CURRIES Tech Data
Fire Rated Section

Revised
July, 2019
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March, 2019

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CURRIES fire rated doors and frames are listed and labeled by Underwriters Laboratories, LLC (UL) and Intertek-Warnock Hersey (Intertek). Doors and frames were tested in accordance with UL 9, UL 10B, UL 10C, ASTM E2074, ASTM E152, NFPA 252, NFPA 257, UBC 7-2, CAN4S-104 and CAN4S-106. ASTM E152 and ASTM E2074 have been withdrawn and are considered obsolete although included as a reference standard in some job specifications. UBC 7-2 has largely been replaced by the International Building Code (IBC).

The fire rated labels that we apply to doors and frames signify compliance with both Neutral and Positive Pressure test requirements.

**GENERAL**

a) Only listed doors may be used in a fire rated opening.

b) Every labeled swinging fire door must have a self latching device.

c) Approved hardware and components are listed in the Underwriters Laboratories “UL online Certifications Directory” or ITS/Warnock Hersey “Directory of Listed Products”.

d) Labeled doors may be stainless steel.

e) Viewers must be listed. Consult manufacturers listing for limitations.

f) The rating for the opening is the rating of the lowest rated component.

g) Embossed panel doors have the same fire rating as 707 doors.

h) NFPA 80 shall be followed for installation.

**ASTRAGAL USAGE REQUIREMENTS**

The objective of this specification is to summarize the use of steel overlapping astragals on the meeting edge of standard swing and double egress pairs. Most of the requirements are applicable to fire rated product limitations. Underwriters Laboratories and Intertek capabilities that are different are listed separately.

**Underwriters Laboratories:**

Astragals (12ga. flat or 14 ga. Z-shaped) are optional on all Standard Pairs and Double Egress Model 707 doors with a fire rating up to and including 1-1/2 hours.

Astragals are required on all Model 707 doors with a fire rating of 3 hours.

Astragals are optional on all Standard Pairs and Double Egress Model 747 doors with a fire rating up to and including 3 hours.

Astragals are required on all Model 727 doors at all hourly ratings and opening sizes.

**Intertek (Warnock Hersey):**

Astragals are optional on the following doors up to 3 hours:

- **Standard Pairs:**
  - Model 707 8080 Maximum opening size (Polystyrene and honeycomb cores)
  - Model 747 80100 Maximum opening size

- **Double Egress:**
  - Model 707 8080 Maximum opening size
  - Model 747 80100 Maximum opening size

Astragals are optional on Model 727 doors up to and including 1-1/2 hours. Astragals are required on Model 727 doors when the hourly rating exceeds 1-1/2 hours.

**CLEARANCES**

a) The maximum clearance between the door and frame and between meeting edges of doors swinging in pairs is 1/8 inch (re: NFPA80). Refer to CURRIES Tech Data sections for design clearances on CURRIES doors.

b) The maximum clearances under the bottom of a fire door shall be 3/4” (19 mm) per NFPA 80.

**NOTE:** Doors with vertical rod devices may have bottom latches that may not engage the strike if maximum allowed clearances are used.
CLOSING DEVICES
a) A closing device shall be installed on every fire door.
b) Closer reinforcements are furnished as standard on CURRIES fire rated doors.
c) If the closer is installed with sex bolts, the closer reinforcement may be omitted on fire rated doors.
d) Spring hinges may be used instead of a closer and a closer reinforcing. At least two spring hinges are required per door leaf.
e) The closer may be omitted on the inactive leaf of pairs of doors to mechanical equipment rooms (re: NFPA80).
f) Overhead stops may be used if they do not inhibit the door from closing and latching.
g) If an astragal or projecting latch bolt prevents the inactive door from closing and latching before the active door, a coordinating device shall be used. A coordinating device is not required where each door leaf of a pair of doors closes and latches independently of each other.
h) Door holder/release devices are permitted when acceptable to the Authority Having Jurisdiction. These are fail-safe devices, controlled by a detection device to release the door in the event of fire (re: NFPA80).

DUTCH DOORS
a) The upper and lower leaf may latch into the frame or the upper leaf may latch in lower leaf which latches into the frame.
b) The top leaf must be equipped with a closing device and a horizontal astragal that brings the bottom leaf closed.
c) Fire-rated dutch doors must have a horizontal astragal attached to the bottom of the top leaf for all hourly ratings.

EXIT DEVICES
a) CURRIES labeled fire exit doors may be prepared for any listed fire exit hardware device.
b) The door size must not exceed the maximum door size listed for the individual hardware manufacturers devices.
c) Doors that are reinforced for fire exit hardware must bear a label which states “Fire Door to be equipped with Fire Exit Hardware.”
d) Fire Exit Hardware may be applied to doors that are not reinforced for such hardware by using sex bolts or through bolts. These doors may not bear the label “Fire Door to be Equipped with Fire Exit Hardware.”
e) Vertical rod exit devices may not be used on a single door (this does not include less bottom rod devices that have a mortise lock.)

GASKETING/EDGE SEALS
a) Only listed gasketing material may be used, consult the U.L. Certifications (online) Directory Intertek Listed Product Directories.
b) Smoke and draft control assemblies must employ gaskets listed for smoke and draft control.
c) CURRIES fire rated doors do not require the use of edge seal systems (intumescents).

GLASS/GLAZING
a) See glazing capability charts for type, size, and rating of glass.

HINGES
a) Doors up to 60 inches in height require two leaf type hinge. An additional hinge must be used for each additional 30 inches of height or fraction thereof (NFPA80).
b) CURRIES fire doors over 96 inches in height may be prepared for standard weight hinges.
c) Listed continuous hinges, pivots, or electric hinges may be used with CURRIES fire rated doors.

LABELS
a) Fire labels on CURRIES doors are metal. Metal labels may be attached with drive screws or steel pop rivets.
b) Labels may be applied only at authorized locations.
c) A field inspection is required for a label to be applied at a jobsite.

LOCKS
a) The door size used must not exceed the maximum door size listed for the individual hardware manufacturers devices.
b) Refer to the hardware manufacturer’s listing to determine capability to supply single point locks for doors over 8 feet in height.
c) Latch Throw Requirements

<table>
<thead>
<tr>
<th>Door Type</th>
<th>Minimum Latch Throw</th>
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<tbody>
<tr>
<td>607 &amp; 707 Single:</td>
<td>1/2 inch</td>
</tr>
<tr>
<td>607 &amp; 707 Pairs:</td>
<td>5/8 inch on pairs to 8 feet</td>
</tr>
<tr>
<td>707 Pairs:</td>
<td>3/4 inch on pairs to 10 feet</td>
</tr>
<tr>
<td>727 Single:</td>
<td>1/2 inch</td>
</tr>
<tr>
<td>727 Pairs:</td>
<td>5/8 inch</td>
</tr>
<tr>
<td>747 &amp; 847 Single:</td>
<td>1/2 inch</td>
</tr>
<tr>
<td>747 &amp; 847 Pairs:</td>
<td>5/8 inch</td>
</tr>
<tr>
<td>747 doors:</td>
<td>3 point latch devices</td>
</tr>
</tbody>
</table>

747 doors may also be prepared for two and three point latching devices.
LOCKS (continued)

- d) Dead bolts may not be used on doors which are in a means of egress. Locks with dead bolts that are interconnected with latch bolts and retract simultaneously when the latch bolt is retracted may be used on fire doors within a means of egress.
- e) Dead bolts may be used in addition to an active latch bolt on doors that are not in a means of egress, or as otherwise permitted by the Authority Having Jurisdiction.

LOUVERS
- a) Any listed automatic fusible link louver may be used in CURRIES labeled doors.
- b) Maximum rating for louvers is 90 minutes.
- c) Maximum listed louver size is 24 x 24 inches.
- d) Louvers may not be installed in the upper half of a fire door.
- e) Louvers may not be installed in 20 minute doors.

MODIFICATIONS
Any retrofit or other field modification to a fire rated opening can potentially impact the fire rating of the opening, and CURRIES makes no representations or warranties concerning what such impact may be in any specific situation. When retrofitting any portion of an existing fire rated opening, or specifying and installing a new fire-rated opening, please consult with a code specialist or local code official (Authority Having Jurisdiction) to ensure compliance with all applicable codes and ratings.

PAIRS OF DOORS
- a) The inactive leaf of pairs of doors may be provided with self-latching top and bottom bolts or automatic flush bolts or labeled two point latches. Manual bolts either mortise or surface may be used on doors to rooms not normally occupied by humans.
- b) Double egress doors are intended to be provided with vertical rod exit devices (concealed or surface mounted).
- c) Open back strikes may be used on pairs of 707 or 747 doors to a maximum of 8’0” high, maximum height for 607 doors is 7’0” high.
- d) Two doors in the same frame separated by a hollow metal mullion are treated as two single doors.

PROTECTION PLATES/PLANT ONS
- a) Protection plates or kick plates may be a maximum of 46” wide x 36” high and may be attached to both faces of a door. NFPA 80 states that labeling is not required on protection plates less than 16”. Field installed plates must be labeled and installed in accordance with the protection plate manufacturer’s listing. The protection plate manufacturer should advise size and installation limitations. Protection plates are listed under UL Category code GVUX.
- b) Plant-ons, decorative moldings, or cladding may not be used on CURRIES fire doors.

SMOKE AND DRAFT CONTROL
- a) All components used in a Smoke and Draft Control assembly must pass a 20 minute without hose stream fire test.
- b) Only gaskets listed for smoke and draft control may be used for smoke and draft control assemblies.
- c) The gaskets used for a smoke and draft control assembly must be listed for the type of door installed in the frame, i.e. hollow metal or wood.
- d) Wood doors used in a smoke and draft assembly that do not have intumescent imbedded in the door edge may require an edge seal (intumescent) and a smoke and draft control qualified gasket to be installed in the door frame.

TEMPERATURE RISE DOORS
- a) The L727 series door may be used in 250˚ and 450˚ temperature rise applications.
- b) A steel overlapping astragal is required on all fire-rated pairs of 727 doors.
- c) The 747 temperature rise door is available at a 450˚ rating only.

VISION LIGHT REQUIREMENTS
- a) No glass should be used in exterior doors subject to a severe fire exposure.
- b) Any listed fire door vision light kit may be used in CURRIES labeled doors. Vision kits should be listed for use in the type of door construction they are installed in.
- c) CURRIES vision light kits may be used in CURRIES doors only.
- d) Minimum stile between visible glass and the edge of door is 6 inches, the minimum distance between two vision light kits is 6” from visible glass to visible glass.
- e) NFPA 80 allows vision lite kits up to 100 sq. inches in 250˚ and 450˚ temp. rise applications. Authority Having Jurisdiction may allow use of specialty glazing (see glazing chart for approved glazing) over 100 sq. inches.
Notes

Fire Rated Products
### Fire Door Capabilities Chart

**Fire Rated Products**

August, 2016

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<thead>
<tr>
<th>Series</th>
<th>Skin Gauges</th>
<th>Door Thickness Inches (mm)</th>
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<td>1 – 3/4</td>
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<td>L747 TR</td>
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<td>1 – 3/4</td>
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<tr>
<td>L747</td>
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<td>1 – 3/4</td>
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<td>(44)</td>
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<td>180 min.</td>
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<td><strong>PAIR</strong></td>
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<td>8080 (2438x2438)</td>
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<tr>
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<td>8080 (2438x2438)</td>
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<tr>
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<tr>
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<td>45 min.</td>
<td>8080 (2438x2438)</td>
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<td>LOUVER</td>
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<td><strong>DUTCH DOOR</strong></td>
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</tr>
<tr>
<td><strong>SINGLE</strong></td>
<td>190 min.</td>
<td>3470 (1016x2134)</td>
</tr>
<tr>
<td>EMBOSSED PANEL</td>
<td>90 min.</td>
<td>3670 (1016x2134)</td>
</tr>
<tr>
<td>45 min.</td>
<td>3670 (1016x2134)</td>
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</tr>
<tr>
<td>20 min.</td>
<td>3470 (1016x2134)</td>
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</tr>
<tr>
<td><strong>PAIR</strong></td>
<td>180 min.</td>
<td>6870 (2032x2134)</td>
</tr>
<tr>
<td>EMBOSSED PANEL</td>
<td>90 min.</td>
<td>7070 (2032x2134)</td>
</tr>
<tr>
<td>45 min.</td>
<td>7070 (2032x2134)</td>
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</tr>
<tr>
<td>20 min.</td>
<td>6870 (2032x2134)</td>
<td></td>
</tr>
<tr>
<td><strong>SINGLE</strong></td>
<td>20 min.</td>
<td>4080 (1219x2438)</td>
</tr>
<tr>
<td>FULL GLASS</td>
<td>without hose stream</td>
<td>4080 (1219x2438)</td>
</tr>
<tr>
<td>4080 (1219x2438)</td>
<td></td>
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</tr>
<tr>
<td><strong>PAIR</strong></td>
<td>20 min.</td>
<td>8080 (2438x2438)</td>
</tr>
<tr>
<td>FULL GLASS</td>
<td>without hose stream</td>
<td>8080 (2438x2438)</td>
</tr>
<tr>
<td>8080 (2438x2438)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1) SEE DOOR GLAZING SPECIFICATIONS FOR GLAZING REQUIREMENTS
2) 180, 90, 60, 45 MIN. LABELS ONLY
3) MINERAL CORE PANEL
4) 18 GAUGE

**NOTES:**
SEE PAGE 9 FOR MORE INFORMATION ON PANEL DOORS
Panel Doors
Fire Rated Products
February, 2010

90 MINUTE MAXIMUM RATING.
UL ONLY

TYPICAL FACE TYPES

MAXIMUM VISIBLE WIDTH 36"
MAXIMUM VISIBLE HEIGHT 36"
MAXIMUM AREA PER PANEL
1296 SQ. IN.
MAXIMUM PANEL AREA PER DOOR 2592 SQ. IN.
Maximum Label Door Clearances
Fire Rated Products
April, 2002

1/8” (3)

3/4” (19)*

REFERENCE: MAXIMUM CLEARANCES AS PUBLISHED IN N.F.P.A. 80; FIRE DOORS AND WINDOWS.

*CURRIES STANDARD UNDERCUT IS 5/8” (16)
### KD Fire Door Frame Capabilities Chart

#### Fire Rated Products

August, 2014

<table>
<thead>
<tr>
<th>HOUR RATING</th>
<th>180 (3 HOUR) MASONRY WALLS ONLY</th>
<th>90 (1-1/2 HOUR) MASONRY WALLS ONLY</th>
<th>45 (3/4 HOUR) MASONRY WALLS ONLY</th>
<th>20 (20 MINUTE) MASONRY WALLS ONLY</th>
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<tbody>
<tr>
<td>PROFILE TYPE</td>
<td>MAT'L GAUGE</td>
<td>JAMB DEPTH SIZES (7)</td>
<td>JAMB DEPTH SIZES (7)</td>
<td>JAMB DEPTH SIZES (7)</td>
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<tr>
<td>1&quot; FACE FRAME</td>
<td>M</td>
<td>16</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1&quot; M</td>
<td>4&quot; MIN. - 14&quot; MAX. (102) - (356)</td>
<td>4&quot; MIN. - 14&quot; MAX. (102) - (356)</td>
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<tr>
<td>1-1/4&quot; - 4&quot; FACE FRAME</td>
<td>M</td>
<td>16</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-1/4&quot; M</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
</tr>
<tr>
<td>CM</td>
<td>16</td>
<td>14</td>
<td>12</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>3-1/4&quot; CM</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
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<td>C</td>
<td>(1, 6)</td>
<td>16</td>
<td>14</td>
<td>12</td>
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<tr>
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<td>NOT AVAILABLE</td>
<td>3-1/4&quot; C</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
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<tr>
<td>G</td>
<td>(1)</td>
<td>16</td>
<td>14</td>
<td>12</td>
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<tr>
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<td>NOT AVAILABLE</td>
<td>3-1/4&quot; G</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
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<td>12</td>
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<td>3-1/4&quot; CMG</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
<td>3-1/4&quot; MIN. - 14&quot; MAX. (83) - (356)</td>
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<td>DEM</td>
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<td>14</td>
<td>12</td>
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<td></td>
<td></td>
<td>4-3/4&quot; DEM</td>
<td>4-3/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
<td>4-3/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
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<tr>
<td>WM</td>
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<td>12</td>
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<td>5-1/4&quot; WM</td>
<td>5-1/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
<td>5-1/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
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<td>14</td>
<td>12</td>
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</tr>
<tr>
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<td></td>
<td>5-1/4&quot; WCM</td>
<td>5-1/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
<td>5-1/4&quot; MIN. - 14&quot; MAX. (121) - (356)</td>
</tr>
<tr>
<td>WG</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-1/8&quot; WG</td>
<td>4-1/8&quot; MIN. - 14&quot; MAX. (105) - (356)</td>
<td>4-1/8&quot; MIN. - 14&quot; MAX. (105) - (356)</td>
</tr>
<tr>
<td>WCG</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-1/8&quot; WCG</td>
<td>4-1/8&quot; MIN. - 14&quot; MAX. (105) - (356)</td>
<td>4-1/8&quot; MIN. - 14&quot; MAX. (105) - (356)</td>
</tr>
<tr>
<td>WC</td>
<td>(1)</td>
<td>16</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td></td>
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<td>NOT AVAILABLE</td>
<td>4-5/8&quot; WC</td>
<td>4-5/8&quot; MIN. - 14&quot; MAX. (118) - (356)</td>
</tr>
</tbody>
</table>

