | 0.26     | 0.32 | 0.54 | 60 | N, NC        | 1                     |
| 11/16" IG Low E2 Air         |            | 0.31     | 0.35 | 0.60 | 56 |              |                       |
|                              | SDLS < 1 " | 0.31     | 0.32 | 0.54 | 56 |              |                       |
|                              | SDLN < 1 " | 0.31     | 0.32 | 0.54 | 56 |              |                       |
|                              | GBG        | 0.31     | 0.32 | 0.54 | 56 |              |                       |
| 11/16" IG Low E1 Arg         |            | 0.27     | 0.58 | 0.67 | 59 | N            | 1, 2, 3               |
|                              | SDLS < 1 " | 0.27     | 0.52 | 0.60 | 59 | N            | 1, 2, 3               |
|                              | SDLN < 1 " | 0.27     | 0.52 | 0.60 | 59 | N            | 1, 2, 3               |
|                              | GBG        | 0.27     | 0.52 | 0.60 | 59 | N            | 1, 2, 3               |
| 11/16" IG Low E1 Air         |            | 0.31     | 0.57 | 0.67 | 55 |              | 1, 2, 3               |
|                              | SDLS < 1 " | 0.31     | 0.52 | 0.60 | 55 |              | 1, 2                  |
|                              | SDLN < 1 " | 0.31     | 0.52 | 0.60 | 55 |              | 1, 2                  |
|                              | GBG        | 0.31     | 0.52 | 0.60 | 55 |              | 1, 2                  |
| 11/16" IG Arg                |            | 0.43     | 0.66 | 0.69 | 45 |              | 1                     |
|                              | SDLS < 1 " | 0.43     | 0.59 | 0.62 | 45 |              |                       |
|                              | SDLN < 1 " | 0.43     | 0.59 | 0.62 | 45 |              |                       |
|                              | GBG        | 0.43     | 0.59 | 0.62 | 45 |              |                       |
| 11/16" IG Air                |            | 0.46     | 0.65 | 0.69 | 43 |              |                       |
|                              | SDLS < 1 " | 0.46     | 0.59 | 0.62 | 43 |              |                       |
|                              | SDLN < 1 " | 0.46     | 0.59 | 0.62 | 43 |              |                       |
|                              | GBG        | 0.46     | 0.59 | 0.62 | 43 |              |                       |
| 1 1/8" Tripane Low E2/E1 Arg |            | 0.17     | 0.31 | 0.53 | 72 | N, NC        | 1, 2, 3               |
|                              | SDLS < 1 " | 0.17     | 0.29 | 0.48 | 72 | N, NC        | 1, 2, 3               |
|                              | SDLN < 1 " | 0.17     | 0.29 | 0.48 | 72 | N, NC        | 1, 2, 3               |
|                              | GBG        | 0.17     | 0.29 | 0.48 | 72 | N, NC        | 1, 2, 3               |
| 1 1/8" Tripane Low E2/E1 Air |            | 0.20     | 0.32 | 0.53 | 68 | N, NC        | 1, 2, 3               |
|                              | SDLS < 1 " | 0.20     | 0.29 | 0.48 | 68 | N, NC        | 1, 2, 3               |
|                              | SDLN < 1 " | 0.20     | 0.29 | 0.48 | 68 | N, NC        | 1, 2, 3               |
|                              | GBG        | 0.21     | 0.29 | 0.48 | 68 | N, NC        | 1, 2, 3               |

