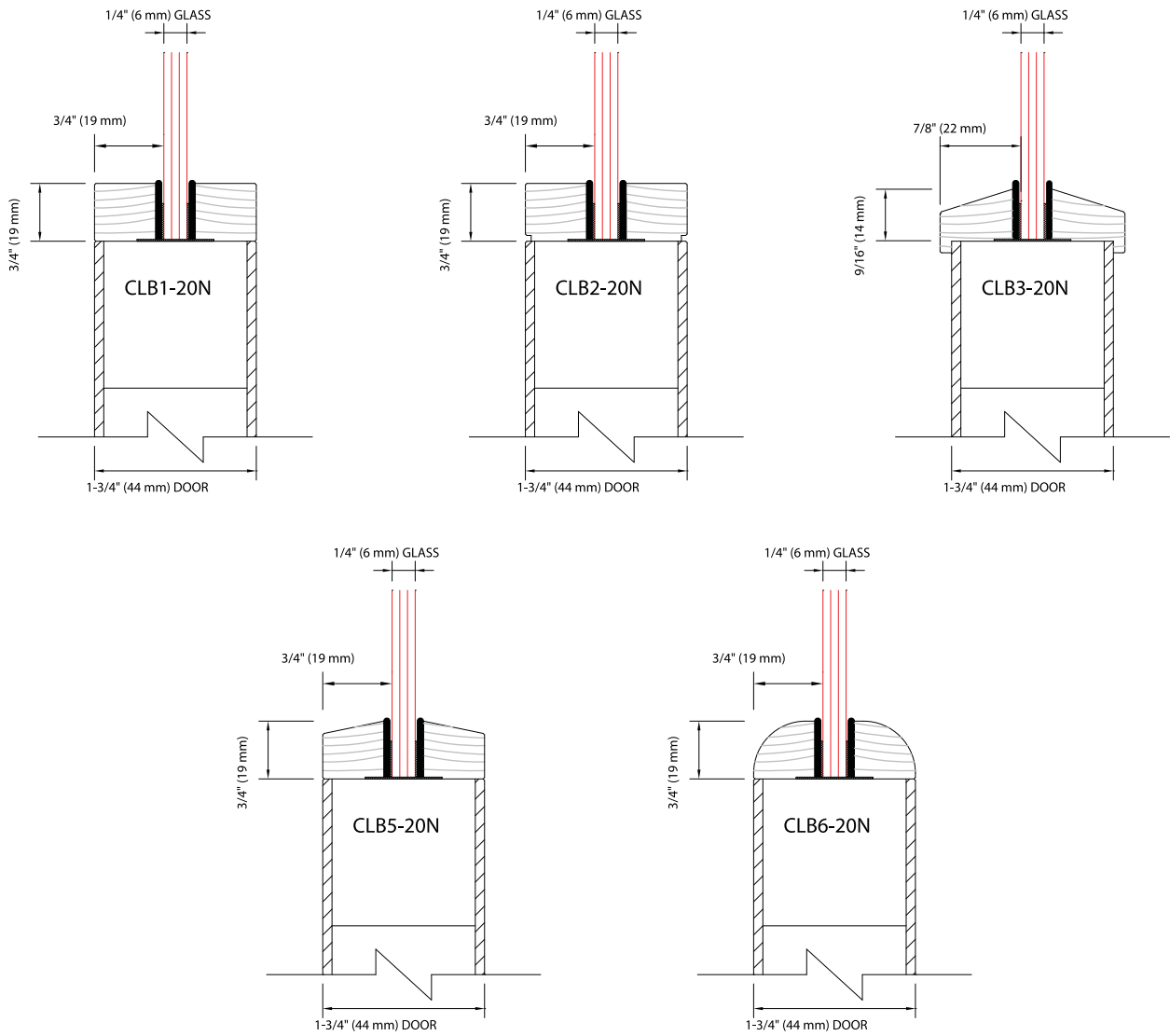


<b>20 Minute Fire Rated Wooden Lite Beads</b>	<b>G-1 to G-2</b>
<b>45, 60 &amp; 90 Minute Wood Lite Beads</b>	<b>G-3 to G-4</b>
<b>Metal Lite Bead Details</b>	<b>G-5 to G-6</b>
<b>Neutral and Positive Pressure Lite Cut Out</b>	<b>G-7 to G-12</b>
<b>Fire Glazing</b>	<b>G-13 to G-14</b>
<b>Metal Louver Details</b>	<b>G-15 to G-16</b>
<b>Metal Astragal and Channels</b>	<b>G-17 to G-18</b>
<b>Technical Reports</b>	<b>G-19 to G-20</b>

**Neutral and Positive Pressure**



**Neutral & Positive Pressure**

**Detail Use** For use in any 20-minute fire rated door design.

**Order information** ORDER SIZE = Exposed glass, vision (W X H)  
CUTOUT SIZE = Order size + 1-5/8" (42 mm)  
GLASS SIZE = Cut out size – 1/8" (3 mm)