(1) COMPRESSION ANCHOR  
(2) ONLY MASONRY WALLS WITH APPROVED CORNER CLIP  
(3) 3-1/4" - 4" JAMB DEPTH FOR 1-3/8" DOORS ONLY  
(4) MASONRY WALLS ONLY  
(5) 18 GAUGE AVAILABLE - SEE FOLLOWING PAGES  
(6) 14 GA. AVAILABLE IN 2" FACE ONLY  
(7) SAME PROFILE FOR HEAD & JAMB
<table>
<thead>
<tr>
<th>HOUR RATING</th>
<th>PROFILE TYPE</th>
<th>MAT'L GAUGE</th>
<th>OPENING SIZES (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 (1-1/2 HOUR)</td>
<td>1&quot; FACE FRM M</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 8'0&quot; Pairs: 8'0&quot; X 7'0&quot;</td>
</tr>
<tr>
<td>45 (3/4 HOUR)</td>
<td>1-1/4&quot; - 4&quot; FACE FRM M</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
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<tr>
<td>20 (20 MINUTE)</td>
<td>CM</td>
<td>16 14</td>
<td>SINGLE: 4'0&quot; X 10'0&quot;(1 Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>C (1,4)</td>
<td>16</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td></td>
<td>G (1)</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>CMG</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>DEM</td>
<td>16 14 12</td>
<td>PAIRS: 8'0&quot; X 10'0&quot;(2</td>
</tr>
<tr>
<td></td>
<td>WM</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>WCM</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot;(2 Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>WG</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
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<tr>
<td></td>
<td>WCG</td>
<td>16 14 12</td>
<td>SINGLE: 4'0&quot; X 10'0&quot; Pairs: 8'0&quot; X 10'0&quot;</td>
</tr>
<tr>
<td></td>
<td>WC (1)</td>
<td>16</td>
<td>NOT AVAILABLE</td>
</tr>
</tbody>
</table>

(1) COMPRESSION ANCHOR
(2) ONLY MASONRY WALLS WITH APPROVED CORNER CLIP
(3) 18 GAUGE AVAILABLE - SEE FOLLOWING PAGES
(4) 1-3/8" DOORS ONLY
(5) SAME PROFILE FOR HEAD & JAMB
18 Gauge Three Sided Fire Door Frame

Fire Rated Products

August, 2014

90 MINUTE MAXIMUM RATING

GENERAL NOTES:
1) TO SUIT DOOR THICKNESS
2) VARIES
3) PROFILE VARIABLE
4) 3/8" (10) MIN.
   3/4" (19) MAX.
5) 3/8" (10) MIN.
   1-3/8" (35)
6) 1-1/4" (32)*
   4" (102) MAX. JAMB
   6" (152) MAX. HEAD

MASONRY DRYWALL

SINGLE RABBET:
4-1/4" (108) MIN.  14" (356) MAX. *
DOUBLE RABBET:
4-1/8" (105) MIN.  14" (356) MAX.
## 90 MINUTE MAXIMUM RATING - DRYWALL WALLS  
(WARNOCK HERSEY LISTING ONLY)

<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZES</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MASONRY, DRYWALL:</td>
<td>SINGLE — 4’0” (1219) W X 8’0” (2438) H</td>
</tr>
<tr>
<td></td>
<td>PAIRS — 8’0” (2438) W X 8’0” (2438) H</td>
</tr>
<tr>
<td>WALL CONSTRUCTION:</td>
<td>DRYWALL OR MASONRY WALLS</td>
</tr>
<tr>
<td>FRAME CORNER CONSTRUCTION:</td>
<td>KD, FACE WELD, OR CONTINUOUS WELD</td>
</tr>
<tr>
<td>ANCHORS:</td>
<td>ANY LISTED WELD-IN OR SLIP-IN DRYWALL OR MASONRY TYPE. ANCHOR MAY BE USED IN THIS FRAME. (COMPRESSION ANCHORS NOT ALLOWED)</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>18 GA. (1.2) MIN. COLD ROLLED OR GALVANIZED STEEL</td>
</tr>
</tbody>
</table>

## HARDWARE RESTRICTIONS

| A) HINGES: | STEEL (BALL BEARING - OIL LIGHT BUSHING) TYPE, POCKET PIVOT TYPE, STANDARD PIVOT TYPE, ANCHOR TYPE, AND CONTINUOUS TYPE. |
| B) CLOSERS: | CLOSERS ARE REQUIRED ON ALL FRAMES WHICH ARE TO BE FIRE LABELED, REGARDLESS OF THE HOURLY RATING. IF A LABEL APPROVED REINFORCEMENT IS NOT PROVIDED, THE CLOSER MUST BE THROUGH -BOLTED TO THE FRAME. IN LIEU OF A CLOSER, SPRING HINGES MUST BE USED. |
| C) STRIKES: | STANDARD STRIKES FOR VARIOUS TYPES OF LISTED HARDWARE MAY BE USED. |
| D) HARDWARE MULLION: | IT IS PERMISSIBLE TO USE A LISTED HARDWARE MULLION IN A PAIR CONFIGURATION. |

**NOTE:** ANY HARDWARE WHICH IS TO BE USED ON FIRE RATED DOORS AND FRAMES SHOULD BE CONFIRMED FOR LABEL APPROVAL USING THE LATEST EDITION OF THE U.L. FIRE RESTRICTIVE DIRECTORY VOL. 3, OR ITS/WHI DIRECTORY OF LISTED PRODUCTS.

FACE WELDING COMPLETELY ASSEMBLED AND INSTALLED KD FRAMES IN THE FIELD IS AN ACCEPTABLE PRACTICE, CONTACT FACTORY FOR DETAILS.
Three Sided Fire Door Frame
Fire Rated Products

February, 2016

180 MINUTE MAXIMUM RATING - MASONRY WALLS
90 MINUTE MAXIMUM RATING - DRYWALL WALLS

GENERAL NOTES:

1. TO SUIT DOOR THICKNESS
2. VARIES
3. PROFILE VARIABLE
4. 3/8" (10) MIN.
   3/4" (19) MAX.
5. 3/8" (10) MIN.
   1-3/8" (35)
6. 1-1/4" (32)*
   4" (102) MAX. JAMB
   8" (204) MAX. HEAD

MASONRY DRYWALL

SINGLE RABBET:
3-1/4" (19) MIN.  14" (356) MAX.
DOUBLE RABBET:
4" (102) MIN.  14" (356) MAX.

COMPRESSION ANCHORS NOT AVAILABLE IN LABEL CONSTRUCTION
* 3-1/4" TO 4" JAMB DEPTH FOR 1-3/8" DOOR ONLY.
1) HEADS WITH GREATER THAN 4" FACE ARE UL LABEL ONLY.
<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MASONRY, DRYWALL:</td>
<td>SINGLE — 4’0” (1219) W X 10’0” (3048) H</td>
</tr>
<tr>
<td></td>
<td>PAIRS — 8’0” (2438) W X 10’0” (3048) H</td>
</tr>
<tr>
<td>DOUBLE EGRESS:</td>
<td>PAIRS ONLY — 8’0” (2438) W X 10’0” (3048) H</td>
</tr>
<tr>
<td></td>
<td>COMPRESSION ANCHOR NOT AVAILABLE IN LABEL CONSTRUCTION</td>
</tr>
<tr>
<td>CURRISEAL:</td>
<td>SINGLE — 4’0” (1219) W X 10’0” (3048) H</td>
</tr>
<tr>
<td></td>
<td>PAIRS — 8’0” (2438) W X 10’0” (3048) H</td>
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<tr>
<td>WALL CONSTRUCTION:</td>
<td>DRYWALL OR MASONRY WALLS</td>
</tr>
<tr>
<td>FRAME CORNER CONSTRUCTION:</td>
<td>KD, FACE WELD, OR CONTINUOUS WELD</td>
</tr>
<tr>
<td>ANCHORS:</td>
<td>ANY LISTED WELD-IN OR SLIP-IN DRYWALL OR MASONRY TYPE ANCHOR MAY BE USED IN THIS FRAME.</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>16 GA. (1.5) MIN. 12 GA. (2.6) MAX. COLD ROLLED OR GALVANIZED STEEL</td>
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<tr>
<td>MULLIONS:</td>
<td>WELDED OR REMOVABLE HOLLOW METAL MULLIONS ARE PERMITTED.</td>
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<td>HARDWARE RESTRICTIONS</td>
<td></td>
</tr>
<tr>
<td>A) HINGES:</td>
<td>STEEL (BALL BEARING - OIL LIGHT BUSHING) TYPE, POCKET PIVOT TYPE, STANDARD PIVOT TYPE, ANCHOR TYPE, AND CONTINUOUS TYPE.</td>
</tr>
<tr>
<td>B) CLOSERS:</td>
<td>CLOSERS ARE REQUIRED ON ALL FRAMES WHICH ARE TO BE FIRE LABELED, REGARDLESS OF THE HOURLY RATING. IF A LABEL APPROVED REINFORCEMENT IS NOT PROVIDED, THE CLOSER MUST BE THROUGH -BOLTED TO THE FRAME. IN LIEU OF A CLOSER, SPRING HINGES MUST BE USED.</td>
</tr>
<tr>
<td>C) STRIKES:</td>
<td>STANDARD STRIKES FOR VARIOUS TYPES OF LISTED HARDWARE MAY BE USED.</td>
</tr>
<tr>
<td>D) HARDWARE MULLION:</td>
<td>IT IS PERMISSIBLE TO USE A LISTED HARDWARE MULLION IN A PAIR CONFIGURATION.</td>
</tr>
</tbody>
</table>

**NOTE:** ANY HARDWARE WHICH IS TO BE USED ON FIRE RATED DOORS AND FRAMES SHOULD BE CONFIRMED FOR LABEL APPROVAL USING THE LATEST EDITION OF THE U.L. FIRE RESTRICTIVE DIRECTORY VOL. 3, OR ITS/WHI DIRECTORY OF LISTED PRODUCTS.

FACE WELDING COMPLETELY ASSEMBLED AND INSTALLED KD FRAMES IN THE FIELD IS AN ACCEPTABLE PRACTICE, CONTACT FACTORY FOR DETAILS.
1" FACE DOOR FRAME
MASONRY WALL CONSTRUCTION
180 MINUTE MAXIMUM FIRE RATING

SIZE:
SINGLE  4'0" (1219) W X 8'0" (2438) H
PAIR    8'0" (2438) W X 7'2" (2184) H

WALL CONSTRUCTION:
MASONRY

FRAME CONSTRUCTION:
KD*
FACE WELD
OR CONTINUOUS WELD

1) WELDED AND REMOVABLE MULLIONS MAY BE USED WITH THIS FRAME.
2) ANY LISTED WELD IN OR SLIP IN MASONRY ANCHOR MAY BE USED IN THIS FRAME.
3) HEADS WITH GREATER THAN 4" FACE ARE UL LABEL ONLY.
WOOD TRANSOM PANEL
90 MINUTE MAXIMUM RATING

FRAME SIZE:
4"0" (1219) W X 11'0" (3353) SINGLE SWING

WALL CONSTRUCTION:
MASONRY
DRYWALL

FRAME CONSTRUCTION:
CONTINUOUS WELD

TRANSOM PANEL:
ANY LISTED WOOD TRANSOM PANEL

MAX. PANEL SIZE:
BASED ON WOOD DOOR MANUFACTURER’S LISTING.
1-1/2 HOUR MAX. LABEL RATING

MAX. DOOR SIZE:
ANY LABELED DOOR

NOTES:
1) THIS FRAME IS CONSIDERED A TRANSOM FRAME AND MUST BEAR A LABEL WHICH
STATES "FIRE DOOR FRAME WITH PANELS"
2) ATTACHMENT OF TRANSOM PANEL TO FRAME IS BY USE OF SPRING BOLTS THAT ARE
PROVIDED WITH THE PANEL. (PANEL MAY ALSO BE ATTACHED TO FRAME BY OTHER
MEANS AS ALLOWED BY THE PANEL MANUFACTURER’S LISTING.) SPRING BOLTS
ENGAGE IN TO REINFORCED HOLES IN THE FRAME.
3) ANY LISTED WELD IN OR SLIP IN MASONRY OR DRYWALL ANCHOR MAY BE USED IN
THIS FRAME. (COMPRESSION ANCHORS NOT ALLOWED).
4) SEE GLAZING CHARTS AND TRANSOM/SIDELITE FRAMES FOR ADDITIONAL CAPABILITIES.
90 MINUTE MAXIMUM RATING.

- **Head**
  - 1/8" (3) MAX.

- **Jamb/Head**
  - Variable Profile
  - 5/8" (16) MIN.
  - 1" (25) MIN.
  - 2" (50) MIN.
  - 4" (102) MAX.

- **Listed Wood Rabbeted Door and Panel**
  - 4-1/2" (114) MIN.
  - 1" (35) MAX.

- **Panel**
  - 3/8" (10) MIN.
  - 1-3/8" (35) MAX.

Experience a safer and more open world
### 90 MINUTE MAXIMUM RATING

<table>
<thead>
<tr>
<th>Description</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MASONRY, DRYWALL:</strong></td>
<td>4’0” (1219) X 10’0” (3048) AS KD</td>
</tr>
<tr>
<td></td>
<td>4’0” (1219) X 11’0” (3353) AS WELDED</td>
</tr>
<tr>
<td><strong>MAXIMUM DOOR HEIGHT:</strong></td>
<td>8’0” (2438)</td>
</tr>
<tr>
<td><strong>WALL CONSTRUCTION:</strong></td>
<td>MASONRY OR DRYWALL</td>
</tr>
<tr>
<td><strong>FRAME CONSTRUCTION:</strong></td>
<td>KD, FACE WELD, OR CONTINUOUS WELD</td>
</tr>
<tr>
<td><strong>ANCHORS:</strong></td>
<td>ANY LISTED WELD-IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME. (COMPRESSION ANCHORS NOT ALLOWED).</td>
</tr>
<tr>
<td><strong>MATERIAL:</strong></td>
<td>COLD ROLLED AND GALVANIZED STEEL</td>
</tr>
<tr>
<td></td>
<td>16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM</td>
</tr>
<tr>
<td><strong>TRANSOM PANEL:</strong></td>
<td>1-3/4” (44) THICKNESS</td>
</tr>
<tr>
<td></td>
<td>MAXIMUM SIZE: 4’0” (1219) W X 4’0” (1219) H</td>
</tr>
<tr>
<td></td>
<td>MAXIMUM LABEL RATING: 1-1/2 HOUR</td>
</tr>
</tbody>
</table>

**NOTE:**

1) FLAT 12 GA. (2.6) REINFORCING FOR TRANSOM PANEL SPRING BOLTS. REINFORCING IS INSTALLED IN JAMBS ON EACH SIDE OF TRANSOM PANEL.

2) THIS FRAME IS CONSIDERED A TRANSOM FRAME AND MUST BEAR A LABEL WHICH STATES: “FIRE DOOR FRAME WITH PANELS.”

3) ATTACHMENT OF TRANSOM PANEL TO FRAME IS BY USE OF SPRING BOLTS PROVIDED WITH THE PANEL. (PANEL MAY BE ATTACHED TO THE FRAME BY OTHER MEANS, AS ALLOWED BY THE PANEL MANUFACTURERS LISTINGS.) SPRING BOLTS ENGAGE INTO REINFORCED HOLES IN THE FRAME.

4) CONTACT WOOD DOOR & PANEL MANUFACTURER FOR PANEL AND DOOR LIMITATIONS.
180 MINUTE MAXIMUM RATING.

VARIABLE PROFILE

JAMB/HEAD
3/8" (10) MIN.
3/4" (19) MAX.
4" (102) MIN.
14" (356) MAX.

5/8" (16) MIN.
2" (50) MIN.
4" (102) MAX.

3/8" (10) MIN.
1-3/8" (35) MAX.
1/8" (3) MAX.

HEAD

PANEL

DOOR

1-1/2" (38) MIN. 12 GA. (2.6) ASTRAGAL APPLIED TO PANEL

Fixed Panel Installation Options

A
STANDARD

WELD
1/2" (13) LONG MIN.