SLIDING PATIO DOOR

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.23     | 0.22 | 0.51 | 48 | N, NC, SC, S | 1,2                   |
|                        | SDLS < 1 " | 0.23     | 0.19 | 0.44 | 48 | N, NC, SC, S | 1,2                   |
|                        | SDLN < 1 " | 0.23     | 0.19 | 0.44 | 48 | N, NC, SC, S | 1, 2                  |
|                        | GBG        | 0.23     | 0.19 | 0.44 | 48 | N, NC, SC, S | 1, 2                  |
| 3/4" IG Low E3/ERS Air |            | 0.25     | 0.22 | 0.51 | 44 | N, NC, SC, S | 1, 2                  |
|                        | SDLS < 1 " | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1                     |
|                        | SDLN < 1 " | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1                     |
|                        | GBG        | 0.25     | 0.20 | 0.44 | 44 | N, NC, SC, S | 1                     |
| 3/4" IG Low E3 Arg     |            | 0.27     | 0.22 | 0.52 | 59 | N, NC, SC, S | 1                     |
|                        | SDLS < 1 " | 0.27     | 0.20 | 0.46 | 59 | N, NC, SC, S | 1                     |
|                        | SDLN < 1 " | 0.27     | 0.20 | 0.46 | 59 | N, NC, SC, S | 1                     |
|                        | GBG        | 0.27     | 0.20 | 0.46 | 59 | N, NC, SC, S | 1, 2                  |
| 3/4" IG Low E3 Air     |            | 0.31     | 0.23 | 0.52 | 56 |              |                       |
|                        | SDLS < 1 " | 0.31     | 0.20 | 0.46 | 56 |              |                       |
|                        | SDLN < 1 " | 0.31     | 0.20 | 0.46 | 56 |              |                       |
|                        | GBG        | 0.31     | 0.20 | 0.46 | 56 |              |                       |
| 3/4" IG Low E2 Arg     |            | 0.28     | 0.33 | 0.58 | 58 | N, NC        | 1                     |
|                        | SDLS < 1 " | 0.28     | 0.30 | 0.51 | 58 | N, NC        | 1                     |
|                        | SDLN < 1 " | 0.28     | 0.30 | 0.51 | 58 | N, NC        | 1                     |
|                        | GBG        | 0.28     | 0.30 | 0.51 | 58 | N, NC        | 1                     |
| 3/4" IG Low E2 Air     |            | 0.31     | 0.34 | 0.58 | 55 |              |                       |
|                        | SDLS < 1 " | 0.31     | 0.30 | 0.51 | 55 |              |                       |
|                        | SDLN < 1 " | 0.31     | 0.30 | 0.51 | 55 |              |                       |
|                        | GBG        | 0.31     | 0.30 | 0.51 | 55 |              |                       |
| 3/4" IG Low E1 Arg     |            | 0.29     | 0.55 | 0.64 | 58 |              | 1, 2, 3               |
|                        | SDLS < 1 " | 0.29     | 0.49 | 0.56 | 58 |              | 1, 2                  |
|                        | SDLN < 1 " | 0.29     | 0.49 | 0.56 | 58 |              | 1, 2                  |
|                        | GBG        | 0.29     | 0.49 | 0.56 | 58 |              | 1, 2                  |
| 3/4" IG Low E1 Air     |            | 0.32     | 0.55 | 0.64 | 55 |              | 1, 2                  |
|                        | SDLS < 1 " | 0.32     | 0.49 | 0.56 | 55 |              | 1                     |
|                        | SDLN < 1 " | 0.32     | 0.49 | 0.56 | 55 |              | 1                     |
|                        | GBG        | 0.32     | 0.49 | 0.56 | 55 |              | 1                     |
| 3/4" IG Arg            |            | 0.43     | 0.63 | 0.66 | 46 |              |                       |
|                        | SDLS < 1 " | 0.43     | 0.55 | 0.58 | 46 |              |                       |
|                        | SDLN < 1 " | 0.43     | 0.55 | 0.58 | 46 |              |                       |
|                        | GBG        | 0.43     | 0.55 | 0.58 | 46 |              |                       |
| 3/4" IG Air            |            | 0.45     | 0.63 | 0.66 | 44 |              |                       |
|                        | SDLS < 1 " | 0.45     | 0.55 | 0.58 | 44 |              |                       |
|                        | SDLN < 1 " | 0.45     | 0.55 | 0.58 | 44 |              |                       |
|                        | GBG        | 0.45     | 0.55 | 0.58 | 44 |              |                       |