**Example** Vision required = 10" X 10"  
Cutout required = 11 5/8" X 11 5/8"  
Glass required = 11 1/2" X 11 1/2"

**Installation Instructions**

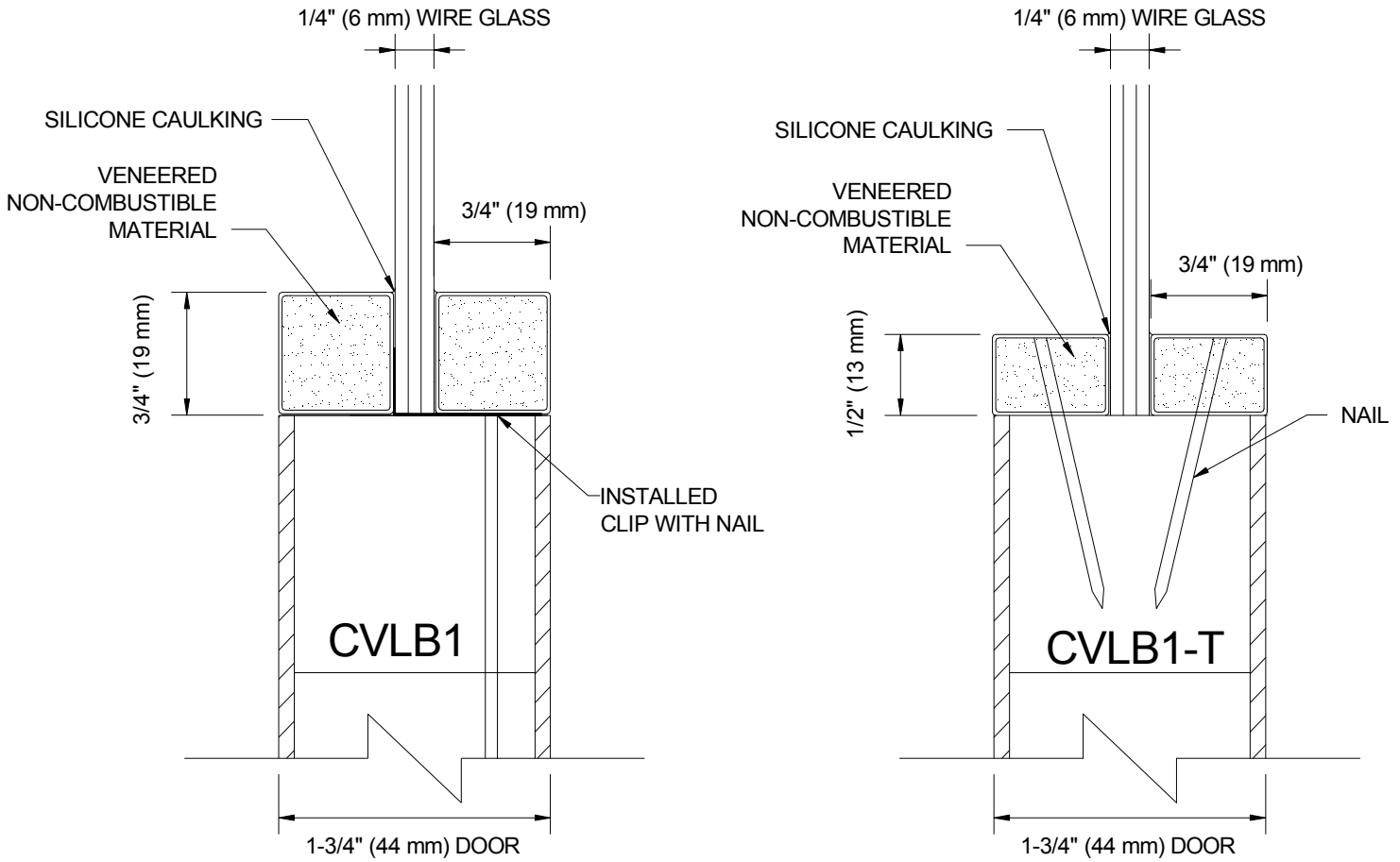
1. Confirm all required parts are present.
2. Remove temporarily fastened set of beads from door.
3. Position the glass against the fixed wood bead that has silicone or glazing tape already applied.
4. Apply silicone or glazing tape to the perimeter of the exposed side of the glass.
5. Nail the remaining loose beads securely into place. (Avoid direct contact with glass).
6. Countersink all nails and fill holes with matching putty.
7. Apply the same finish to beads as what was applied to the door face.

**With P.V.C. Encased Intumescent**

1. Follow the above instructions with the exception of placing the P.V.C. in between the wood bead and the glass.
2. Caulking to be installed between the P.V.C. and the glass.