SEE FRAME SECTION PAGE 134 FOR REMOVABLE PANEL DETAILS

B
OPTIONAL

C
OPTIONAL
THIS METHOD CANNOT BE USED ON MULLION SECTIONS

Experience a safer and more open world
## Transom Frame Without Transom Bar (Steel Panel)

### Fire Rated Products

April, 2002

<table>
<thead>
<tr>
<th>180 MINUTE MAXIMUM RATING - MASONRY WALLS</th>
<th>90 MINUTE MAXIMUM RATING - DRYWALL WALLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM FRAME SIZE:</td>
<td></td>
</tr>
<tr>
<td>SINGLE — 4'0&quot; (1219) W X 10'0&quot; (3048) H</td>
<td></td>
</tr>
<tr>
<td>PAIR — 8'0&quot; (2438) W X 10'0&quot; (3048) H</td>
<td></td>
</tr>
<tr>
<td>WALL CONSTRUCTION:</td>
<td>MASONRY OR DRYWALL</td>
</tr>
<tr>
<td></td>
<td>(DRYWALL WALL INSTALLATION LIMITED TO 90 MINUTES)</td>
</tr>
<tr>
<td>FRAME CONSTRUCTION:</td>
<td>KD, FACE WELD, OR CONTINUOUS WELD</td>
</tr>
<tr>
<td>ANCHORS:</td>
<td>ANY LISTED WELD IN OR SLIP IN TYPE DRYWALL OR MASONRY ANCHORSMAY BE USED IN THIS FRAME. (COMPRESSION ANCHORS NOT ALLOWED).</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>COLD ROLLED AND GALVANIZED STEEL</td>
</tr>
<tr>
<td></td>
<td>16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM</td>
</tr>
<tr>
<td>TRANSOM PANEL:</td>
<td>MUST BE 747 CONSTRUCTION.</td>
</tr>
<tr>
<td></td>
<td>SINGLE: 4’0” (1219) W X 3’0” (1219) H MAX.</td>
</tr>
<tr>
<td></td>
<td>PAIR: 8’0” (2438) W X 3’0” (1219) H</td>
</tr>
<tr>
<td>ASTRAGAL:</td>
<td>ASTRAGAL NOT REQUIRED ON ASSEMBLIES RATED 90.</td>
</tr>
<tr>
<td>DOORS:</td>
<td>MAXIMUM DOOR LEAF SIZE</td>
</tr>
<tr>
<td></td>
<td>SINGLE &amp; PAIRS - 707: 4’0” (1219) W X 10’0” (3048) H</td>
</tr>
<tr>
<td></td>
<td>SINGLE &amp; PAIRS - 747: 4’0” (1219) W X 10’0” (3048) H</td>
</tr>
</tbody>
</table>

**NOTE:**

1) THIS FRAME IS CONSIDERED A TRANSOM FRAME AND MUST BEAR A LABEL WHICH STATES: “FIRE DOOR FRAME WITH PANELS” AND IS LIMITED TO THE SAME RESTRICTIONS AS OTHER TRANSOM FRAMES.

2) SCREWS AND WELDS FOR PANEL ANCHORING SHALL BE AT 2-1/2” (64) FROM ENDS AND A MAXIMUM OF 12” (305) APART ON TOP AND BOTTOM EDGES AND 18” (457) APART ON SIDES. PANEL SCREWS SHALL BE MINIMUM #10 SIZE.
Compression Anchor (C-Type) Slip-on Drywall Frame

Fire Rated Products

August, 2014

90 MINUTE MAXIMUM FIRE RATING.

SIZE:

SINGLE: 4'0" (1219) W X 9'0" (2743) H
PAIR: 8'0" (2438) W X 7'2" (2184)
7'0" (2134) W X 9'0" (2743) H

WALL CONSTRUCTION: DRYWALL

FRAME CONSTRUCTION: KD (WITH COMPRESSION ANCHOR SYSTEM)

– COUNTERSUNK BASE ANCHOR
HOLE IS STANDARD ON 2" (51)
FACE FRAMES, STRAP
TYPE BASE ANCHOR OPTIONAL.

– STRAP TYPE BASE ANCHOR OPTIONAL
ON 2" (50.8) FACE FRAMES AND
MUST BE USED ON 1-1/2" (38) AND
1-3/4" (44) FACE FRAMES.

1) 3-1/4" (83) MIN. - 14" (356) MAX. FOR SINGLE OPENING FRAMES TO 3'6" (1067) WIDE X 7'0" (2134) HIGH
4-5/8" (118) MIN. - 14" (356) MAX. FOR SINGLE OPENING FRAMES TO
4'0" (1219) WIDE X 9'0" (2743) HIGH AND DOUBLE OPENING FRAMES TO
7'0" (2134) WIDE X 9'0" HIGH OR 8'0" (203) WIDE X 7'2" (2184) HIGH

2) KD FRAMES OVER 7'2" (2136) UP TO 8' (2438.4) REQUIRE ONE SECURITY ANCHOR PER JAMB (SEE NEXT
PAGE FOR DETAILS). FRAMES OVER 8' (2438.4) UP TO 9' (2743.2) REQUIRE THREE SECURITY ANCHOR IN
EACH JAMB. FRAMES FOR PAIRS OF DOORS OVER 7'2" (2184.4) REQUIRE TWO SECURITY ANCHOR IN THE
HEAD OF THE FRAME. ONE EACH 12" (304.8) FROM THE CENTERLINE OF THE FRAME HEAD.

NOTE:
Drywall Frame Compression Anchor

ANCHOR PART NUMBER: P0028

- Compression Anchor
- Security Anchor
- 3-1/2" (88.9)
- 45" (1143) Typical
- Bottom of Frame
- 16 GA. (1.4)
- 1-1/8" (28.6)
- MAXIMUM TRAVEL
- 5/8" (15.8)
- MAXIMUM TRAVEL

ANCHOR PART NUMBER: P0026

- Compression Anchor
- 3-1/2" (88.9)
90 MINUTE MAXIMUM FIRE RATING.
ELEVATION/SECTIONS

FRAME AND DOOR CONFIGURATION MAY VARY

NOTES:
1) MAX. FOUR DOORS IN ANY COMBINATION OF SINGLE SWING, PAIRS, OR DOUBLE EGRESS PAIRS.
2) CURRIES MODEL 707.
3) 3/4" (19) LATCH BOLT THROW IS REQUIRED.
4) CYLINDRICAL, MORTISE, OR FIRE EXIT HARDWARE IS ACCEPTABLE.
5) WELDED CONSTRUCTION ONLY.
6) ANY LISTED WELD IN OR SLIP-IN DRYWALL OR MASONRY ANCHOR MAY BE USED IN THIS FRAME.
7) MAY BE PROVIDED AS A FOUR SIDED FRAME, REFER TO SILL ANCHOR REQUIREMENTS, SILL MUST BUTT BETWEEN VERTICAL FRAME MEMBERS.

Experience a safer and more open world
20 MINUTE WITHOUT HOSE STREAM MAXIMUM RATING
ELEVATION DETAILS

GENERAL NOTES:
1) 3/8” (10) MIN. GLASS POCKET
2) 5/8” (16) MIN.
3) VARIABLE PROFILE
4) 3/8” (10) MIN.
   3/4” (19) MAX.
5) 4-1/2” (124) MIN.
   14” (356) MAX.

SECTION A-A
3) 5/8” (16) MIN.
2) 5/8” (16) MIN.
1” (25) MIN.
4” (102) MAX.
3) 5/8” (16) MIN.
2) 5/8” (16) MIN.
5) 3/8” (10) MIN.
1-3/8” (35) MAX.

SECTION B-B
3) 5/8” (16) MIN.
2) 5/8” (16) MIN.
1” (25) MIN.
12” (305) MAX.
3) 5/8” (16) MIN.
2) 5/8” (16) MIN.
5) 3/8” (10) MIN.
1-3/8” (35) MAX.

SECTION C-C
3) 5/8” (16) MIN.
2) 5/8” (16) MIN.
1” (25) MIN.
12” (305) MAX.
<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZE:</th>
<th>13'2&quot; (4013) W X 11'7&quot; (3531) H</th>
</tr>
</thead>
</table>
| MAXIMUM DOOR SIZE:  | SINGLE — 4'0" (1219) W X 10'0" H  
                      | PAIR — 8'0" (2438) W X 10'0" H |
| MAX. GLASS AREA:    | 5/8" (16) H X 5/8" (16) W MIN. STOP;  
                      | MAX W OR H IS 109-3/4" (2788)  
                      | NOT TO EXCEED 5268 SQ. IN. (3398703) OF VISIBLE GLASS |
| WALL CONSTRUCTION:  | MASONRY OR DRYWALL |
| FRAME CONSTRUCTION: | FACE OR CONTINUOUS WELDS. |
| MATERIAL:           | COLD ROLLED AND GALVANIZED STEEL  
                      | 16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM |
| ANCHORS:            | ANY LISTED WELD IN OR SLIP-IN TYPE  
                      | DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME |

**NOTE:**
1) IF FIRE WINDOW FRAME DOES NOT EXTEND TO THE FLOOR AND IS SUSPENDED OVER A DRYWALL SILL, A SUITABLE ANCHOR MUST BE USED IN THE SILL MEMBER FOR EACH 30" (762) OF LENGTH OR FRACTION THEREOF.

2) THE CONFIGURATION OF TRANSOM AND LIGHT AREAS MAY VARY! ONLY LISTED GLAZING MATERIALS MAY BE USED IN THIS FRAME. SEE FRAME GLAZING CHARTS FOR ADDITIONAL GLAZING OPTIONS.
20 MINUTE WITHOUT HOSE STREAM MAXIMUM RATING
ELEVATION/SECTIONS DETAIL

GENERAL NOTES:
1) 3/8” (10) MIN. GLASS POCKET
2) 5/8” (16) MIN.
3) VARIABLE PROFILE
4) 3/8” (10) MIN.
   3/4” (19) MAX.
5) 4-1/2” (124) MIN.
    14” (356) MAX.

Experience a safer and more open world
# Fire Window Frame

## Fire Rated Products

August, 2014

<table>
<thead>
<tr>
<th>20 MINUTE WITHOUT HOSE STREAM MAXIMUM RATING.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAXIMUM FRAME SIZE:</strong></td>
</tr>
<tr>
<td><strong>MAXIMUM GLASS AREAS</strong></td>
</tr>
<tr>
<td><strong>WALL CONSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>FRAME CONSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>MATERIAL:</strong></td>
</tr>
<tr>
<td><strong>ANCHORS:</strong></td>
</tr>
</tbody>
</table>

**NOTE:**

1) IF THE FIRE WINDOW FRAME DOES NOT EXTEND TO THE FLOOR AND IS SUSPENDED OVER A DRYWALL SILL, A SUITABLE ANCHOR MUST BE USED IN THE SILL MEMBER FOR EACH 30” (762) OF LENGTH OR FRACTION THEREOF.

2) THE CONFIGURATION OF GLASS LIGHT AREAS MAY VARY. ONLY LISTED GLAZING MATERIALS MAY BE USED IN THIS FRAME.

3) THE AUTHORITY HAVING JURISDICTION SHOULD REVIEW THE USE OF A FIRE WINDOW FRAME WITH A 20 MINUTE - WITHOUT HOSE STREAM RATING.

4) GLASS STOP SCREW SPACING #8 OVAL HEAD SHEET METAL SCREW 2” FROM EACH END AND 12” (304.8) ON CENTER MAX.

5) GLASS STOP EXTENDER MAY BE USED WITH THIS FRAME.
90 MINUTE MAXIMUM RATING
IN MASONRY WALLS ONLY
ELEVATION/SECTIONS DETAIL

SECTION A-A

1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) 5" (127) MIN.
   14" (356) MAX.
4) 3/8" (10) MIN.
   1-3/8" (35) MAX.

SECTION B-B

1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) 5" (127) MIN.
   14" (355.6) MAX.

SECTION C-C

1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) 5" (127) MIN.
   14" (355.6) MAX.

GENERAL NOTES:
1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) 5" (127) MIN.
   14" (356) MAX.
4) 3/8" (10) MIN.
   1-3/8" (35) MAX.
**Fire Window Frame (Masonry Walls Only)**

**Fire Rated Products**

August, 2014

<table>
<thead>
<tr>
<th><strong>90 MINUTE MAXIMUM RATING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAXIMUM FRAME SIZE:</strong></td>
</tr>
<tr>
<td>13'6” (4115) W X 12'0” (3658) H</td>
</tr>
</tbody>
</table>

**GLAZING REQUIREMENTS:**

SEE FRAME GLAZING CHARTS FOR GLAZING OPTIONS INCLUDING MAXIMUM HOURLY RATINGS. MAXIMUM VISIBLE AREA, MAXIMUM HEIGHT AND WIDTH, MINIMUM STOP HEIGHT, AND GLASS POCKET WIDTH FOR EACH GLAZING OPTION IS LISTED IN THE CHART.

LISTED GLAZING COMPOUND, 100% SILICONE, OR CLOSED CELL FOAM TAPE MAY BE USED. SEE GLAZING MANUFACTURER’S INSTALLATION INSTRUCTIONS FOR GLASS OPTIONS.

**WALL CONSTRUCTION:**

MASONRY OR DRYWALL

**FRAME CONSTRUCTION:**

FACE OR CONTINUOUS WELDS.

**MATERIAL:**

COLD ROLLED AND GALVANIZED STEEL
16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM

**ANCHORS:**

ANY LISTED WELD IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME

**NOTE:**

1) GLASS STOP SCREW SPACING; NO. 8 OVAL HEAD SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (304.8) ON CENTER

2) THE CONFIGURATION OF GLASS LIGHT AREAS MAY VARY.

3) THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

4) GLASS STOP EXTENDER MAY BE USED WITH THIS FRAME.

5) ASSEMBLY HAS NO TEMPERATURE RISE RATING.
90 MINUTE MAXIMUM RATING
DRYWALL WALLS ELEVATION/SECTIONS DETAIL

GENERAL NOTES:
1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) VARIABLE PROFILE
4) 3/8" (10) MIN.
   3/4" (19) MAX.
5) 4-1/2" (114) MIN.
   14" (356) MAX.

SECTION A-A
1) 5/8" (16) MIN.
3) 5/8" (16) MIN.

SECTION B-B
1) 5/8" (16) MIN.
2) 1" (25) MIN.
3) 3/8" (10) MIN.
4) 3/8" (10) MIN.
5) 1-3/8" (35) MAX.

SECTION C-C
1) 5/8" (16) MIN.
2) 5/8" (16) MIN.
3) 5/8" (16) MIN.
4) 3/8" (10) MIN.
5) 1-3/8" (35) MAX.

Experience a safer
and more open world
## 90 Minute Maximum Rating

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Frame Size</td>
<td>10’0” (3048) W x 5’1” (1549) H; for use in drywall walls.</td>
</tr>
<tr>
<td>Glazing Requirements</td>
<td>See frame glazing charts for glazing options including maximum hourly ratings.</td>
</tr>
<tr>
<td></td>
<td>Maximum visible area, maximum height and width, minimum stop height, and glass pocket width for each glazing option is listed in the chart.</td>
</tr>
<tr>
<td>Wall Construction</td>
<td>Drywall</td>
</tr>
<tr>
<td>Frame Construction</td>
<td>Face or continuous welds.</td>
</tr>
<tr>
<td>Material</td>
<td>Cold rolled and galvanized steel.</td>
</tr>
<tr>
<td></td>
<td>16 Ga. (1.5) minimum to 12 Ga. (2.6) maximum.</td>
</tr>
<tr>
<td>Anchors</td>
<td>Any listed weld in or slip-in type drywall anchor.</td>
</tr>
</tbody>
</table>

**Note:**

1. If fire window frame is installed over drywall sill, a suitable anchor must be used in the sill member for each 30” (762) of sill length.
2. Stop height extender may be used on these frames.
3. Glass stop screw spacing: No. 8 oval head sheet metal screws spaced 2” (51) from each end and 12” (304.8) on center.
4. The configuration of glass light areas may vary.
5. Assembly has no temperature rise rating.
**FRAMES WELDED AT CURRIES:**

Provide field splices for frames that exceed size shown.

Field splicing brackets on welded frames will be provided. See next page for splice examples.

**FRAMES WELDED AT SERVICE CENTERS:**

Field splicing brackets on welded frames will be provided. See next page for splice examples.
FIELD SPLICE SLEEVES, WILL BE APPLIED TO STRIKE JAMB, ONE FOR EACH ATTACHING HORIZONTAL RAIL.

FIELD SPLICE SLEEVES, WILL BE APPLIED TO HORIZONTAL MULLION, ONE FOR EACH ATTACHING VERTICAL RAIL.
ASSEMBLY NO. WA-3-01

FIRE RATINGS - 60 MINUTE MAXIMUM
U.L. RATED ONLY

90˚ CORNER

1

12'8" (3861) MAX. (DRYWALL)
13'6" (4115) MAX. (MASONRY)

1-1/4" (31.7) MIN.
4" (102) MAX.
1-1/4" (31.7) MIN.
12" (305) MAX.