THERMAL PERFORMANCE

SLIDING FRENCH DOOR

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA<br>ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|-----------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.24     | 0.19 | 0.44 | 48 | N, NC, SC, S | 1                     |
|                        | SDLS < 1 " | 0.24     | 0.17 | 0.38 | 48 | N, NC, SC, S | 1                     |
|                        | SDLN < 1 " | 0.24     | 0.17 | 0.38 | 48 | N, NC, SC, S | 1                     |
|                        | GBG        | 0.24     | 0.17 | 0.38 | 48 | N, NC, SC, S | 1                     |
| 3/4" IG Low E3/ERS Air |            | 0.26     | 0.19 | 0.44 | 44 | N, NC, SC, S | 1                     |
|                        | SDLS < 1 " | 0.26     | 0.17 | 0.38 | 44 | N, NC, SC, S |                       |
|                        | SDLN < 1 " | 0.26     | 0.17 | 0.38 | 44 | N, NC, SC, S |                       |
|                        | GBG        | 0.26     | 0.17 | 0.38 | 44 | N, NC, SC, S |                       |
| 3/4" IG Low E3 Arg     |            | 0.28     | 0.19 | 0.45 | 58 | N, NC, SC, S |                       |
|                        | SDLS < 1 " | 0.28     | 0.17 | 0.39 | 58 | N, NC, SC, S |                       |
|                        | SDLN < 1 " | 0.28     | 0.17 | 0.39 | 58 | N, NC, SC, S |                       |
|                        | GBG        | 0.28     | 0.17 | 0.39 | 58 | N, NC, SC, S |                       |
| 3/4" IG Low E3 Air     |            | 0.31     | 0.20 | 0.45 | 55 |              |                       |
|                        | SDLS < 1 " | 0.31     | 0.17 | 0.39 | 55 |              |                       |
|                        | SDLN < 1 " | 0.31     | 0.17 | 0.39 | 55 |              |                       |
|                        | GBG        | 0.31     | 0.17 | 0.39 | 55 |              |                       |
| 3/4" IG Low E2 Arg     |            | 0.28     | 0.29 | 0.50 | 58 | N, NC        | 1                     |
|                        | SDLS < 1 " | 0.28     | 0.26 | 0.43 | 58 | N, NC        | 1                     |
|                        | SDLN < 1 " | 0.28     | 0.26 | 0.43 | 58 | N, NC        | 1                     |
|                        | GBG        | 0.28     | 0.26 | 0.43 | 58 | N, NC        | 1                     |
| 3/4" IG Low E2 Air     |            | 0.32     | 0.29 | 0.50 | 55 |              |                       |
|                        | SDLS < 1 " | 0.32     | 0.26 | 0.43 | 55 |              |                       |
|                        | SDLN < 1 " | 0.32     | 0.26 | 0.43 | 55 |              |                       |
|                        | GBG        | 0.32     | 0.26 | 0.43 | 55 |              |                       |
| 3/4" IG Low E1 Arg     |            | 0.29     | 0.48 | 0.55 | 57 |              | 1, 2                  |
|                        | SDLS < 1 " | 0.29     | 0.42 | 0.47 | 57 |              | 1                     |
|                        | SDLN < 1 " | 0.29     | 0.42 | 0.47 | 57 |              | 1                     |
|                        | GBG        | 0.29     | 0.42 | 0.47 | 57 |              | 1                     |
| 3/4" IG Low E1 Air     |            | 0.32     | 0.48 | 0.55 | 54 |              | 1                     |
|                        | SDLS < 1 " | 0.32     | 0.42 | 0.47 | 54 |              |                       |
|                        | SDLN < 1 " | 0.32     | 0.42 | 0.47 | 54 |              |                       |
|                        | GBG        | 0.32     | 0.42 | 0.47 | 54 |              |                       |
| 3/4" IG Arg            |            | 0.42     | 0.54 | 0.57 | 46 |              |                       |
|                        | SDLS < 1 " | 0.42     | 0.48 | 0.49 | 46 |              |                       |
|                        | SDLN < 1 " | 0.42     | 0.48 | 0.49 | 46 |              |                       |
|                        | GBG        | 0.42     | 0.48 | 0.49 | 46 |              |                       |
| 3/4" IG Air            |            | 0.43     | 0.54 | 0.57 | 44 |              |                       |
|                        | SDLS < 1 " | 0.43     | 0.47 | 0.49 | 44 |              |                       |
|                        | SDLN < 1 " | 0.43     | 0.47 | 0.49 | 44 |              |                       |
|                        | GBG        | 0.43     | 0.47 | 0.49 | 44 |              |                       |