**Notes** **Please remember to Order by Vision size.**  
Silicone caulking or glazing tape must be supplied by others.

**Neutral & Positive Pressure**

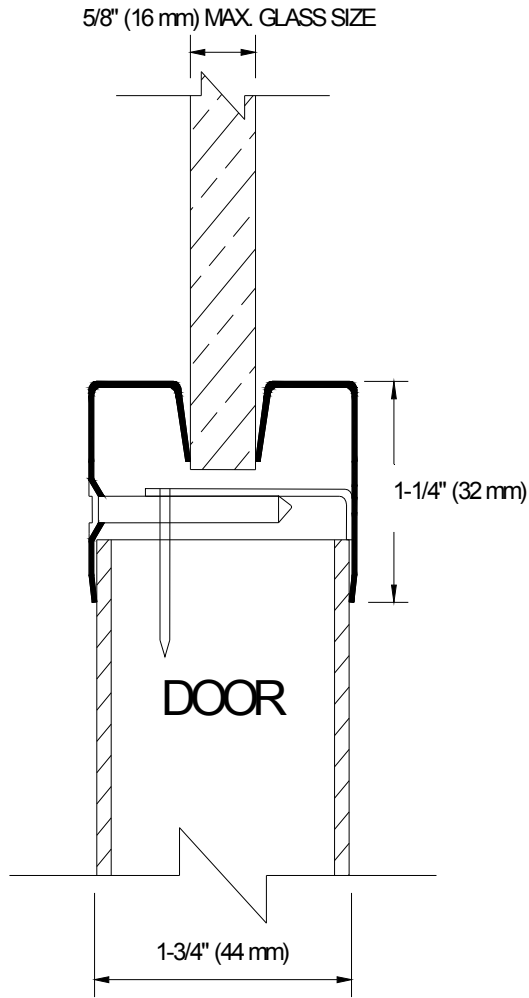


**Neutral and Positive Pressure**

<b>Detail Use</b>	<p><b>CVLB1</b> For use in 45, 60, and 90 minute doors.  <b>CVLB1- T</b> For larger lite sizes, available in 45 minute doors only.</p>
<b>Max Cut Out Size</b>	<p><b>CVLB1</b> 136 sq in. (Maximum 13" wide by 34" high).  <b>CVLB1 – T</b> 1296 sq in. (Maximum 30" wide by 54" high).</p>
<b>Order information</b>	<p><b>ORDER SIZE</b> = Exposed glass, vision (W X H)  <b>CUTOUT SIZE</b> = Order size + 1-5/8" (41 mm)  <b>GLASS SIZE</b> = Cut out size – 1/8" (3.2 mm)</p>
<b>Example</b>	<p>Vision required = 10" X 10"          Cutout required = 11 5/8" X 11 5/8"          Glass required = 11 1/2" X 11 1/2"</p>
<b>Installation</b>	<ol style="list-style-type: none"> <li>1. Confirm all required parts are present.</li> <li>2. Remove temporarily fastened set of beads from the door.</li> <li>3. Position the glass against the fixed wood bead that has silicone or glazing tape already applied.</li> <li>4. Apply silicone or glazing tape to the perimeter of the exposed side of the glass.</li> <li>5. Nail the remaining loose beads securely in place. (Avoid direct contact with the glass).</li> <li>6. Countersink all nails and fill holes with matching putty.</li> <li>7. Apply the same finish to beads as what was applied to the door face.</li> <li>8. Finish beads similar to door face(s). It may be preferred to finish beads before installation.</li> </ol>
<b>Instructions</b>	
<b>Notes</b>	<p><b>Please remember to Order by Vision Size.</b>          Silicone caulking or glazing tape must be supplied by others.</p>