2, 2A

12'8" (3861) MAX. (DRYWALL)

11'4" (3454) MAX. (DRYWALL)
12" (356) MAX. (MASONRY)

ANGLED CORNER
CROSS SECTION

1. **FIRE WINDOW FRAME** + THE FRAME IS TO BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDED INSTALLATION PRACTICES PRESENTED IN NFPA 80, “FIRE-RATED HOLLOW METAL DOORS AND WINDOWS,” AND NAAMM STANDARD 850-00, “FIRE-RATED HOLLOW METAL DOORS AND FRAMES.” THE WINDOW FRAME MAY INCLUDE A DOOR FRAME THAT IS PART OF A FIRE RATED DOOR ASSEMBLY HAVING A MIN. 60 MINUTE RATING. THE BASIC FRAME CONSTRUCTION AND LIMITATIONS ARE AS FOLLOWS:

A) OPENING SIZE-MAXIMUM WALL OPENING SIZE SHALL BE 152 IN. FOR GYPSUM WALLBOARD CONSTRUCTION AND 162 IN. FOR MASONRY CONSTRUCTION. FRAME PROJECTION FROM FACE OF WALL SHALL NOT EXCEED THE MAX. ALLOWABLE OPENING WIDTH.

B) MULLION AND JAMB FACE DIMENSIONS 1-1/4 IN. MIN. - 4 IN. MAX. SILL FACE DIMENSION 1-1/4 IN. MIN. - 12 IN. MAX.

C) THE FRAME IS TO BE PROVIDED WITH ANCHORS SUITABLE FOR THE WALL CONDITIONS IN ACCORDANCE WITH NAAMM STANDARD 850-00.

D) THE INSIDE ANGLE BETWEEN FRAME SEGMENTS MAY VARY. INSIDE ANGLES OF 90˚ AND 135˚ ARE SHOWN IN THE ILL. FRAME CURVATURE TO BE CONTINUOUS OR SEGMENTED.

E) SPLICES - THE FRAME MAY BE PROVIDED WITH SPLICES FOR SHIPMENT PURPOSES.
2) **GLAZING MATERIALS*** 1/4 IN. THICK WIRED GLASS. SEE GLAZING MATERIALS CATEGORY (KCMZ) FOR NAMES OF CLASSIFIED COMPANIES AND THE MAXIMUM SIZE OF GLAZING MATERIAL. GLAZING MATERIAL SHALL HAVE A MINIMUM RATING OF 3/4 HR.

2A) **GLAZING MATERIALS (ALTERNATE)*** AS AN ALTERNATE TO WIRED GLASS, THE FOLLOWING GLAZING MATERIALS MAY BE USED. SEE GLAZING MATERIALS (KCMZ) FOR THE MAXIMUM SIZE OF GLAZING MATERIAL. GLAZING MATERIAL SHALL HAVE A MINIMUM RATING OF 3/4 HR.

- **NIPPON ELECTRIC GLASS CO LTD** - NON-WIRED 3/16 IN. FIRELITE, FIRELITE NT, 5/16 IN. THICK FIRELITE PLUS, FIRELITE IGU
- **MESTEK CO.**
- **ANEMOSTAT PRODUCTS** - NON-WIRED 3/16 IN. FIRELITE, FIRELITE NT, 5/16 IN. THICK FIRELITE PLUS, FIRELITE IGU
- **TECHNICAL GLASS PRODUCTS** - NON WIRED 3/16 IN. FIRELITE, FIRELITE NT, 5/16 IN. THICK FIRELITE PLUS, FIRELITE IGU

3) **GLAZING COMPOUND*** GLAZING COMPOUND SHALL COMPLETELY FILL THE GLAZING POCKET WITH A MIN. THICKNESS OF 1/16 IN. BETWEEN THE GLAZING AND THE FRAME. SEE GLAZING MATERIALS CATEGORY (KCMZ) FOR NAMES OF GLAZING COMPOUNDS TO BE USED WITH GLAZING MATERIALS (ITEM 2).

4) **WALL CONSTRUCTION** MASONRY OR DRYWALL CONSTRUCTION (STEEL STUD GYPSUM WALLBOARD WALL SHOWN).

   A) **GYPSUM WALLBOARD** THE ONE HOUR MINIMUM FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE FIRE WINDOW FRAME IS ANCHORED TO THE STEEL STUDS OR WOOD STUDS USING THE APPROPRIATE ANCHORS SHIPPED WITH THE FRAME. WHERE FRAME IS ADJACENT TO GYPSUM WALL BOARD ASSEMBLY, THE OPENING IS TO BE FRAMED WITH DOUBLE STUDS. GYPSUM WALLBOARD TO BE INSERTED INTO THE FRAME THROAT 1/2 IN. MINIMUM.

   B) **MASONRY** FRAME TO BE INSTALLED INTO MASONRY CONSTRUCTION (BRICK CONCRETE BLOCK) WITH A ONE-HOUR MINIMUM FIRE RATING USING MASONRY TYPE ANCHORS.

   + BEARING THE UL LISTING MARK.
   * BEARING THE UL CLASSIFICATION MARK.
36

Fire Window Frame (Drywall Walls with Non Combustible Sill)

Fire Rated Products

August, 2014

90 MINUTE MAXIMUM RATING
DRYWALL WALLS WITH NONCOMBUSTIBLE SILL
ELEVATION/SECTIONS DETAIL

GENERAL NOTES:
1) 3/8" (10) MIN. GLASS POCKET
2) 5/8" (16) MIN.
3) VARIABLE PROFILE
4) 3/8" (10) MIN.
3/4" (19) MAX.
5) 4-1/2" (114) MIN.
14" (356) MAX.

Experience a safer
and more open world
## Fire Window Frame (Drywall Walls with Non Combustible Sill)

### Fire Rated Products

August, 2014

<table>
<thead>
<tr>
<th>90 MINUTE MAXIMUM RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OVERALL FRAME SIZE:</strong></td>
</tr>
<tr>
<td><strong>GLAZING REQUIREMENTS:</strong></td>
</tr>
<tr>
<td><strong>WALL CONSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>FRAME CONSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>MATERIAL:</strong></td>
</tr>
<tr>
<td><strong>ANCHORS:</strong></td>
</tr>
</tbody>
</table>

### NOTE:

1. GLASS STOP SCREW SPACING; NO. 8 OVAL HEAD SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (304.8) ON CENTER

2. THE CONFIGURATION OF GLASS LIGHT AREAS MAY VARY.

3. THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

4. GLASS STOP EXTENDERS MAY BE USED WITH THIS FRAME.

5. ASSEMBLY HAS NO TEMPERATURE RISE RATING.
45 MINUTE MAXIMUM RATING IN DRYWALL WALLS
ELEVATION DETAILS

GENERAL NOTES:
* 5/8" (16) MIN.
* VARIABLE PROFILE
  - 4-3/4" (121) MIN.
  - 14" (356) MAX.
  - 3/8" (10) MIN.
  - 1-3/8" (35) MAX.
## Transom/Sidelite Frame

### 45 Minute Maximum Rating

<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZE:</th>
<th>12'0&quot; (3658) W X 11'7-1/2&quot; (3543) H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM DOOR SIZE:</td>
<td>SINGLE — 4'0&quot; (1219) X 10'0&quot; (3048)</td>
</tr>
<tr>
<td></td>
<td>PAIR — 8'0&quot; (2438) X 10'0&quot; (3048)</td>
</tr>
<tr>
<td>MAX. GLASS AREA:</td>
<td>FOR LISTED 1/4&quot; WIRED GLASS 5/8&quot; (16) H X 5/8&quot; (16) W MINIMUM STOP; MAXIMUM W OR H SHALL BE 54&quot; (1372) NOT TO EXCEED 1296 (836127) SQUARE INCHES OF VISIBLE GLASS. MUST USE LISTED GLAZING COMPOUND OR 100% SILICON.</td>
</tr>
<tr>
<td></td>
<td>FOR PEMKO FG3000 WITH 1/4&quot; WIRED PILKINGTON GLASS: 5/8&quot; (16) H 5/8&quot; (16) W MINIMUM STOP; MAXIMUM W OR H SHALL BE 106&quot; (2692) NOT TO EXCEED 4704 SQ. IN. SEE FRAME GLAZING CHARTS FOR ADDITIONAL GLAZING OPTIONS.</td>
</tr>
<tr>
<td>WALL CONSTRUCTION:</td>
<td>DRYWALL ONLY</td>
</tr>
<tr>
<td>FRAME CONSTRUCTION:</td>
<td>FACE OR CONTINUOUS WELDS.</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>COLD ROLLED AND GALVANIZED STEEL 16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM</td>
</tr>
<tr>
<td>ANCHORS:</td>
<td>ANY LISTED WELD IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME</td>
</tr>
</tbody>
</table>

**NOTE:**

1) THE CONFIGURATION OF THE TRANSOM AND SIDE AREAS MAY VARY.

2) THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

3) GLASS STOP SCREW SPACING IS 2" (51) FROM EACH END AND 12" (304.8) ON CENTER.
45 MINUTE MAXIMUM RATING IN MASONRY WALLS

ELEVATION DETAILS

GENERAL NOTES:

- 5/8" (16) MIN.
- VARIABLE PROFILE
- 4-3/4" (121) MIN.
- 14" (356) MAX.

SECTION A-A
JAMB/HEAD

SECTION B-B
MULLION

SECTION C-C
SILL

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## 45 Minute Maximum Rating

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Frame Size:</strong></td>
<td>13'6&quot; (4115) W X 12'0&quot; (3658) H</td>
</tr>
</tbody>
</table>
| **Maximum Door Size:** | Single — 4'0" (1219) X 10'0" (3048)  
                      | Pair — 8'0" (2438) X 10'0" (3048)                                      |
| **Max. Glass Area:**  | For listed 1/4" wired glass 5/8" (16) H X 5/8" (16) W minimum stop;  
                      | maximum W or H shall be 54" (1372) not to exceed 1296 (836127) square |
|                        | inches of visible glass. Must use listed glazing compound or 100% silicon.  |
|                        | For PEMKO FG3000 with 1/4" wired Pilkinson glass:  
                      | 5/8" (16) H 5/8" (16) W minimum stop; maximum W or H  
                      | shall be 106" (2692) not to exceed 4704 sq. in.  
                      | see frame glazing charts for additional glazing options.               |
| **Wall Construction:** | Masonry only                                                            |
| **Frame Construction:**| Face or continuous welds.                                               |
| **Material:**          | Cold rolled and galvanized steel                                       |
|                        | 16 Ga. (1.5) minimum to 12 Ga. (2.6) maximum                           |
| **Anchors:**           | Any listed weld in or slip-in type                                     |
|                        | Drywall or masonry anchors may be used in this frame                   |

**Note:**

1. The configuration of the transom and side areas may vary.
2. This frame may be provided with a screw applied field splice for connection at the job site.
3. Glass stop screw spacing is 2" (51) from each end and 12" (304.8) on center.
60 MINUTE MAXIMUM RATING
ELEVATION/SECTION DETAILS

MASSONRY ELEVATION

10'1" (3073) MAX.

10'2" (3099) MAX.

DRYWALL ELEVATION

4'11-1/2" (1511) MAX.

9'2-1/2" (2807) MAX.

GENERAL NOTES:
- 3/8" (10) MIN. GLASS POCKET
- 5/8" (16) MIN.
- VARIABLE PROFILE
- 3/8" (10) MIN.
- 3/4" (19) MAX.
- 4-7/8" (124) MIN.
- 14" (356) MAX.
- 5/8" (16) MIN.
- 1" (25) MIN.
- 12" (305) MAX.
- 3/8" (10) MIN.
- 1-3/8" (35) MAX.

SECTION A-A

JAMB/HEAD

SECTION B-B

MULLION

SECTION C-C

SILL

Experience a safer
and more open world
## 60 MINUTE MAXIMUM RATING

| OVERALL FRAME SIZE: | A) 10’2” (3099) W X 10’1” (3073) H; FOR USE IN EITHER MASONRY WALLS OR DRYWALL WALLS WITH A NON-COMBUSTIBLE SILL.  
B) 9’2-1/2” (2807) W X 4’11-1/2” (1511) H; FOR USE IN EITHER MASONRY WALLS OR DRYWALL WALLS WITH A DRYWALL SILL. |
| MAX. GLASS AREA: | 5/8” (16) H X 5/8” (16) W GLASS STOP;  
MAX. WIDTH: 54” (1372); MAX. HEIGHT: 77-3/4” (1975)  
2721 SQ. INCHES (1755480) OF VISIBLE GLASS.  
- GLAZING MATERIAL: 3/16” (5) THICK “FIRELITE” OR 5/16” (8) THICK “FIRELITE PLUS” GLASS ONLY!  
- GLAZING COMPOUNDS: 100% SILICON, DAP “33”, OR METACAULK 990. |
| WALL CONSTRUCTION: | DRYWALL OR MASONRY |
| FRAME CONSTRUCTION: | WELDED JOINTS ONLY! |
| MATERIAL: | COLD ROLLED AND GALVANIZED STEEL  
16 GA. (1.5) MINIMUM TO 14 GA. (1.9) MAXIMUM |
| ANCHORS: | ANY LISTED WELD IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME |

**NOTE:**
1) IF FIRE WINDOW FRAME IS INSTALLED OVER DRYWALL SILL, A SUITABLE ANCHOR MUST BE USED IN THE SILL MEMBER FOR EACH 30” (762) OF SILL LENGTH OR FRACTION THEREOF.  
2) GLASS STOP SCREW SPACING: NO. 8 SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (304.8) ON CENTER.
60 MINUTE MAXIMUM RATING
ELEVATION DETAILS

GENERAL NOTES:
- 3/8" (10) MIN. GLASS POCKET
- 3/8" (10) MIN.
- VARIABLE PROFILE
- 3/8" (10) MIN.
- 3/4" (19) MAX.
- 1" (25) MIN. 1-3/8" (35) MAX.
- 14" (356) MAX.
- 5/8" (16) MIN.
- 5/8" (16) MIN.
- 12" (305) MAX.
- 16" (406) MAX.
- 1" (25) MIN. 4" (102) MAX.

SECTION A-A

SECTION B-B

SECTION C-C

Experience a safer
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<table>
<thead>
<tr>
<th><strong>60 MINUTE MAXIMUM RATING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM FRAME SIZE:</td>
</tr>
</tbody>
</table>
| MAXIMUM DOOR SIZE:            | SINGLE — 4'0" (1219) W X 10'0" (3048) H  
                              | PAIR — 8'0" (2438) W X 10'0" (3048) H |
| MAX. GLASS AREA:              | 5/8" (16) H X 5/8" (16) W GLASS STOP;  
                              | MAX. WIDTH: 54" (1372); MAX. HEIGHT: 77-3/4" (1975)  
                              | 2721 SQ. INCHES (1755480) OF VISIBLE GLASS. |
| WALL CONSTRUCTION:            | DRYWALL OR MASONRY |
| FRAME CONSTRUCTION:           | FACE OR CONTINUOUS WELDS. |
| MATERIAL:                     | COLD ROLLED AND GALVANIZED STEEL  
                              | 16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM |
| ANCHORS:                      | ANY LISTED WELD IN OR SLIP-IN TYPE  
                              | DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME |

NOTE:  
1) GLAZING MATERIAL SHALL BE “FIRELITE” GLASS ONLY.  
2) GLAZING COMPOUNDS ARE EITHER 100% SILICON, DAP, “33”, OR METACAULK 990.  
3) IF SIDELIGHT IS INSTALLED OVER DRYWALL SILL, A SUITABLE ANCHOR MUST BE USED IN THE SILL MEMBER FOR EACH 30 INCHES (762) OF SILL LENGTH OR FRACTION THEREOF.  
4) GLASS STOP SCREW SPACING: NO. 8 SHEET METAL SCREWS SPACED 2" (51) FROM EACH END AND 12" (304.8) ON CENTER.
90 MINUTE MAXIMUM RATING IN MASONRY WALL
ELEVATION/SECTION DETAILS

GENERAL NOTES:
- 5/8" (16) MIN.
- VARIABLE PROFILE
- 4-3/4" (121) MIN.
- 14" (356) MAX.