INSWING FRENCH DOOR

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.24     | 0.18 | 0.41 | 50 | N, NC, SC, S | 1, 2               |
|                        | SDLS < 1 " | 0.24     | 0.16 | 0.35 | 50 | N, NC, SC, S | 1, 2               |
|                        | SDLN < 1 " | 0.24     | 0.16 | 0.35 | 50 | N, NC, SC, S | 1, 2               |
|                        | GBG        | 0.24     | 0.16 | 0.35 | 50 | N, NC, SC, S | 1, 2               |
| 3/4" IG Low E3/ERS Air |            | 0.26     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1                  |
|                        | SDLS < 1 " | 0.26     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
|                        | SDLN < 1 " | 0.26     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
|                        | GBG        | 0.26     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
| 3/4" IG Low E3 Arg     |            | 0.28     | 0.18 | 0.42 | 63 | N, NC, SC, S | 1                  |
|                        | SDLS < 1 " | 0.28     | 0.16 | 0.36 | 63 | N, NC, SC, S | 1                  |
|                        | SDLN < 1 " | 0.28     | 0.16 | 0.36 | 63 | N, NC, SC, S | 1                  |
|                        | GBG        | 0.28     | 0.16 | 0.36 | 63 | N, NC, SC, S | 1                  |
| 3/4" IG Low E3 Air     |            | 0.31     | 0.19 | 0.42 | 59 |              |                    |
|                        | SDLS < 1 " | 0.31     | 0.16 | 0.36 | 59 |              |                    |
|                        | SDLN < 1 " | 0.31     | 0.16 | 0.36 | 59 |              |                    |
|                        | GBG        | 0.31     | 0.16 | 0.36 | 59 |              |                    |
| 3/4" IG Low E2 Arg     |            | 0.28     | 0.27 | 0.47 | 62 | N, NC        | 1                  |
|                        | SDLS < 1 " | 0.28     | 0.24 | 0.40 | 62 | N, NC, SC, S | 1                  |
|                        | SDLN < 1 " | 0.28     | 0.24 | 0.40 | 62 | N, NC, SC, S | 1                  |
|                        | GBG        | 0.28     | 0.24 | 0.40 | 62 | N, NC, SC, S | 1                  |
| 3/4" IG Low E2 Air     |            | 0.31     | 0.28 | 0.47 | 58 |              |                    |
|                        | SDLS < 1 " | 0.31     | 0.24 | 0.40 | 58 |              |                    |
|                        | SDLN < 1 " | 0.31     | 0.24 | 0.40 | 58 |              |                    |
|                        | GBG        | 0.31     | 0.24 | 0.40 | 58 |              |                    |
| 3/4" IG Low E1 Arg     |            | 0.29     | 0.45 | 0.51 | 61 |              | 1, 2               |
|                        | SDLS < 1 " | 0.29     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                        | SDLN < 1 " | 0.29     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                        | GBG        | 0.29     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
| 3/4" IG Low E1 Air     |            | 0.32     | 0.45 | 0.51 | 58 |              | 1                  |
|                        | SDLS < 1 " | 0.32     | 0.39 | 0.44 | 58 |              |                    |
|                        | SDLN < 1 " | 0.32     | 0.39 | 0.44 | 58 |              |                    |
|                        | GBG        | 0.32     | 0.39 | 0.44 | 58 |              |                    |
| 3/4" IG Arg            |            | 0.41     | 0.51 | 0.53 | 47 |              |                    |
|                        | SDLS < 1 " | 0.41     | 0.44 | 0.46 | 47 |              |                    |
|                        | SDLN < 1 " | 0.41     | 0.44 | 0.46 | 47 |              |                    |
|                        | GBG        | 0.41     | 0.44 | 0.46 | 47 |              |                    |
| 3/4" IG Air            |            | 0.42     | 0.51 | 0.53 | 46 |              |                    |
|                        | SDLS < 1 " | 0.42     | 0.44 | 0.46 | 46 |              |                    |
|                        | SDLN < 1 " | 0.42     | 0.44 | 0.46 | 46 |              |                    |
|                        | GBG        | 0.42     | 0.44 | 0.46 | 46 |              |                    |