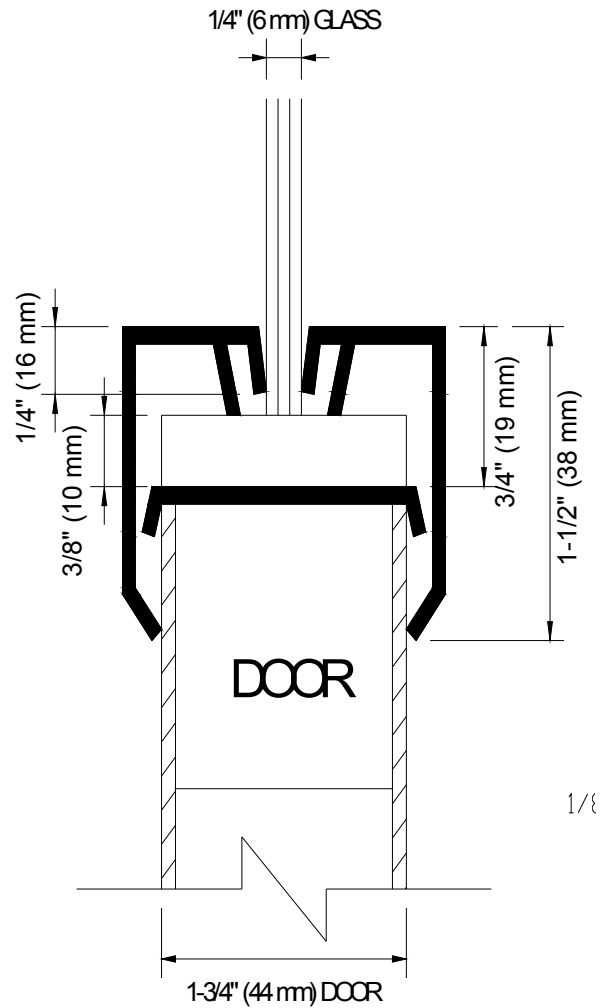
**Model 110**

Low Profile metal lite Kit



**Model 115**

Standard metal lite kit



<b>Material</b>	18-gauge. CRS frame is standard. With a beige polyester powder coating, these metal lite kits are extremely durable and visually appealing.
<b>Detail Use</b>	For use in any Rated or Non-rated Series Doors
<b>Product Range</b>	Low profile feature available for 1" (25 mm) to 2-3/4" (70 mm). Maximum glass pocket with low profile feature is 5/8" (16 mm) less than door thickness.
<b>Order information</b>	ORDER SIZE = Inside dimension of frame, (W X H) CUTOUT SIZE = Order size + 1-1/2" (38 mm) GLASS SIZE = Order size + 3/4" (19 mm)
<b>Options</b>	Available in custom colours and/or wood veneer wrapped in various species to match door face. Also available in 18-gauge galvanized for exterior use, and 18-gauge stainless steel for hospital and food service use.
<b>Notes</b>	Silicone caulk or glazing tape is required between all beads and glass where used.
<b>Standards Approved</b>	Meets UL10B requirements for NEGATIVE PRESSURE and UL10C and UBC 7-2(1997) for POSITIVE PRESSURE.

### 45 Minute Fire Rating

**Door Type** FD (Fire-Resistant Core)

**Max Door Size** 4'0" x 10'0" (1219 mm x 3048 mm)

**Light Cut Out to Bottom of Door**  
 Up to 7'0" (2134 mm) = 10" (254 mm)  
 Over 7'0" (2134 mm) = 12" (305 mm)

**Light Cut Out to Edge of Door Min.**  
 6" (152 mm)

**Light Cut Out to Light Cut Out Min.**  
 5" (127 mm)

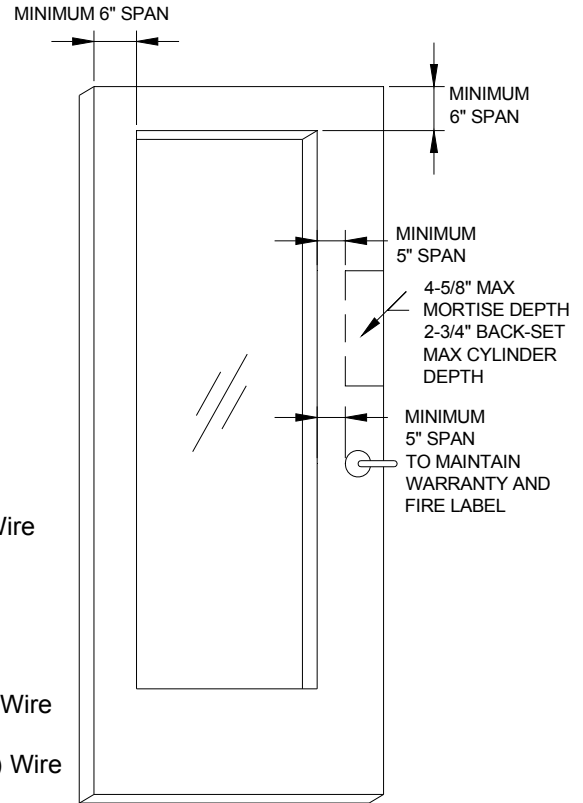
**Light Cut Out To Hardware Cut Out min.**  
 5" (127 mm)

#### Using Wood Veneered Beads

- Max. Size **1296 sq. in.** using Firelite.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

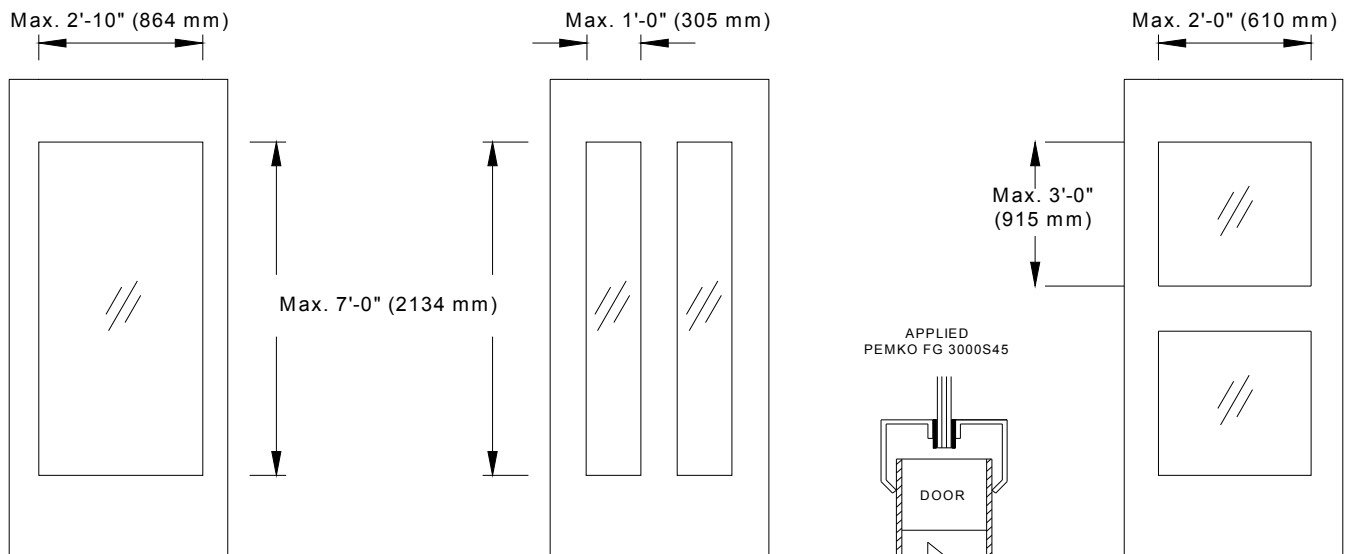
#### Using Metal Light Kit

- Max. Size **2856 sq. in.** using Firelite and Silicon caulk.
- Max. Size **2856 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
- Max. Size **1296 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



#### Notes

Multiple vision lites are allowed, the gross total area is not to exceed the limits as stated above.