SECTION A-A
JAMB/HEAD

SECTION B-B
MULLION

SECTION C-C
SILL

Experience a safer
and more open world
**Transom/Sidelite Frame (Masonry Walls Only)**

**Fire Rated Products**

**August, 2014**

**90 MINUTE MAXIMUM RATING**

<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZE:</th>
<th>13'6&quot; (4013) W X 12'0&quot; (3632) H</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM DOOR SIZE:</td>
<td>SINGLE — 4'0&quot; (1219) W X 10'0&quot; (3048) H</td>
</tr>
<tr>
<td></td>
<td>PAIR — 8'0&quot; (2438) W X 10'0&quot; (3048) H</td>
</tr>
<tr>
<td>GLAZING REQUIREMENTS:</td>
<td>SEE FRAME GLAZING CHARTS FOR GLAZING OPTIONS INCLUDING MAXIMUM HOURLY RATINGS. MAXIMUM VISIBLE AREA, MAXIMUM HEIGHT AND WIDTH, MINIMUM STOP HEIGHT, AND GLASS POCKET WIDTH FOR EACH GLAZING OPTION IS LISTED IN THE CHART.</td>
</tr>
<tr>
<td></td>
<td>LISTED GLAZING COMPOUND, 100% SILICONE, OR CLOSED CELL FOAM TAPE MAY BE USED. SEE GLAZING MANUFACTURER’S INSTALLATION INSTRUCTIONS FOR OPTIONS.</td>
</tr>
<tr>
<td>WALL CONSTRUCTION:</td>
<td>MASONRY ONLY</td>
</tr>
<tr>
<td>FRAME CONSTRUCTION:</td>
<td>FACE OR CONTINUOUS WELDS.</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td>COLD ROLLED AND GALVANIZED STEEL 16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM</td>
</tr>
<tr>
<td>ANCHORS:</td>
<td>ANY LISTED WELD IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME</td>
</tr>
<tr>
<td>MAXIMUM PANEL DIMENSIONS</td>
<td>1-3/4&quot; (44) THICK HOLLOW METAL TRANSOM PANEL NO GREATER THAN 96&quot; (2438) W X 48&quot; (1219) H</td>
</tr>
<tr>
<td></td>
<td>1/2&quot; (13) THICK SOLID PANEL THAT SHALL BE NO GREATER THAN 96&quot; (2438) W X 48&quot; (1272) H</td>
</tr>
<tr>
<td></td>
<td>ANY LISTED MANUFACTURER’S WOOD PANEL</td>
</tr>
<tr>
<td>SIDE PANELS</td>
<td>1-3/4&quot; (44) THICK HOLLOW METAL THAT SHALL BE NO GREATER THAN 54&quot; (1372) W X 54&quot; (1372) H MAX NOT TO EXCEED 1296 (836127) SQ. IN.</td>
</tr>
<tr>
<td></td>
<td>1/2&quot; (13) THICK SOLID PANEL THAT SHALL BE NO GREATER THAN 54&quot; (1372) W X 54&quot; (1372) H MAX NOT TO EXCEED 1296 (836127) SQ. IN.</td>
</tr>
</tbody>
</table>

**NOTE:**

1. THE CONFIGURATION OF THE TRANSOM AND SIDE AREAS MAY VARY.

2. THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

3. GLASS STOP SCREW SPACING: NO. 8 OVAL HEAD SHEET METAL SCREW 2" (50) FROM EACH END AND 12" (304.8) ON CENTER MAX.

4. STOP EXTENDERS MAY BE USED WITH THIS FRAME.

5. ASSEMBLY HAS NO TEMPERATURE RISE RATING.
Transom/Sidelite Frame (Drywall Walls Only)

Fire Rated Products

August, 2014

90 MINUTE MAXIMUM RATING IN DRYWALL WALLS
ELEVATION/SECTION DETAIL

GENERAL NOTES:
• 5/8" (16) MIN.
• VARIABLE PROFILE
• 4-3/4" (121) MIN.
• 14" (356) MAX.
• 3/8" (10) MIN.
• 1-3/8" (35) MAX.

SECTION A-A
JAMB/HEAD

SECTION B-B
MULLION

SECTION C-C
SILL
# Transom/Sidelite Frame (Drywall Walls Only)

**Fire Rated Products**

August, 2014

<table>
<thead>
<tr>
<th><strong>90 MINUTE MAXIMUM RATING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAXIMUM FRAME SIZE:</strong></td>
</tr>
<tr>
<td>12'0&quot; (3658) W X 11'7-1/2&quot; (3543) H</td>
</tr>
<tr>
<td><strong>MAXIMUM DOOR SIZE:</strong></td>
</tr>
<tr>
<td>SINGLE — 4'0&quot; (1219) W X 10'0&quot; (3048) H</td>
</tr>
<tr>
<td>PAIR — 8'0&quot; (2438) W X 10'0&quot; (3048) H</td>
</tr>
<tr>
<td><strong>GLAZING REQUIREMENTS:</strong></td>
</tr>
<tr>
<td>SEE FRAME GLAZING CHARTS FOR GLAZING OPTIONS INCLUDING MAXIMUM HOURLY RATINGS. MAXIMUM VISIBLE AREA, MAXIMUM HEIGHT AND WIDTH, MINIMUM STOP HEIGHT, AND GLASS POCKET WIDTH FOR EACH GLAZING OPTION IS LISTED IN THE CHART.</td>
</tr>
<tr>
<td>LISTED GLAZING COMPOUND, 100% SILICONE, OR CLOSED CELL FOAM TAPE MAY BE USED. SEE GLAZING MANUFACTURER’S INSTALLATION INSTRUCTIONS FOR OPTIONS.</td>
</tr>
<tr>
<td><strong>WALL CONSTRUCTION:</strong></td>
</tr>
<tr>
<td>DRYWALL ONLY</td>
</tr>
<tr>
<td><strong>FRAME CONSTRUCTION:</strong></td>
</tr>
<tr>
<td>FACE OR CONTINUOUS WELDS.</td>
</tr>
<tr>
<td><strong>MATERIAL:</strong></td>
</tr>
<tr>
<td>COLD ROLLED AND GALVANIZED STEEL 16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM</td>
</tr>
<tr>
<td><strong>ANCHORS:</strong></td>
</tr>
<tr>
<td>ANY LISTED WELD IN OR SLIP-IN TYPE DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME</td>
</tr>
<tr>
<td><strong>MAXIMUM PANEL DIMENSIONS</strong></td>
</tr>
<tr>
<td><strong>TRANSOM PANEL</strong></td>
</tr>
<tr>
<td>1-3/4&quot; (44) THICK HOLLOW METAL TRANSOM PANEL NO GREATER THAN 96&quot; (2438) W X 48&quot; (1219) H</td>
</tr>
<tr>
<td>1/2&quot; (13) THICK SOLID PANEL THAT SHALL BE NO GREATER THAN 96&quot; (2438) W X 48&quot; (1272) H</td>
</tr>
<tr>
<td>ANY LISTED MANUFACTURER’S WOOD PANEL</td>
</tr>
<tr>
<td><strong>SIDE PANELS</strong></td>
</tr>
<tr>
<td>1-3/4&quot; (44) THICK HOLLOW METAL THAT SHALL BE NO GREATER THAN 54&quot; (1372) W X 54&quot; (1372) H MAX NOT TO EXCEED 1296 (836127) SQ. IN.</td>
</tr>
<tr>
<td>1/2&quot; (13) THICK SOLID PANEL THAT SHALL BE NO GREATER THAN 54&quot; (1372) W X 54&quot; (1372) H MAX NOT TO EXCEED 1296 (836127) SQ. IN.</td>
</tr>
</tbody>
</table>

**NOTE:**

1) THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

2) CONFIGURATION OF THE PANEL AREAS MAY VARY.

3) GLASS STOP SCREW SPACING: NO. 8 OVAL HEAD SHEET METAL SCREW 2" (51) FROM EACH END AND 12" (304.8) ON CENTER MAX.

4) GLASS STOP EXTENDER MAY BE USED WITH THIS FRAME.

5) ASSEMBLY HAS NO TEMPERATURE RISE RATING.
180 MINUTE MAXIMUM RATING - MASONRY WALLS
90 MINUTE MAXIMUM RATING - DRYWALL WALLS

MAXIMUM OPENING SIZE:
SINGLE:
4'0" (1219) W X 10'0" (3048) H
PAIR:
8'0" (2438) W X 10'0" (3048) H

WALL CONSTRUCTION:
MASONRY
DRYWALL

FRAME CONSTRUCTION:
FACE WELD
CONTINUOUS WELD

NOTES:
1) FOR OPENINGS OVER 48" (1219) WIDE THE SILL MUST BE FITTED WITH A MULLION BASE ANCHOR AT ITS MIDPOINT.
2) FOR USE WITH DOORS ONLY.
3) 3-1/4" (83) TO 4" (102) JAMB DEPTH 1-3/8" (35) DOOR ONLY.
4) ANY LISTED WELD IN OR SLIP-IN MASONRY OR DRYWALL ANCHOR MAY BE USED IN THIS FRAME.
   (COMPRESSION ANCHOR NOT ALLOWED)
90 MINUTE MAXIMUM RATING IN MASONRY WALL
ELEVATION/SECTION DETAILS

GENERAL NOTES:
- 5/8" (16) MIN.
- VARIABLE PROFILE
- 4-3/4" (121) MIN.
- 14" (356) MAX.

SECTION A-A
JAMB/HEAD

SECTION B-B
MULLION

SECTION C-C
SILL

Experience a safer
and more open world
### Half/Sidelite Frame (Masonry Walls Only)

**Fire Rated Products**

August, 2014

<table>
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<th><strong>90 MINUTE MAXIMUM RATING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAXIMUM FRAME SIZE:</strong></td>
</tr>
</tbody>
</table>
| **MAXIMUM DOOR SIZE:**      | SINGLE — 4’0” (1219) W X 10’0” (3048) H  
PAIR — 8’0” (2438) W X 10’0” (3048) H |
| **GLAZING REQUIREMENTS:**   | SEE FRAME GLAZING CHARTS FOR GLAZING OPTIONS INCLUDING MAXIMUM HOURLY RATINGS. MAXIMUM VISIBLE AREA, MAXIMUM HEIGHT AND WIDTH, MINIMUM STOP HEIGHT, AND GLASS POCKET WIDTH FOR EACH GLAZING OPTION IS LISTED IN THE CHART.  
LISTED GLAZING COMPOUND, 100% SILICONE, OR CLOSED CELL FOAM TAPE MAY BE USED. SEE GLAZING MANUFACTURER’S INSTALLATION INSTRUCTIONS FOR OPTIONS. |
| **WALL CONSTRUCTION:**      | MASONRY ONLY |
| **FRAME CONSTRUCTION:**     | FACE OR CONTINUOUS WELDS. |
| **MATERIAL:**               | COLD ROLLED AND GALVANIZED STEEL  
16 GA. (1.5) MINIMUM TO 12 GA. (2.6) MAXIMUM |
| **ANCHORS:**                | ANY LISTED WELD IN OR SLIP-IN TYPE  
DRYWALL OR MASONRY ANCHORS MAY BE USED IN THIS FRAME |
| **MAXIMUM PANEL DIMENSIONS**| 1-3/4” (44) THICK HOLLOW METAL TRANSOM PANEL  
NO GREATER THAN 96” (2438) W X 48” (1219) H  
1/2” (13) THICK SOLID PANEL THAT SHALL BE  
NO GREATER THAN 96” (2438) W X 48” (1272) H  
ANY LISTED MANUFACTURER’S WOOD PANEL |
| **SIDE PANELS**             | 1-3/4” (44) THICK HOLLOW METAL THAT SHALL BE  
NO GREATER THAN 54” (1372) W X 54” (1372) H MAX  
NOT TO EXCEED 1296 (836127) SQ. IN.  
1/2” (13) THICK SOLID PANEL THAT SHALL BE  
NO GREATER THAN 54” (1372) W X 54” (1372) H MAX  
NOT TO EXCEED 1296 (836127) SQ. IN. |

**NOTE:**

1) THE CONFIGURATION OF THE TRANSOM AND SIDE AREAS MAY VARY.

2) THIS FRAME MAY BE PROVIDED WITH A SCREW APPLIED FIELD SPLICE FOR CONNECTION AT THE JOB SITE.

3) GLASS STOP SCREW SPACING: NO. 8 OVAL HEAD SHEET METAL SCREW 2” (50) FROM EACH END AND 12” (305) ON CENTER MAX.

4) STOP EXTENDERS MAY BE USED WITH THIS FRAME.

5) ASSEMBLY HAS NO TEMPERATURE RISE RATING.

6) ANCHORS NOT REQUIRED IN HEAD.
90 MINUTE MAXIMUM RATING IN DRYWALL WALLS
ELEVATION/SECTION DETAIL

GENERAL NOTES:
- 5/8" (16) MIN.
- VARIABLE PROFILE
  - 4-3/4" (121) MIN.
  - 14" (356) MAX.
- 3/8" (10) MIN.
  - 1-3/8" (35) MAX.
- 5/8" (16) MIN.
  - 2" (50) MIN.
  - 16" (406) MAX.

SECTION A-A
JAMB/HEAD

SECTION B-B
MULLION

SECTION C-C
SILL

Experience a safer
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## Half/Sidelite Frame (Drywall Walls Only)

### Fire Rated Products

August, 2014

### 90 Minute Maximum Rating

<table>
<thead>
<tr>
<th>MAXIMUM FRAME SIZE:</th>
<th>8' 4&quot; (2543) W X 10' 0&quot; (3051) H</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM DOOR SIZE:</td>
<td>SINGLE — 4' 0&quot; (1219) W X 10' 0&quot; (3048) H</td>
</tr>
<tr>
<td></td>
<td>PAIR — 8' 0&quot; (2438) W X 10' 0&quot; (3048) H</td>
</tr>
</tbody>
</table>

### Glazing Requirements:

- See frame glazing charts for glazing options including maximum hourly ratings. Maximum visible area, maximum height and width, minimum stop height, and glass pocket width for each glazing option is listed in the chart.
- Listed glazing compound, 100% silicone, or closed cell foam tape may be used. See glazing manufacturer’s installation instructions for options.

### Wall Construction:

- Drywall only

### Frame Construction:

- Face or continuous welds.

### Material:

- Cold rolled and galvanized steel
  - 16 GA. (1.5) minimum to 12 GA. (2.6) maximum

### Anchors:

- Any listed weld in or slip-in type drywall or masonry anchors may be used in this frame

### Maximum Panel Dimensions

#### Transom Panel

- 1-3/4" (44) thick hollow metal transom panel no greater than 96" (2438) W X 48" (1219) H
- 1/2" (13) thick solid panel that shall be no greater than 96" (2438) W X 48" (1272) H
- Any listed manufacturer’s wood panel

#### Side Panels

- 1-3/4" (44) thick hollow metal that shall be no greater than 54" (1372) W X 54" (1372) H max not to exceed 1296 (836127) sq. in.
- 1/2" (13) thick solid panel that shall be no greater than 54" (1372) W X 54" (1372) H max not to exceed 1296 (836127) sq. in.

### Note:

1) This frame may be provided with a screw applied field splice for connection at the job site.

2) Configuration of the panel areas may vary.

3) Glass stop screw spacing: No. 8 oval head sheet metal screw 2" (51) from each end and 12" (305) on center max.

4) Glass stop extender may be used with this frame.

5) Assembly has no temperature rise rating.

6) Anchors not required in head.

7) Horizontal sill requires anchors for each 30" (762) of length.
Fire Door, Transom/Sidelite, and Window Frame Stops

Fire Rated Products

May, 2009

5/8" (16)

5/8" (16)

5/8" (16)

1" (25)

1" (25)

VARIABLE

1" (25) MIN.

1" (25)

1" (25)

VARIABLE

1" (25) MIN.

1" (25)

1" (25)

1" (25)

VARIABLE

1" (25) MIN.

3/4" (19)

18 GA. (1.1) MIN.
R.K., OR S.S.

3/4" (19)

NOTE: SCREW SPACING: #8 OVAL HEAD SHEET METAL SCREWS 2" (51) FROM EACH END AND 12" (305) ON CENTER MAX.

14 GA. (1.9) MIN.
R.K., OR S.S.

MINIMUM #8 MACHINE OR SELF DRILLING SCREW.

Experience a safer and more open world
Stop Extensions for Glass Lites and Transom/Sidelites

Fire Rated Products

April, 2002

GENERAL NOTES:
- WELDS 2" (51) FROM ENDS AND 12" (305) ON CENTERS
- 16 GA. (1.5) STEEL STOP EXTENSION
Frame Stop Height Extenders for Glass Lites & Transom/Sidelites

Fire Rated Products

October, 2018

STOP HEIGHT EXTENDER 5/8" (16) TO 3/4" (19)
MAT’L 16 GA. (1.5) STEEL

OPTIONAL SCREW MOUNTING
MIN. SOFFIT WIDTH 1" (25)

STOP HEIGHT EXTENDER 5/8" (16) TO 3/4" (19)

OPTIONAL SCREW MOUNTING
MIN. SOFFIT WIDTH 1" (25)

1) OPTIONAL PUNCH AND COUNTERSINK FOR #8 OVAL HEAD S.M.S.
2" (51) FROM EACH END AND 6" (152) ON CENTER MAX.
2) MAY BE USED ON JAMB OR MULLION FRAME MEMBERS.
3) MATERIAL 16 GA. (1.5) STEEL AVAILABLE IN 60" (1524) LENGTHS MAX.