THERMAL PERFORMANCE

OUTSWING FRENCH DOOR

| GLASS DESCRIPTION      | DIVIDER    | U FACTOR | SHGC | VT   | CR | ENERGY STAR  | CANADA ENERGY STAR |
|------------------------|------------|----------|------|------|----|--------------|--------------------|
| 3/4" IG Low E3/ERS Arg |            | 0.25     | 0.18 | 0.41 | 49 | N, NC, SC, S | 1, 2               |
|                        | SDLS < 1 " | 0.25     | 0.16 | 0.35 | 49 | N, NC, SC, S | 1, 2               |
|                        | SDLN < 1 " | 0.25     | 0.16 | 0.35 | 49 | N, NC, SC, S | 1, 2               |
|                        | GBG        | 0.25     | 0.16 | 0.35 | 49 | N, NC, SC, S | 1, 2               |
| 3/4" IG Low E3/ERS Air |            | 0.27     | 0.18 | 0.41 | 46 | N, NC, SC, S | 1                  |
|                        | SDLS < 1 " | 0.27     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
|                        | SDLN < 1 " | 0.27     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
|                        | GBG        | 0.27     | 0.16 | 0.35 | 46 | N, NC, SC, S | 1                  |
| 3/4" IG Low E3 Arg     |            | 0.28     | 0.18 | 0.42 | 62 | N, NC, SC, S | 1                  |
|                        | SDLS < 1 " | 0.28     | 0.16 | 0.36 | 62 | N, NC, SC, S | 1                  |
|                        | SDLN < 1 " | 0.28     | 0.16 | 0.36 | 62 | N, NC, SC, S | 1                  |
|                        | GBG        | 0.28     | 0.16 | 0.36 | 62 | N, NC, SC, S | 1                  |
| 3/4" IG Low E3 Air     |            | 0.31     | 0.19 | 0.42 | 59 |              |                    |
|                        | SDLS < 1 " | 0.31     | 0.17 | 0.36 | 59 |              |                    |
|                        | SDLN < 1 " | 0.31     | 0.17 | 0.36 | 59 |              |                    |
|                        | GBG        | 0.31     | 0.17 | 0.36 | 59 |              |                    |
| 3/4" IG Low E2 Arg     |            | 0.29     | 0.28 | 0.47 | 62 | N, NC        |                    |
|                        | SDLS < 1 " | 0.29     | 0.24 | 0.40 | 62 | N, NC, SC, S |                    |
|                        | SDLN < 1 " | 0.29     | 0.24 | 0.40 | 62 | N, NC, SC, S |                    |
|                        | GBG        | 0.29     | 0.24 | 0.40 | 62 | N, NC, SC, S |                    |
| 3/4" IG Low E2 Air     |            | 0.32     | 0.28 | 0.47 | 58 |              |                    |
|                        | SDLS < 1 " | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                        | SDLN < 1 " | 0.32     | 0.24 | 0.40 | 58 |              |                    |
|                        | GBG        | 0.32     | 0.24 | 0.40 | 58 |              |                    |
| 3/4" IG Low E1 Arg     |            | 0.30     | 0.45 | 0.51 | 61 |              | 1                  |
|                        | SDLS < 1 " | 0.30     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                        | SDLN < 1 " | 0.30     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
|                        | GBG        | 0.30     | 0.39 | 0.44 | 61 | N, NC        | 1                  |
| 3/4" IG Low E1 Air     |            | 0.32     | 0.45 | 0.51 | 58 |              | 1                  |
|                        | SDLS < 1 " | 0.32     | 0.39 | 0.44 | 58 |              |                    |
|                        | SDLN < 1 " | 0.32     | 0.39 | 0.44 | 58 |              |                    |
|                        | GBG        | 0.32     | 0.39 | 0.44 | 58 |              |                    |
| 3/4" IG Arg            |            | 0.41     | 0.51 | 0.53 | 47 |              |                    |
|                        | SDLS < 1 " | 0.41     | 0.45 | 0.46 | 47 |              |                    |
|                        | SDLN < 1 " | 0.41     | 0.45 | 0.46 | 47 |              |                    |
|                        | GBG        | 0.41     | 0.45 | 0.46 | 47 |              |                    |
| 3/4" IG Air            |            | 0.43     | 0.51 | 0.53 | 46 |              |                    |
|                        | SDLS < 1 " | 0.43     | 0.45 | 0.46 | 46 |              |                    |
|                        | SDLN < 1 " | 0.43     | 0.45 | 0.46 | 46 |              |                    |
|                        | GBG        | 0.43     | 0.45 | 0.46 | 46 |              |                    |





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