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### 45 Minute Fire Rating

**Door Type** FD (Fire-Resistant Core)  
**Max Door Size** 4'0" x 10'0" (1219 mm x 2743 mm)

**Light Cut Out to Bottom of Door**  
 Up to 7'0" (2134 mm) = 10" (254 mm)  
 Over 7'0" (2134 mm) = 12" (305 mm)

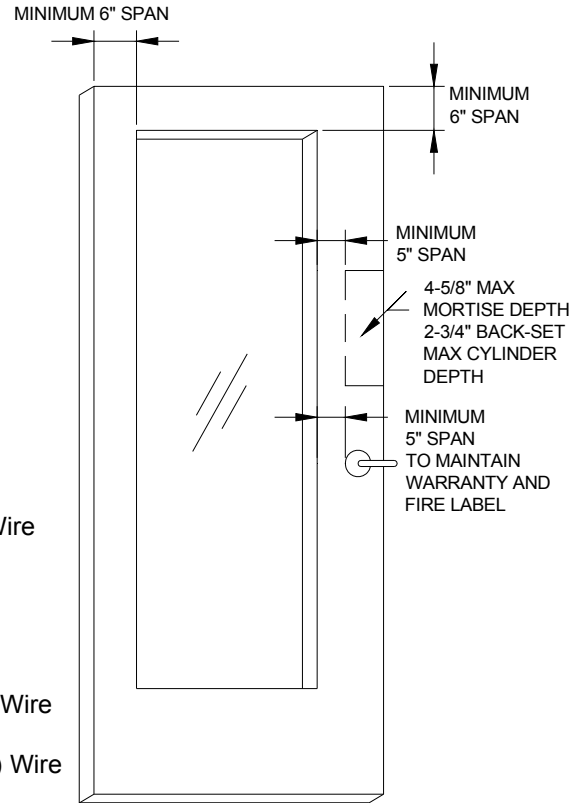
**Light Cut Out to Edge of Door Min.**  
 6" (152 mm)

**Light Cut Out to Light Cut Out Min.**  
 5" (127 mm)

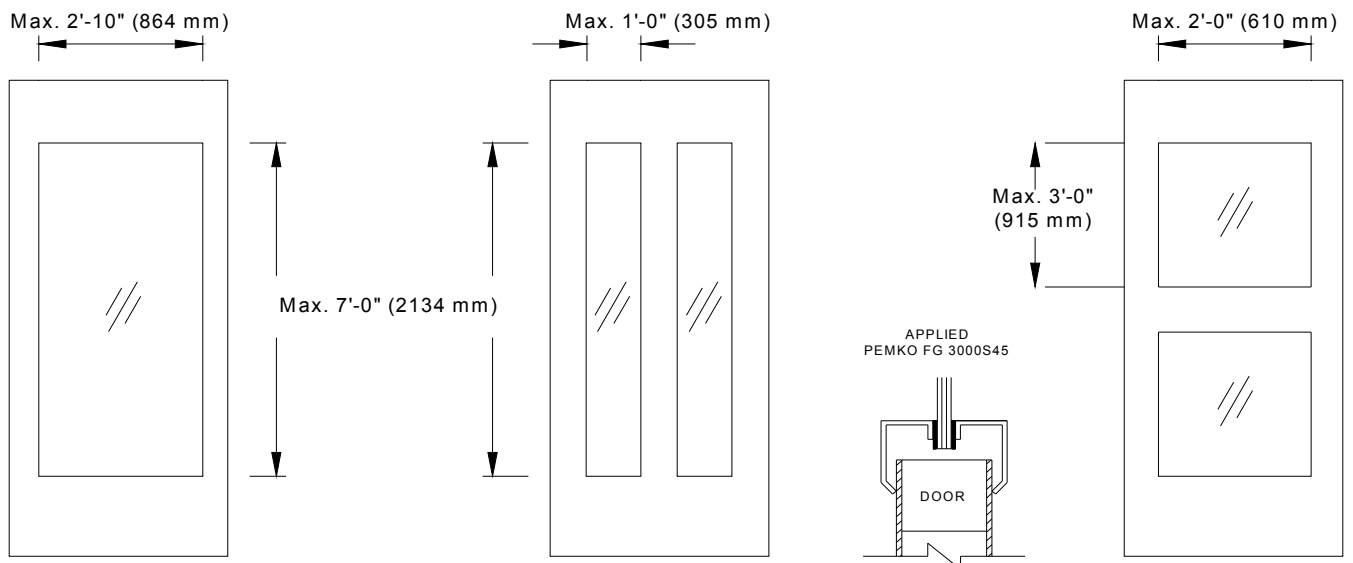
**Light Cut Out To Hardware Cut Out min.**  
 5" (127 mm)