Experience a safer and more open world
## FOR USE WITH CURRIES FIRE RATED WINDOW FRAMES AND TRANSOM SIDELITE FRAMES

<table>
<thead>
<tr>
<th>Glass Type Brand or Description</th>
<th>Rating</th>
<th>Max Exposed Area Sq. In.</th>
<th>Max Visible Width Inches</th>
<th>Max Visible Height Inches</th>
<th>Glass Thickness Inches</th>
<th>Min Stop Height Inches</th>
<th>Min Pocket Width Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed Wire Glass</td>
<td>20 And 45 Minute</td>
<td>1296</td>
<td>54</td>
<td>54</td>
<td>1/4</td>
<td>5/8</td>
<td>3/8</td>
</tr>
<tr>
<td>Central/Asahi or Pilkington Wire Glass with PEMKO FG3000</td>
<td>20 And 45 Minute</td>
<td>4704</td>
<td>106</td>
<td>106</td>
<td>1/4</td>
<td>5/8</td>
<td>7/16</td>
</tr>
<tr>
<td>Fireglas 20 * (Technical Glass)</td>
<td>20 Min W/O Hose</td>
<td>6936</td>
<td>106-1/2</td>
<td>106-1/2</td>
<td>See Note 1</td>
<td>5/8</td>
<td>See Note 1</td>
</tr>
<tr>
<td>Firelite, Firelite Plus, Firelite NT, or Firelite IGU* (Technical Glass)</td>
<td>20 Min W/O Hose</td>
<td>3325</td>
<td>95</td>
<td>95</td>
<td>See Note 2</td>
<td>5/8</td>
<td>See Note 2</td>
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<tr>
<td>Firelite, Firelite Plus, Firelite NT, or Firelite IGU* (Technical Glass)</td>
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<td>3325</td>
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<td>Firelite, Firelite Plus, Firelite NT, or Firelite IGU* (Technical Glass)</td>
<td>60 Minute</td>
<td>2721</td>
<td>77</td>
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<td>See Note 2</td>
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<tr>
<td>Firelite, Firelite Plus, Firelite NT, or Firelite IGU* (Technical Glass)</td>
<td>90 Minute</td>
<td>2627</td>
<td>46-1/2</td>
<td>56-1/2</td>
<td>See Note 2</td>
<td>5/8</td>
<td>See Note 2</td>
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<tr>
<td>Pyro-Edge 20 * (InterEdge Technologies)</td>
<td>20 Min W/O Hose</td>
<td>3698</td>
<td>40-3/4</td>
<td>90-3/4</td>
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<td>3/8</td>
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<tr>
<td>Pyrostop*</td>
<td>60 Minutes</td>
<td>5605</td>
<td>95</td>
<td>95</td>
<td>1-1/16</td>
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<td>1-3/16</td>
</tr>
<tr>
<td>Pyrostop*</td>
<td>90 Minutes</td>
<td>3724</td>
<td>89-3/4</td>
<td>89-3/4</td>
<td>1-9/16</td>
<td>5/8</td>
<td>1-11/16</td>
</tr>
</tbody>
</table>

**Note 1:** Fireglas is available in 1/4”, 3/8”, 1/2”, and 3/4” thickness. Pocket width is 1/8” greater than glass thickness.

**Note 2:** Firelite and Firelite NT are 3/16” thick, 3/8” minimum pocket width;
Firelite Plus is 5/16” thick 1/2” minimum pocket width;
Firelite IGU is 1” thick, 1-1/8” minimum pocket width.

**Note 3:** Glass capabilities available through UL only. Not offered through Intertek.
<table>
<thead>
<tr>
<th>GLASS TYPE BRAND OR DESCRIPTION</th>
<th>RATING</th>
<th>MAX EXPOSED AREA SQ. IN. (SEE NOTE 6)</th>
<th>MAX WIDTH INCHES (SEE NOTE 6)</th>
<th>MAX HEIGHT INCHES (SEE NOTE 6)</th>
<th>GLASS THICKNESS INCHES</th>
<th>MIN STOP HEIGHT INCHES</th>
<th>MIN POCKET WIDTH INCHES</th>
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<td>LISTED WIRE GLASS</td>
<td>20 MIN W/O HOSE</td>
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<td>35-13/16</td>
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<td>LISTED WIRE GLASS</td>
<td>20 AND 45 MINUTE</td>
<td>1296</td>
<td>54</td>
<td>54</td>
<td>1/4</td>
<td>5/8</td>
<td>3/8</td>
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<tr>
<td>LISTED WIRE GLASS</td>
<td>90 MINUTE</td>
<td>100 PER LEAF</td>
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<td>33</td>
<td>1/4</td>
<td>5/8</td>
<td>3/8</td>
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<tr>
<td>CENTRAL/ASAHI OR PILKINGTON</td>
<td>20 AND 45 MINUTE</td>
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<td>34</td>
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<td>5/8</td>
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<td>WIRE GLASS WITH PEMKO FG3000</td>
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<td>552 PER LITE</td>
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<td>FIREGLAS 20°</td>
<td>20 MIN W/O HOSE</td>
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<td>20 MIN W/O HOSE</td>
<td>3204</td>
<td>36</td>
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<tr>
<td>FIRELITE, FIRELITE PLUS,</td>
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<td>SEE NOTE 2</td>
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<tr>
<td>FIRELITE NT, OR FIRELITE IGU</td>
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<tr>
<td>FIRELITE NT, OR FIRELITE IGU</td>
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<td>90 MINUTE</td>
<td>1296 PER LEAF</td>
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<td>54</td>
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<td>PYROSTOP 7 SEE NOTE 3</td>
<td>60 MINUTES</td>
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<td>90 MINUTES</td>
<td>1080</td>
<td>36</td>
<td>36</td>
<td>1-9/16</td>
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<td>1-11/16</td>
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<td>(SEE NOTE 5)</td>
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<tr>
<td>UL PANEL 1/2&quot;</td>
<td>90 MINUTES</td>
<td>1296 PER PANEL</td>
<td>36</td>
<td>36</td>
<td>1/2&quot; PANEL</td>
<td>3/4</td>
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<td>(2592 PER LEAF)</td>
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</tbody>
</table>

**NOTE 1**  FIREGLAS IS AVAILABLE IN 1/4", 3/8", 1/2", AND 3/4" THICKNESS. POCKET WIDTH IS 1/8" GREATER THAN GLASS THICKNESS.

**NOTE 2**  FIRELITE AND FIRELITE NT ARE 3/16" THICK, 3/8" MINIMUM POCKET WIDTH; FIRELITE PLUS IS 5/16" THICK 1/2" MINIMUM POCKET WIDTH; FIRELITE IGU IS 1" THICK, 1-1/8" MINIMUM POCKET WIDTH.

**NOTE 3**  PYROSTOP MAY BE USED ON CURRIES DOORS WITH 250 OR 450 DEGREE TEMPERATURE RISE RATINGS.

**NOTE 4**  ALL GLASS AREAS ARE PER VISION LIGHT, UNLESS OTHERWISE INDICATED. MULTIPLE VISION LIGHTS ARE ALLOWED.

**NOTE 5**  CODE REQUIREMENTS MAY LIMIT USE IN 60 MINUTE OR GREATER DURATIONS. USE IS SUBJECT TO THE APPROVAL OF AUTHORITY HAVING JURISDICTION.

**NOTE 6**  WARNock HERSEY LIMITATIONS MAY BE LESS THAN PUBLISHED DIMENSIONS.

**NOTE 7**  UL LISTING ONLY.
NOTES:
1. MAX. WINDOW OPENINGS: PER GLASS MANUFACTURER'S LIMITS.
2. GAUGE: 12 (2.6) GA. ONLY.
3. WALL CONSTRUCTION: MASONRY ONLY.
4. FRAME CONSTRUCTION: SAW BUTT WELD (SBW) OR SAW MITER WELD (SMW) ONLY.
5. MASONRY ANCHORS ONLY.
KD Fire Window Frame (20 Min. Without Hose Stream)

Fire Rated Products

December, 2013

#8 SHEET METAL SCREWS (8 PLACES)

VARIABLE PROFILE

3/8” (10) MIN.
3/4” (19) MAX.

SECTION A-A

GENERAL NOTES:
1. 3/8” (10) MIN. GLASS POCKET
2. 3/8” (10) MIN. 3/4” (19) MAX.

SPECIFICATIONS:
A) SIZE: MAX. INDIVIDUAL VISIBLE GLASS SIZE IS 109-3/4” (2788) WIDE AND 109-3/4” (2788) HIGH, NOT TO EXCEED 5268 SQ. INCHES.
B) POCKET DEPTH: 5/8” (16) MIN.
C) WALL CONSTRUCTION: DRYWALL
D) FRAME CONSTRUCTION: KD
E) ANCHORS: FIRE WINDOW FRAME SHALL BE PROVIDED WITH LABEL APPROVED DRYWALL ANCHORS. IF COMPRESSION TYPE ANCHORS ARE USED THEY SHALL BE INSTALLED IN THE SILL AND HEAD MEMBERS.
F) MATERIAL: COLD ROLLED OR GALVANIZED STEEL
G) GAUGE: 16 GA. (1.5) MIN., 14 GA. (1.8) MAX.
H) GLASS STOP SCREWS: NO. 8 SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (305) ON CENTER.
GENERAL NOTES:
1. 3/8” (10) MIN. GLASS POCKET
2. 3/8” (10) MIN.
3/4” (19) MAX.
3. 1-1/2” (38)
1-3/4” (45) AND 2” (51) FACES ONLY

SPECIFICATIONS:
A) WALL CONSTRUCTION: DRYWALL
B) FRAME CONSTRUCTION: KD
C) ANCHORS: FIRE WINDOW FRAME SHALL BE PROVIDED WITH LABEL APPROVED DRYWALL ANCHORS. IF COMPRESSION TYPE ANCHORS ARE USED THEY SHALL BE INSTALLED IN THE SILL AND HEAD MEMBERS.
D) MATERIAL: COLD ROLLED OR GALVANIZED STEEL
E) GAUGE: 16 GAUGE (1.5) MIN., 14 GA. (1.9) MAX.
F) GLASS STOP SCREWS: NO. 8 SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (305) ON CENTER.
G) MUST USE NORTON NORSEAL TAPE V980 OR 100% SILICON.

<table>
<thead>
<tr>
<th>MAX. AREA EXPOSED GLASS</th>
<th>MAX. WIDTH IN.</th>
<th>MAX. HEIGHT IN.</th>
<th>MIN. DEPTH OF POCKET IN.</th>
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</thead>
<tbody>
<tr>
<td>1296 (836,127)</td>
<td>54 (1372)</td>
<td>54 (1372)</td>
<td>5/8 (16)</td>
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</tbody>
</table>
KD Fire Window Frame (1 Hr. Fire Rated Frame with “Firelite” Glass)

Fire Rated Products

August, 2014

**SPECIFICATIONS:**

A) SIZE: MAX. INDIVIDUAL VISIBLE GLASS SIZE IS 54” (1372) WIDE AND 77-3/4” (1975) HIGH, NOT TO EXCEED 2721 SQ. INCHES.

B) POCKET DEPTH: 5/8” (16) MIN.

C) WALL CONSTRUCTION: DRYWALL

D) FRAME CONSTRUCTION: KD

E) ANCHORS: FIRE WINDOW FRAME SHALL BE PROVIDED WITH LABEL APPROVED DRYWALL ANCHORS. IF COMPRESSION TYPE ANCHORS ARE USED THEY SHALL BE INSTALLED IN THE SILL AND HEAD MEMBERS.

F) MATERIAL: COLD ROLLED OR GALVANIZED STEEL

G) GAUGE: 16 GA. (1.5) MIN., 14 GA. (1.9) MAX.

H) GLASS STOP SCREWS: NO. 8 SHEET METAL SCREWS SPACED 2” (51) FROM EACH END AND 12” (305) ON CENTER.

I) GLAZING MATERIAL: “FIRELITE” OR “FIRELITE PLUS” GLASS INSTALLED WITH EITHER 100% SILICON, DAP 33, OR METACAULK 990 GLAZING COMPOUND.

J) MAY NOT BE USED FOR POSITIVE PRESSURE APPLICATIONS.
<table>
<thead>
<tr>
<th>PANEL DESCRIPTION</th>
<th>RATING</th>
<th>MAX EXPOSED AREA SQ. IN.</th>
<th>MAX VISIBLE WIDTH INCHES</th>
<th>MAX VISIBLE HEIGHT INCHES</th>
<th>MIN STOP HEIGHT INCHES</th>
<th>MATERIAL THICKNESS INCHES</th>
<th>MIN POCKET WIDTH INCHES</th>
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<td>CURRIES POLYSTYRENE</td>
<td>90 MINUTES</td>
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<td>48</td>
<td>96</td>
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<td>CURRIES TEMPERATURE</td>
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<td>96</td>
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<td>RISE CORE</td>
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<td>WOOD PANELS</td>
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<td>NOTE 2</td>
<td>LISTED WOOD PANELS MAY BE USED IN CURRIES FRAMES AS ALLOWED BY THE WOOD PANEL MANUFACTURER’S LISTINGS.</td>
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<td>USE SPRING BOLT SPACING FROM WOOD PANEL MANUFACTURER.</td>
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UL LISTING ONLY
### Oversized Fire Door (UL)

**Fire Rated Products**

April, 2011

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<thead>
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<th>90 MINUTE MAXIMUM RATING</th>
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<td>5'0&quot; X 12'0&quot; SINGLES</td>
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<tr>
<td>10'0&quot; X 12'0&quot; PAIRS</td>
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<tr>
<td>NO DOUBLE EGRESS ALLOWED</td>
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<td>UL LISTING ONLY</td>
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</table>

<table>
<thead>
<tr>
<th>DOOR TYPE</th>
<th>747T ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOOR GAUGE</td>
<td>16 GA. (1.4) OR 14 GA. (1.9)</td>
</tr>
<tr>
<td>FACE TYPE</td>
<td>FLUSH OR GLAZED USING ANY UL CLASSIFIED GLAZING MATERIAL CLASSIFIED FOR USE IN HOLLOW METAL FIRE DOORS</td>
</tr>
<tr>
<td>RIB GAUGE</td>
<td>22 GA. (.75) OR 20 GA. (.9)</td>
</tr>
<tr>
<td>RIB SPACING</td>
<td>6&quot; ON CENTER MAX.</td>
</tr>
<tr>
<td>HINGE CHANNEL</td>
<td>12 GA. (2.6)</td>
</tr>
<tr>
<td>LOCK CHANNEL</td>
<td>14 GA. (1.9)</td>
</tr>
<tr>
<td>EDGE WELDING</td>
<td>CONTINUOUS EDGE WELDING REQUIRED</td>
</tr>
<tr>
<td>END CHANNEL</td>
<td>14 GA. (1.9)</td>
</tr>
<tr>
<td>TOP CAP (REQUIRED)</td>
<td>16 GA. (1.4) SCREW APPLIED OR WELDED</td>
</tr>
</tbody>
</table>

### HARDWARE

<table>
<thead>
<tr>
<th>HINGES</th>
<th>FULL MORTISE HINGES MEETING REQUIREMENTS OF BHMA A156.1 AMERICAN NATIONAL STANDARD FOR BUTTS AND HINGES FOR STANDARD WEIGHT, GRADE 1 HINGES. FIVE HINGES REQUIRED FOR DOORS OVER 10’ TALL.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVE DOOR</td>
<td>MORTISE LOCK WITH 3/4 IN. MINIMUM THROW MUST BE USED. MORTISE LOCK MUST BE UL LISTED FOR USE ON A 4'0&quot; X 10'0&quot; 90 MINUTE FIRE RATED HOLLOW METAL DOOR TO BE USED ON DOORS UP TO AND INCLUDING 5'0&quot; X 12'0&quot;. 10 GAUGE TABS REQUIRED.</td>
</tr>
<tr>
<td>INACTIVE DOOR</td>
<td>FLUSH OR SURFACE BOLTS, AUTOMATIC TYPE, MANUAL TYPE OR SELF-LATCHING WITH 3/4 IN. MINIMUM THROW MAY BE USED. BOLTS MUST BE UL LISTED FOR USE ON 4'0&quot; X 10'0&quot; 90 MIN. FIRE RATED HOLLOW METAL DOOR TO BE USED ON DOORS UP TO AND INCLUDING 5'0&quot; X 12'0&quot;. BOLTS WITH EXTENSIONS UP TO 60&quot; LONG MAY BE USED. 10 GAUGE FLUSH BOLT AND E1 STRIKE TABS ARE REQUIRED. 12 GAUGE FLUSH BOLT TABS IN END CHANNELS REQUIRED. AUXILIARY LATCHES FOR SINGLES GREATER THAN 4'0&quot; WIDE, PAIRS GREATER THAN 8'0&quot; WIDE OR THE HEIGHT EXCEEDS 10'0&quot; UL LISTED AUXILIARY FIRE LATCH; MORTISE TYPE FUSIBLE LINK “POPPER” INSTALLED IN THE TOP OF THE ACTIVE LEAF AT THE LOCK STILE, ENGAGING INTO THE FRAME HEAD DOOR RABBET. REINFORCE PER TEMPLATE.</td>
</tr>
<tr>
<td>CLOSER</td>
<td>DOORS MUST BE EQUIPPED WITH UL LISTED SWINGING DOOR CLOSERS. 12 GAUGE CLOSER REINFORCEMENT REQUIRED.</td>
</tr>
<tr>
<td>ASTRAGALS</td>
<td>DOOR PAIRS MUST BE EQUIPPED WITH A 1-1/2&quot; X 12 GA. (2.4) STEEL FLAT ASTRAGAL INSTALLED ON THE ACTIVE OR INACTIVE DOOR.</td>
</tr>
</tbody>
</table>
90 MINUTE MAXIMUM RATING
3 SIDED FRAMES
NO DOUBLE EGRESS ALLOWED
UL LISTING ONLY

GENERAL NOTES:
1. TO SUIT DOOR THICKNESS
2. VARIES
3. PROFILE VARIABLE
4. 3/8" (10) MIN
   3/4" (19) MAX
5. 1/2" (13) MIN
   3/4" (19) MAX
6. 1-1/2" (38) MIN
   4" (102) MAX JAMB
   4" (102) MAX HEAD

Experience a safer
and more open world
# Three Sided Fire Door Frame (UL)

## Fire Rated Products

**June, 2010**

## 90 Minute Maximum Rating

- **3 Sided Frames**
- **No Double Egress Allowed**
- **UL Listing Only**

### Maximum Frame Sizes

<table>
<thead>
<tr>
<th>Masonry/Drywall</th>
<th>Single: 5'0&quot; (1524) W x 12'0&quot; (3658) H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair</td>
<td>10'0&quot; (3048) W x 12'0&quot; (3658) H</td>
</tr>
</tbody>
</table>

### Wall Construction

- Minimum 90 Min. Rated Drywall or Masonry

### Frame Corner Construction

- Face Weld, Continuous Weld, Field Splice Installed in Accordance with Recommended Practices Presented in NFPA 80 and NAAMM Standard HMMA 850-0.

### Anchors

- Any listed Masonry Type or Weld-In Drywall Type Anchors May Be Used in This Frame (Compression Anchors Not Allowed).

### Material

- 14 GA. (1.7) Min. 12 GA. (2.4) Max. Cold Rolled or Galvanized Steel

### Hardware Restrictions

- For Door Leaves Greater Than 4' Wide or 10' Tall

### Hinges

- Full Mortise Hinges Meeting Requirements of BHMA A156.1 American National Standard for Butts and Hinges for Standard Weight, Grade 1 Hinges. Five hinges required for doors over 10' tall.

### Active Door

- Single Point, Mortise Type Only

### Inactive Door

- Flush or Surface Bolts, Automatic Type, Manual Type or Self-Latching with 3/4 in. Minimum Throw

| Auxiliary Latches for Singles Greater Than 4'-0" Wide, Pairs Greater Than 8'-0" Wide or the Height Exceeds 10'-0" UL Listed Auxiliary Fire Latch; Mortise Type Fusible Link “Popper” Installed in the Top of the Active Leaf at the Lock Stile, Engaging Into the Frame Head Door Rabbet. Reinforce Per Template. |

### Closer

- 12 Gauge Reinforcement Required

### Flush Bolt

- 7 Ga. (4.5) Min. Reinforcement Required

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Experience a safer and more open world.
Three Sided Fire Door Frame with Transom

90 MINUTE MAXIMUM RATING
3 SIDED FRAMES WITH TRANSOM
NO DOUBLE EGRESS ALLOWED
UL LISTING ONLY

GENERAL NOTES:
1. TO SUIT DOOR THICKNESS
2. VARIES
3. PROFILE VARIABLE
4. 3/8" (10) MIN
   3/4" (19) MAX
5. 1/2" (13) MIN
   3/4" (19) MAX
6. 1-1/2 " (38) MIN
   4" (102) MAX JAMB
   4" (102) MAX HEAD

Experience a safer
and more open world
# Three Sided Fire Door Frame with Transom

**Fire Rated Products**

September, 2008

| 90 MINUTE MAXIMUM RATING | 3 SIDED FRAMES WITH TRANSOM | NO DOUBLE EGRESS ALLOWED | UL LISTING ONLY |
|--------------------------|-----------------------------|--------------------------|----------------||
| MAXIMUM FRAME SIZES      |                             |                          |                |
| MASONRY/DRYWALL          | SINGLE: 5'0” (1524) W X 12'0” (3658) H |                          |                |
|                          | PAIRS: 10'0” (3048) W X 12'0” (3658) H |                          |                |
| WALL CONSTRUCTION        | MINIMUM 90 MIN. RATED DRYWALL OR MASONRY |                          |                |
| FRAME CORNER CONSTRUCTION| FACE WELD, CONTINUOUS WELD, FIELD SPlice INSTALLED IN ACCORDANCE WITH RECOMMENDED PRACTICES PRESENTED IN NFPA 80 AND NAAMM STANDARD H MMA 850-0. |                          |                |
| TRANSOM PANEL            | TO BE SUPPLIED WITH THE FRAME BY THE FRAME MANUFACTURER. TRANSOM PANEL MAX SIZE SINGLE 4'0” H X 5'0” W, PAIRS 4'0” H X 10' W. |                          |                |
| TRANSOM LITE             | TO BE GLAZED WITH GLAZING MATERIAL. UL CLASSIFIED FOR USE IN FIRE DOOR FRAMES WITH LITES. THE MAXIMUM EXPOSED AREA PER INDIVIDUAL LITE, MAXIMUM EXPOSED AREAS, THE MINIMUM GROOVE DEPTH, GLAZING COMPOUND AND THE RATING SHALL BE AS INDICATED IN THE INDIVIDUAL GLAZING MANUFACTURER’S CLASSIFICATIONS. THE TRANSOM LITE SHALL NOT EXCEED 4 FT. IN HEIGHT. |                          |                |
| ANCHORS                  | ANY LISTED MASONRY TYPE OR WELD-IN DRYWALL TYPE ANCHORS MAY BE USED IN THIS FRAME (COMPRESSION ANCHORS NOT ALLOWED). |                          |                |
| MATERIAL                 | 14 GA. (1.7) MIN. 12 GA. (2.4) MAX. COLD ROLLED OR GALVANIZED STEEL |                          |                |
| HARDWARE RESTRICTIONS    | - FOR DOOR LEAVES GREATER THAN 4’ WIDE OR 10’ TALL |                          |                |
| HINGES                   | FULL MORTISE HINGES MEETING REQUIREMENTS OF BHMA A156.1 AMERICAN NATIONAL STANDARD FOR BUTTS AND HINGES FOR STANDARD WEIGHT, GRADE 1 HINGES. FIVE HINGES REQUIRED FOR DOORS OVER 10’ TALL. |                          |                |
| ACTIVE DOOR              | SINGLE POINT, MORTISE TYPE ONLY |                          |                |
| INACTIVE DOOR            | FLUSH OR SURFACE BOLTS, AUTOMATIC TYPE, MANUAL TYPE OR SELF-LATCHING WITH 3/4 IN. MINIMUM THROW |                          |                |
|                         | AUXILIARY LATCHES FOR SINGLES GREATER THAN 4’0” WIDE AND PAIRS GREATER THAN 8’0” WIDE. UL LISTED AUXILIARY FIRE LATCH; MORTISE TYPE FUSIBLE LINK “POPPER” INSTALLED IN THE TOP OF THE ACTIVE LEAF AT THE LOCK STILE, ENGAGING INTO FRAME HEAD RABBET. REINFORCE PER TEMPLATE. |                          |                |
| CLOSER                   | 12 GAUGE REINFORCEMENT REQUIRED |                          |                |
| FLUSH BOLT               | 7 GA. (4.5) MIN. REINFORCEMENT REQUIRED |                          |                |
**90 MINUTE MAXIMUM RATING**

**3 SIDED FRAMES**

**DOUBLE EGRESS ALLOWED**

**INTERTEK (WARNOCK HERSEY) LISTING ONLY**

### Maximum Frame Sizes

<table>
<thead>
<tr>
<th>Masonry/Drywall</th>
<th>Single: 5'0&quot; (1524) W X 10'0&quot; (3048) H</th>
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<td></td>
<td>Pairs: 10'0&quot; (3048)W X 10'0&quot; (3048) H</td>
</tr>
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</table>

| Wall Construction | Maximum 90 Min. Rated Drywall or Masonry |

| Frame Corner Construction | Face Weld, Continuous Weld, Field Splice Installed in Accordance with Recommended Practices Presented in NFPA 80 and NAAMM Standard HMMA 850-0. |

| Anchors | Any Listed Masonry Type or Weld In Drywall Type Anchors May Be Used in This Frame (Compression Anchors Not Allowed) |

| Material | 16 Ga. (1.4) Min. 12 Ga. (2.4) Max. Cold Rolled or Galvanized Steel |

**Hardware Restrictions** - Any label approved hardware may be used that is rated for use up to 10' in height

### 90 Minute Maximum Rating

<table>
<thead>
<tr>
<th>Door Type</th>
<th>747 or 747 (450' Temp Rise)</th>
</tr>
</thead>
</table>

| Door Gauge | 16 Ga. (1.4) or 14 Ga. (1.9) on 747 Door, 16 Ga. (1.4) Only on 747 Temp. Rise Door |

| Face Type | Flush or Glazed Using Any WH Classified Glazing Material. Classified for Use in Hollow Metal Fire Doors. |

| Rib Gauge | 22 Ga. (.75) or 20 Ga. (.9) on 747 Door, 22 Ga. (.95) Only on 747 Temp. Rise Door |

| Rib Spacing | 6" On Center Max. |

| Hinge Channel | 12 Ga. (2.6) |

| Lock Channel | 14 Ga. (1.9) |

| Edge Welding | S, N, or T |

| End Channel | 16 Ga. (1.4) |

**Hardware** - Any label approved hardware may be used that is rated for use up to 10' in height
Oversize Fire Door and Frame (WH)

Fire Rated Products

February, 2015

90 MINUTE MAXIMUM RATING
3 SIDED FRAMES
DOUBLE EGRESS ALLOWED
INTERTEK (WARNOCK HERSEY) LISTING ONLY

NOTE: 10'0" X 10'0" DOUBLE EGRESS FRAMES CAN ONLY BE LABELED TO 20 MINUTE MAXIMUM RATING. 8'0" X 10'0" MAXIMUM AT RATINGS ABOVE 20 MINUTE.

GENERAL NOTES:
1 TO SUIT DOOR THICKNESS
2 VARIES
3 PROFILE VARIABLE
4 3/8" (10) MIN.
5 3/4" (19) MAX.
6 1-3/8" (35) MIN.

* LARGER THAN 3/8" MAY REQUIRE #5 DIMENSION TO INCREASE

Experience a safer and more open world
Notes

Fire Resistive Products
60 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM 60

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

3. *GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL IN FIELD OVER GLAZING BEAD SCREW.

10. GLASS: VETROTECH CONTRAFLAM 60.

11. MAXIMUM VISIBLE GLASS 94-13/16" X 94-13/16"
    NOT TO EXCEED 3283 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS
    CONSIDERED A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.

14. CENTER GLAZED FRAMES ALSO AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
March, 2019

60 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM STRUCTURE 60

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLION ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

3. "GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL WITH SCREWS FURNISHED.

10. GLASS: VETROTECH CONTRAFLAM STRUCTURE 60.

11. MAXIMUM VISIBLE GLASS 138-1/2" X 138-1/2"
    NOT TO EXCEED 7574 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED
    A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.

14. CENTER GLAZED FRAMES NOT AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
BY OTHERS).
NOTES:
1. CONTINUOUS INTUMESCENT TAPE FURNISHED WITH E119 FRAME
2. GLAZING GASKET (BOTH SIDES) FURNISHED WITH E119 FRAME
3. ANCHOR SCREWS BY OTHERS - PLACE 20" O.C. MAX. HEAD DIA. 3/8";
   MAX. SHANK DIA. 1/4"
4. FIRE RATED E119 FRAME
5. STEEL GLAZING BEAD INSTALL OVER GLAZING BEAD SCREW
6. 16 GA. STEEL SHEET METAL COVER; LENGTH PER E119 FRAME HEIGHT
7. INSULATED CORNER POST

NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON
VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS)
NOTES:
1. CONTINUOUS INTUMESCENT TAPE FURNISHED WITH E119 FRAME
2. GLAZING GASKET (BOTH SIDES) FURNISHED WITH E119 FRAME
3. ANCHOR SCREWS BY OTHERS - PLACE 20" O.C. MAX. HEAD DIA. 3/8";
   MAX. SHANK DIA. 1/4"
4. FIRE RATED E119 FRAME
5. STEEL GLAZING BEAD INSTALL OVER GLAZING BEAD SCREW
6. 16 GA. STEEL SHEET METAL COVER; LENGTH PER E119 FRAME HEIGHT
7. INSULATED CORNER POST

NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON
VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS)
Contraflam 60 Structure Joint Options
Fire Resistive Products

March, 2019

CONTRAFLAM 60 STRUCTURE JOINT

CONTRAFLAM 60 ANGLE STRUCTURE JOINT
90 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM 90

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

3. *GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.

10. GLASS: VETROTECH CONTRAFLAM 90.

11. MAXIMUM VISIBLE GLASS 94-13/16" X 94-13/16"
    NOT TO EXCEED 4435 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS
    CONSIDERED A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.

14. CENTER GLAZED FRAMES ALSO AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
120 MINUTE MAXIMUM RATING 
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM 120

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.

3. *GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20” O.C. MAX. HEAD DIA.
   3/8”; MAX. SHANK DIA. 1/4”.

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.

10. GLASS: VETROTECH CONTRAFLAM 120.

11. MAXIMUM VISIBLE GLASS 94-5/8” X 94-5/8”
    NOT TO EXCEED 4435 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED
    A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12’ TALL.

14. CENTER GLAZED FRAMES AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
Fire Window Frame
Fire Resistive Products

March, 2019

120 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM STRUCTURE 120

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)
2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.
3. "GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.
4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.
5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.
6. FINISH SEALANT BY OTHERS
7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".
8. FIRE RATED E119 FRAME.
9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.
10. GLASS: VETROTECH CONTRAFLAM STRUCTURE 120.
11. MAXIMUM VISIBLE GLASS 126" X 126"
    NOT TO EXCEED 4536 SQ. IN.
12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED
    A WALL.
13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12’ TALL.
14. CENTER GLAZED FRAMES AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
NOTES:
1. CONTINUOUS INTUMESCENT TAPE FURNISHED WITH E119 FRAME
2. GLAZING GASKET (BOTH SIDES) FURNISHED WITH E119 FRAME
3. ANCHOR SCREWS BY OTHERS - PLACE 20" O.C. MAX. HEAD DIA. 3/8"; MAX. SHANK DIA. 1/4"
4. FIRE RATED E119 FRAME
5. STEEL GLAZING BEAD INSTALL OVER GLAZING BEAD SCREW
6. 16 GA. STEEL SHEET METAL COVER; LENGTH PER E119 FRAME HEIGHT
7. INSULATED CORNER POST

NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS)
NOTES:
1. CONTINUOUS INTUMESCENT TAPE FURNISHED WITH E119 FRAME
2. GLAZING GASKET (BOTH SIDES) FURNISHED WITH E119 FRAME
3. ANCHOR SCREWS BY OTHERS - PLACE 20" O.C. MAX. HEAD DIA. 3/8";
   MAX. SHANK DIA. 1/4"
4. FIRE RATED E119 FRAME
5. STEEL GLAZING BEAD INSTALL OVER GLAZING BEAD SCREW
6. 16 GA. STEEL SHEET METAL COVER; LENGTH PER E119 FRAME HEIGHT
7. INSULATED CORNER POST

NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON
VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS)
Contraflam 120 Structure Joint Options

Fire Resistive Products

March, 2019

Contraflam 120 Structure Joint Options

Contraflam 120 Angle Structure Joint

CONTRAFLAM 120 STRUCTURE JOINT

19° MAX. ANGLE

Joint Sealant Silicone DowCorning DC 895, provided by Vetrotech

2x Kerafix FXL 200 provided by Vetrotech

Spacer

Sealing Polysulphide

Joint Sealant Silicone DowCorning DC 895, provided by Vetrotech

2x Kerafix FXL 200 provided by Vetrotech

CONTRAFLAM 120 ANGLE STRUCTURE JOINT

4-8 strips Kerafix FXL 200 provided by Vetrotech

Joint Sealant Silicone DowCorning DC 895, provided by Vetrotech

Max. Angle

Polysulfide Sealant

Safety Glass

Intumescent Interlayer

Safety Glass

Intumescent Interlayer

Experience a safer and more open world
180 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY

NOTES:

1. SETTING BLOCK (SILL ONLY) ALTERNATES BY OTHERS:
   CALCIUM SILICATE

2. CONTINUOUS FLEXPAN 200 AROUND PERIMETER (3.750" X .188")
   FURNISHED WITH E119 FRAME.

3. GLAZING TAPE (.125" X .750")

4. GLAZING SNAP ON BEADS (1.38" X .750" X .094")

5. FIRE RATED SEAL ALTERNATES BY OTHERS:
   A. WELL PACKED ROCKWOOL

6. SHIM AS REQUIRED

7. FINISH SEALANT BY OTHERS

8. ANCHOR SCREWS SUITABLE FOR GROUT FILLED CMU BY OTHERS
   (TYPE AND SIZE TBD). OFFSET ACCESS HOLE FROM BEAD SCREW
   LOCATIONS AS NECESSARY

9. GLASS: VETROTECH CONTRAFLAM 180

10. MAXIMUM VISIBLE GLASS 48" X 48"
    NOT TO EXCEED 2304 SQ. IN.

11. MAXIMUM OVERSIZE IS LIMITED TO 52" X 52"
**60 MINUTE MAXIMUM RATING**

**FIRE RESISTIVE E119 FRAME ASSEMBLY**

**CONTRAFLAM 60**

**NOTES:**

1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   Alternates by others:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.