- Using Wood Veneered Beads**
- Max. Size **1296 sq. in.** using Firelite.
  - Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

- Using Metal Light Kit**
- Max. Size **2856 sq. in.** using Firelite and Silicon caulk.
  - Max. Size **2856 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
  - Max. Size **1296 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



**Notes** Multiple vision lites are allowed, the gross total area is not to exceed the limits as stated above.



### 60 Minute Fire Rating

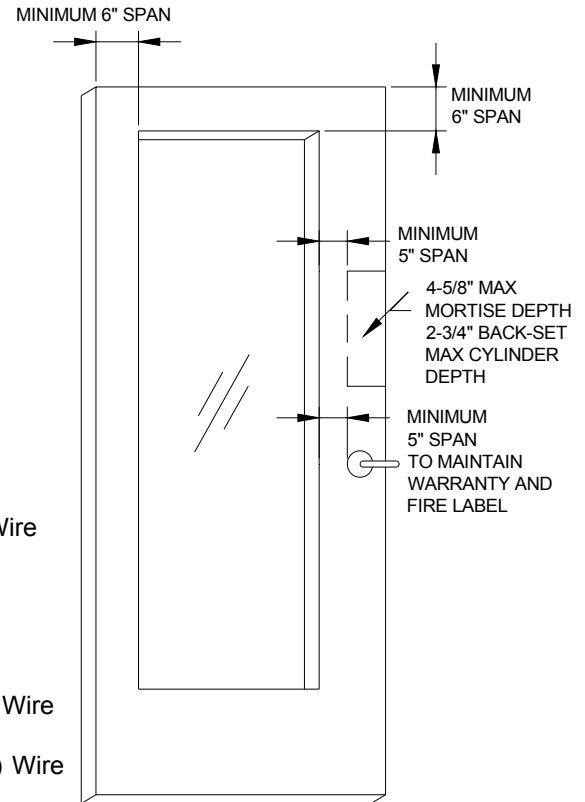
- Door Type** FD (Fire-Resistant Core)
- Max Door Size** 4'0" x 10'0" (1219 mm x 3048 mm)
- Light Cut Out to Bottom of Door**  
 Up to 7'0" (2134 mm) = 10" (254 mm)  
 Over 7'0" (2134 mm) = 12" (305 mm)
- Light Cut Out to Edge of Door Min.**  
 6" (152 mm)
- Light Cut Out to Light Cut Out Min.**  
 5" (127 mm)
- Light Cut Out To Hardware Cut Out min.**  
 5" (127 mm)

#### Using Wood Veneered Beads

- Max. Size **1296 sq. in.** using Firelite.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

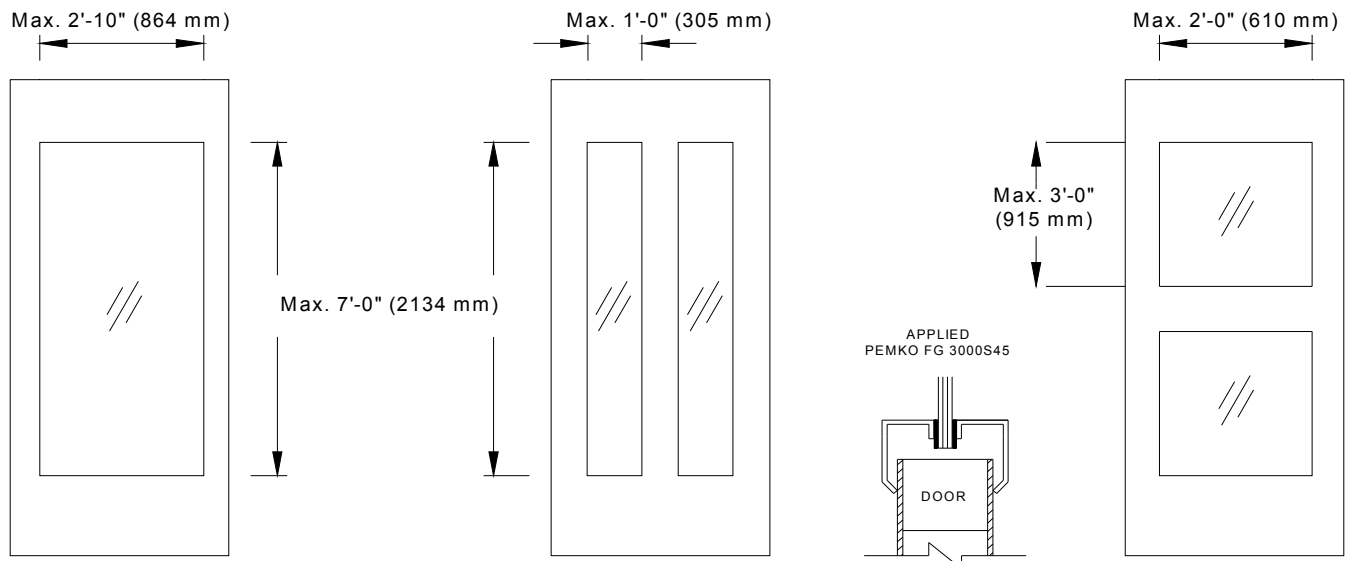
#### Using Metal Light Kit

- Max. Size **1920 sq. in.** using Firelite and Silicon caulk.
- Max. Size **1920 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



#### Notes

Multiple vision lites are allowed, the gross total area is not to exceed the limits as stated above.