3. “GLAZING GASKET (BOTH SIDES) FURNISHED. W/E1 FRAME
   INSTALLED BY OTHERS.

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20” O.C. MAX. HEAD DIA.
   3/8”; MAX. SHANK DIA. 1/4”.

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL IN FIELD OVER GLAZING BEAD SCREW.

10. GLASS: VETROTECH CONTRAFLAM 60.

11. MAXIMUM VISIBLE GLASS 94-13/16” X 94-13/16”
    NOT TO EXCEED 3283 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED
    A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12’ TALL.

14. CENTER GLAZED FRAMES AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).*
60 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM STRUCTURE 60

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)
2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.
3. "GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS.
4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.
5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.
6. FINISH SEALANT BY OTHERS
7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".
8. FIRE RATED E119 FRAME.
9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.
10. GLASS: VETROTECH CONTRAFLAM STRUCTURE 60.
11. MAXIMUM VISIBLE GLASS 138-1/2" X 138-1/2"
    NOT TO EXCEED 7574 SQ. IN.
12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED
    A WALL.
13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.
14. CENTER GLAZED FRAMES NOT AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
60 MINUTE MAXIMUM RATING
TYPICAL DOOR INSTALLATION DETAIL E119 FRAME WITH VETROTECH CONTRAFLAM 60

A DOOR HEADER DETAIL
SCALE: 6” = 1'-0"

B DOOR JAMB DETAIL
6”=1'-0"

C DOOR JAMB DETAIL
6”=1'-0"

Experience a safer
and more open world
90 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM 90

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)
2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS
3. *GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS
4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.
5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.
6. FINISH SEALANT BY OTHERS
7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8"; MAX. SHANK DIA. 1/4".
8. FIRE RATED E119 FRAME.
9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.
10. GLASS: VETROTECH CONTRAFLAM 90.
11. MAXIMUM VISIBLE GLASS 94-13/16" X 94-13/16"
    NOT TO EXCEED 4435 SQ. IN.
12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS
    CONSIDERED A WALL.
13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.
14. CENTER GLAZED FRAMES ALSO AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
120 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM 120

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS
   ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (80 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

3. "GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME
   INSTALLED BY OTHERS

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE
   ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS
   INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD,
   CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA.
   3/8”; MAX. SHANK DIA. 1/4”.

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.

10. GLASS: VETROTECH CONTRAFLAM 120.

11. MAXIMUM VISIBLE GLASS 94-5/8" X 94-5/8"
    NOT TO EXCEED 4435 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS
    CONSIDERED A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN
    FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.

14. CENTER GLAZED FRAMES ALSO AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO
   HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED
   BY OTHERS).
120 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLOM STRUCTURE 120

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLIONS ONLY) BY OTHERS ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)
2. CONTINUOUS INTUMESCENT TAPE FURNISHED E119 FRAME INSTALLED BY OTHERS
3. "GLAZING GASKET (BOTH SIDES) FURNISHED E119 FRAME INSTALLED BY OTHERS
4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.
5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD, CALCIUM SILICATE, OR CEDAR SHINGLES.
6. FINISH SEALANT BY OTHERS
7. ANCHOR SCREWS BY OTHERS. PLACE 20" O.C. MAX. HEAD DIA. 3/8"; MAX. SHANK DIA. 1/4".
8. FIRE RATED E119 FRAME.
9. STEEL GLAZING BEAD. INSTALL IN FIELD WITH SCREWS FURNISHED.
10. GLASS: VETROTECH CONTRAFLOM STRUCTURE 120.
11. MAXIMUM VISIBLE GLASS 126" X 126"
    NOT TO EXCEED 4536 SQ. IN.
12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED A WALL.
13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN FEATURES MAY BE REQUIRED FOR UNITS OVER 12' TALL.
14. CENTER GLAZED FRAMES ALSO AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS).
90 AND 120 MINUTE FIRE RATING

TYPICAL DOOR INSTALLATION DETAIL E119 FRAME WITH VETROTECH CONTRAFLAM 90, CONTRAFLAM 120, OR CONTRAFLAM STRUCTURE 120

DOOR HEADER DETAIL

DOOR JAMB DETAIL

DOOR JAMB DETAIL
90 AND 120 MINUTE FIRE RATING
TYPICAL DOOR INSTALLATION DETAIL E119 FRAME WITH VETROTECH CONTRAFLAM 90, CONTRAFLAM 120, OR CONTRAFLAM STRUCTURE 120 WITH COVER CAPS

DOOR HEADER DETAIL

DOOR JAMB DETAIL

DOOR JAMB DETAIL
60 OR 120 MINUTE MAXIMUM RATING
FIRE RESISTIVE E119 FRAME ASSEMBLY
CONTRAFLAM STRUCTURE 60 OR 120 WITHOUT VERTICAL MULLIONS

NOTES:
1. SETTING BLOCK (SILL OR HORIZONTAL MULLION ONLY) BY OTHERS. ALTERNATES BY OTHERS:
   A. HARDWOOD
   B. CALCIUM SILICATE
   C. NEOPRENE (90 DUROMETER)

2. CONTINUOUS INTUMESCENT TAPE FURNISHED. E119 FRAME INSTALLED BY OTHERS.

3. *GLAZING GASKET (BOTH SIDES) FURNISHED. E119 FRAME INSTALLED BY OTHERS.

4. FIRE RATED SEAL IN SHIM SPACE BY OTHERS. ACCEPTABLE ALTERNATIVES: WELL PACKED ROCKWOOL, CONTINUOUS INTUMESCENT CAULKING, OR CONTINUOUS INTUMESCENT TAPE.

5. SHIMS BY OTHERS. ACCEPTABLE ALTERNATES: HARDWOOD, CALCIUM SILICATE, OR CEDAR SHINGLES.

6. FINISH SEALANT BY OTHERS

7. ANCHOR SCREWS BY OTHERS. PLACE 20” O.C. MAX. HEAD DIA. 3/8”; MAX. SHANK DIA. 1/4”.

8. FIRE RATED E119 FRAME.

9. STEEL GLAZING BEAD. INSTALL WITH SCREWS FURNISHED.

10. GLASS: VETROTECH CONTRAFLAM STRUCTURE 60 OR 120 MINUTE.

11. 60 MINUTE MAXIMUM VISIBLE GLASS
    138-1/2” X 138-1/2” NOT TO EXCEED 7574 SQ. IN.
    120 MINUTE MAXIMUM VISIBLE GLASS
    126” X 126” NOT TO EXCEED 4536 SQ. IN.

12. MAXIMUM FRAME SIZE NOT LIMITED. ASSEMBLY IS CONSIDERED A WALL.

13. PRODUCT IS NOT LOAD BEARING. ADDITIONAL BUILDING DESIGN FEATURES MAY BE REQUIRED FOR UNITS OVER 12’ TALL.

14. CENTER GLAZED FRAMES NOT AVAILABLE.

*NOTE: DUE TO GLASS TOLERANCE, SEALANT MAY BE NEEDED TO HOLD ON VINYL GLAZING GASKET (PROVIDED AND INSTALLED BY OTHERS).

MAY BE USED ON TRANSOMS AND SIDELIGHTS

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NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL HORIZONTAL MEMBER, VARIES,
   2-13/16" SHOWN
2. E119 INTERIOR STEEL CURTAIN WALL VERTICAL MEMBER, VARIES,
   2-13/16" SHOWN
3. PRESSURE PLATE LOCKING SCREW W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFLAM 60 GLAZING
9. HORIZONTAL WEATHER STRIPPING WITH FIN
10. FRAME ANCHOR PLATE
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESCENT TAPE
17. MINERAL WOOL (BY OTHERS)
18. FIRE STOP & SMOKE SEAL (BY OTHERS)
19. ANCHORS (BY OTHERS)

HEAD DETAIL
SCALE: N.T.S.

SILL DETAIL
SCALE: N.T.S.

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NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL
   HORIZONTAL MEMBER, VARIES,
   2-13/16" SHOWN
2. E119 INTERIOR STEEL CURTAIN WALL
   VERTICAL MEMBER, VARIES,
   2-13/16" SHOWN
3. PRESSURE PLATE LOCKING SCREW
   W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFLEM 60 GLAZING
9. HORIZONTAL WEATHER STRIPPING WITH FIN
10. FRAME ANCHOR PLATE
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESENT TAPE
17. MINERAL WOOL (BY OTHERS)
18. FIRE STOP & SMOKE SEAL (BY OTHERS)
19. ANCHORS (BY OTHERS)
NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL HORIZONTAL MEMBER, VARIES, 2-13/16" SHOWN
2. E119 INTERIOR STEEL CURTAIN WALL VERTICAL MEMBER, VARIES, 2-13/16" SHOWN
3. PRESSURE PLATE LOCKING SCREW W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFAM 60 GLAZING
9. HORIZONTAL WEATHER STRIPPING WITH FIN
10. FRAME ANCHOR PLATE
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESCENT TAPE
17. MINERAL WOOL (BY OTHERS)
18. MINERAL WOOL (BY OTHERS)
19. FIRE STOP & SMOKE SEAL (BY OTHERS)
20. ANCHORS (BY OTHERS)
NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL HORIZONTAL MEMBER
2. E119 INTERIOR STEEL CURTAIN WALL VERTICAL MEMBER
3. PRESSURE PLATE LOCKING SCREW W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFLAM 120 GLAZING
9. HORIZONTAL WEATHER STRIPPING
10. FRAME ANCHOR PLATE AT VERTICAL
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESENT TAPE
17. MINERAL WOOL (BY OTHERS)
18. FIRE STOP & SMOKE SEAL (BY OTHERS)
19. ANCHORS (BY OTHERS)
E119 120 Minute Interior Curtain Wall - Mullion Details

Fire Resistive Products

March, 2019

NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL
   HORIZONTAL MEMBER
2. E119 INTERIOR STEEL CURTAIN WALL
   VERTICAL MEMBER
3. PRESSURE PLATE LOCKING SCREW
   W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFLAM 120 GLAZING
9. HORIZONTAL WEATHER STRIPPING
10. FRAME ANCHOR PLATE AT VERTICAL
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESCENT TAPE
17. MINERAL WOOL (BY OTHERS)
18. FIRE STOP & SMOKE SEAL (BY OTHERS)
19. ANCHORS (BY OTHERS)

HORIZ. MULLION DETAIL
SCALE: N.T.S.

VERTICAL MULLION
SCALE: N.T.S.

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NOTES:
1. E119 INTERIOR STEEL CURTAIN WALL
   HORIZONTAL MEMBER
2. E119 INTERIOR STEEL CURTAIN WALL
   VERTICAL MEMBER
3. PRESSURE PLATE LOCKING SCREW
   W/SPACER
4. SETTING BLOCK (BY OTHERS)
5. SETTING BLOCK SHELF
6. PRESSURE PLATES
7. HORIZONTAL COVER CAP
8. CONTRAFLAM 120 GLAZING
9. HORIZONTAL WEATHER STRIPPING
10. FRAME ANCHOR PLATE AT VERTICAL
11. SHEAR LUG FOR VERTICAL PROFILE
12. HARDWOOD BLOCK
13. FINISH SEALANT (BY OTHERS)
14. VERTICAL COVER CAP
15. VERTICAL WEATHER STRIPPING
16. INTUMESCENT TAPE
17. MINERAL WOOL (BY OTHERS)
19. FIRE STOP & SMOKE SEAL (BY OTHERS)
20. ANCHORS (BY OTHERS)
E119 Interior Curtain Wall 90° Inside Corner

Fire Resistive Products

March, 2019

16 GA. STL. 1/4" STEEL (A36) PLATE (TYP.) BELOW W/ 1"X4"X1/8" TABS WELDED FOR BREAK METAL BACKING

ROCKWOOL INSULATION

INTERIOR CURTAIN WALL VERTICAL MEMBER.

(FD) FRAME DIMENSION

2-31/32" Min. 5-7/8" Max.

VARIES

VARIES

VARIES

VARIES

VARIES

VARIES

VARIES

VARIES

2-31/32" Min. 5-7/8" Max.

VARIES

VARIES

FIRE RATED GLAZING. (THICKNESS VARIES)

2-31/32" Min. 5-7/8" Max.
**E119 Interior Curtain Wall 90° Outside Corner**

*Fire Resistive Products*

March, 2019

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**FIRE RATED GLAZING.**
*(THICKNESS VARIES)*

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**INTERIOR CURTAIN WALL VERTICAL MEMBER.**

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**16 GA. STL. INT. CORNER CLOSURE**

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**ROCKWOOL INSULATION**

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**1/4" STEEL (A36) PLATE (TYP.) BELOW W/ 1"X4"X1/8" TABS WELDED FOR BREAK METAL BACKING**

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**#12 S.S. SCREW @ 16" O.C. (COND. 'A', Fu=75ksi Min.)**

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**VARIES**

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**2-31/32" Min. 5-7/8" Max.**

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**D.L.O.**
E119 Interior Curtain Wall Inside Angled Frame
Fire Resistive Products

March, 2019
E119 Interior Curtain Wall Back Mullion Options - 1-3/4" Face

Fire Resistant Products

March, 2019
E119 Interior Curtain Wall Back Mullion Options - 2-3/8" Face

Fire Resistive Products

March, 2019

- Aluminum 6060 T66, cold pressed
- Stainless Steel 1.4301 ground with grain 220-240, with protective adhesive film.

WEATHER STRIPPING

TEMPERATURE RISE GLAZING

See Glazing options for more information.

PRESSURE PLATE

FACING PROFILE

PRESSURE PLATE LOCKING SCREW

GLASS DIM.

D.L.O.

CLAMPING FOOT
Narrow Stile Door Jamb Detail/Jamb Detail with Sidelight

NOTES:
A. STEEL CURTAIN WALL HORIZONTAL MEMBER
B. STEEL CURTAIN WALL VERTICAL MEMBER
C. PRESSURE PLATE LOCKING SCREW
D. SETTING BLOCK (BY OTHERS)
E. SETTING BLOCK SHELF
F. PRESSURE PLATES
G. VERTICAL COVER CAP
H. VERTICAL WEATHER STRIPPING
I. SILL AND HEAD PLAT WITH SHEAR LUG AT VERTICAL MULLION
J. HARDWOOD BLOCK
K. ANCHOR (BY OTHERS)
L. SHIM AS NECESSARY (BY OTHERS)
M. FIRE STOP AND SMOKE SEAL (BY OTHERS)
N. FIRE RESISTANT LOOSE INSULATION (BY OTHERS)
O. CLAMPING FOOT
P. HINGE PER HARDWARE SCHEDULE
Q. NARROW STILE 60/90 DOOR
R. DOOR ASSEMBLY FASTENER TO CURTAIN WALL

NOTE: ACTUAL ANCHORING MAY VARY PER PROJECT REQUIREMENTS. DRAWING FOR REFERENCE ONLY.
Narrow Stile Door Meeting Edge Options

Fire Resistive Products

March, 2019

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Narrow Stile Door Vertical Cross-Section

NOTES:
A. STEEL CURTAIN WALL HORIZONTAL MEMBER
B. STEEL CURTAIN WALL VERTICAL MEMBER
C. PRESSURE PLATE LOCKING SCREW
D. SETTING BLOCK (BY OTHERS)
E. SETTING BLOCK SHELF
F. PRESSURE PLATES
G. HORIZONTAL COVER CAP
H. HORIZONTAL WEATHER STRIPPING
I. FRAME BASE PLATE AT VERTICAL
J. FRAME BASE PLATE AT VERTICAL
K. HARDWOOD BLOCK
L. ANCHOR (BY OTHERS)
M. SHIM AS NECESSARY (BY OTHERS)
N. FIRE STOP AND SMOKE SEAL (BY OTHERS)
O. FIRE RESISTANT LOOSE INSULATION (BY OTHERS)
P. FINISH SEALANT (BY OTHERS)
Q. CLAMPING FOOT
R. HINGE PER HARDWARE SCHEDULE
S. NARROW STILE 60/90 DOOR
T. DOOR ASSEMBLY FASTENER TO CURTAIN WALL

Experience a safer
and more open world
NOTES:
A. STEEL CURTAIN WALL HORIZONTAL MEMBER
B. STEEL CURTAIN WALL VERTICAL MEMBER
C. PRESSURE PLATE LOCKING SCREW
D. SETTING BLOCK (BY OTHERS)
E. SETTING BLOCK SHELF
F. PRESSURE PLATES
G. HORIZONTAL COVER CAP
H. HORIZONTAL WEATHER STRIPPING
I. FRAME BASE PLATE AT VERTICAL
J. HARDWOOD BLOCK
K. ANCHOR (BY OTHERS)
L. SHIM AS NECESSARY (BY OTHERS)
M. FIRE STOP AND SMOKE SEAL (BY OTHERS)
N. FIRE RESISTANT LOOSE INSULATION (BY OTHERS)
O. FINISH SEALANT (BY OTHERS)
P. CLAMPING FOOT
Q. HINGE PER HARDWARE SCHEDULE
R. NARROW STILE 60/90 DOOR
S. DOOR ASSEMBLY FASTENER TO CURTAIN WALL

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