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### 60 Minute Fire Rating

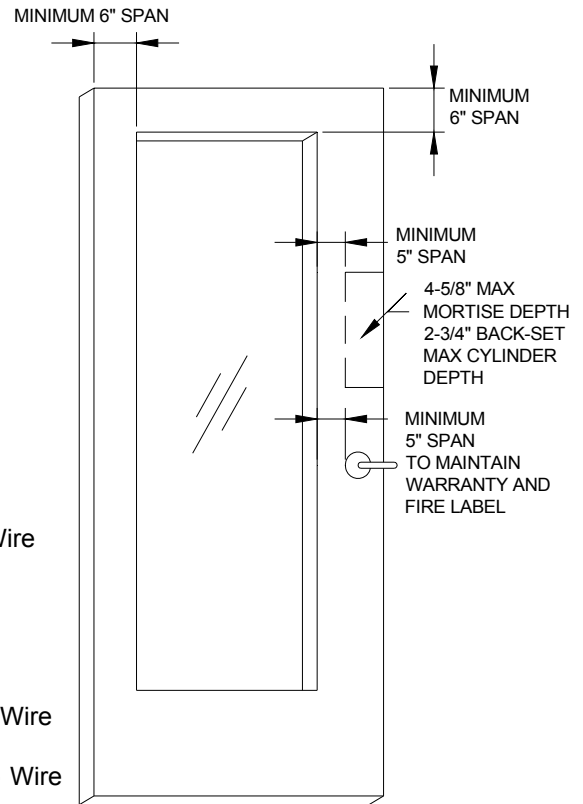
<b>Door Type</b>	FD (Fire-Resistant Core)
<b>Max Door Size</b>	4'0" x 10'0" (1219 mm x 2743 mm)
<b>Light Cut Out to Bottom of Door</b>	Up to 7'0" (2134 mm) = 10" (254 mm) Over 7'0" (2134 mm) = 12" (305 mm)
<b>Light Cut Out to Edge of Door Min.</b>	6" (152 mm)
<b>Light Cut Out to Light Cut Out Min.</b>	5" (127 mm)
<b>Light Cut Out To Hardware Cut Out min.</b>	5" (127 mm)

#### Using Wood Veneered Beads

- Max. Size **1296 sq. in.** using Firelite.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

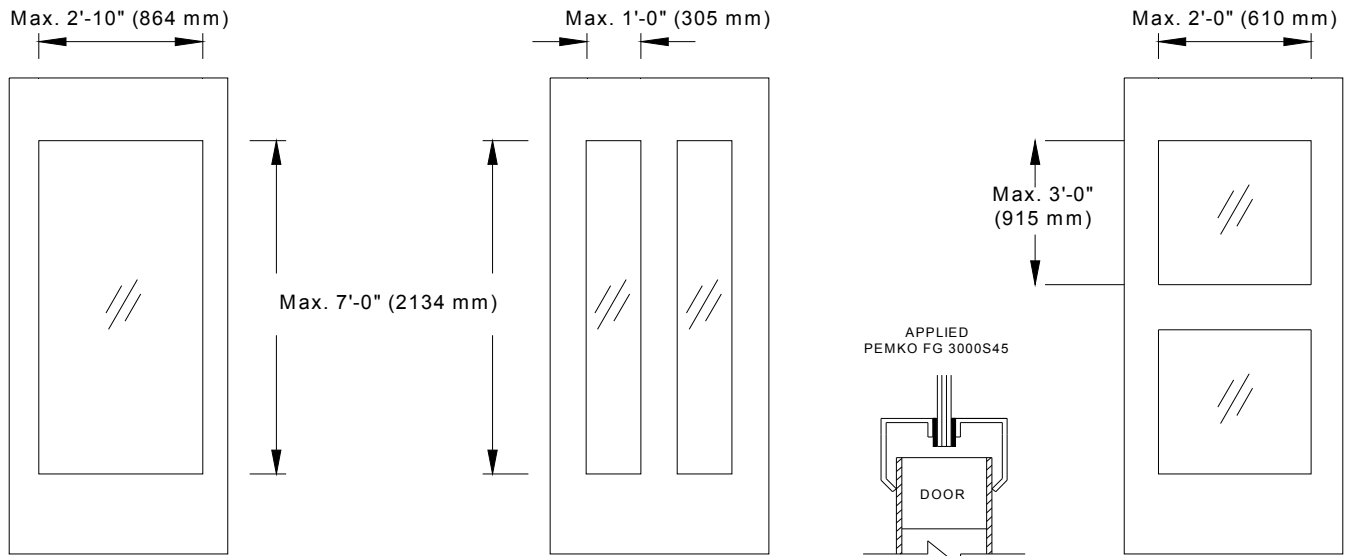
#### Using Metal Light Kit

- Max. Size **1920 sq. in.** using Firelite and Silicon caulk.
- Max. Size **1920 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



#### Notes

Multiple vision lites are allowed, the gross total area is not to exceed the limits as stated above.



### 90 Minute Fire Rating

**Door Type** FD (Fire-Resistant Core)

**Max Door Size** 4'0" x 10'0" (1219 mm x 3048 mm)

**Light Cut Out to Bottom of Door**  
 Up to 7'0" (2134 mm) = 10" (254 mm)  
 Over 7'0" (2134 mm) = 12" (305 mm)

**Light Cut Out to Edge of Door Min.**  
 6" (152 mm)

**Light Cut Out to Light Cut Out Min.**  
 5" (127 mm)

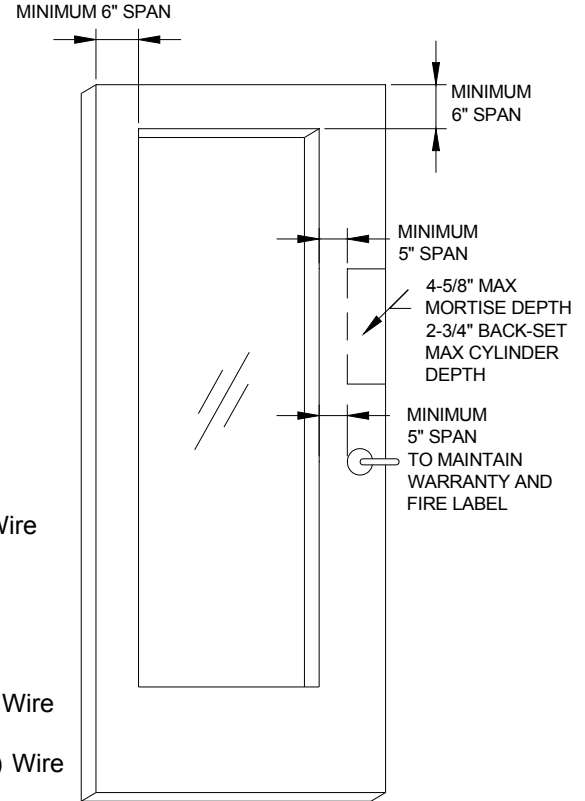
**Light Cut Out To Hardware Cut Out min.**  
 5" (127 mm)

#### Using Wood Veneered Beads

- Max. Size **1296 sq. in.** using Firelite.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

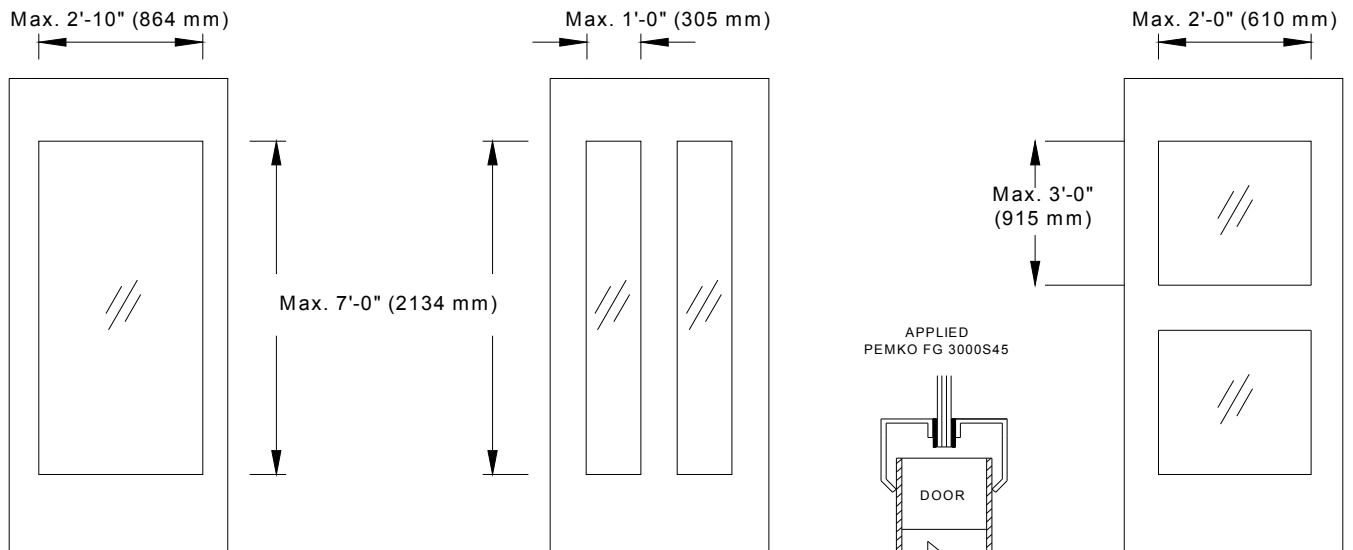
#### Using Metal Light Kit

- Max. Size **2208 sq. in.** using Firelite and Silicon caulk.
- Max. Size **2208 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



#### Notes

Multiple vision lights are allowed, the gross total area is not to exceed the limits as stated above. For additional glass types and changing openings, see adjoining table.



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### 90 Minute Fire Rating

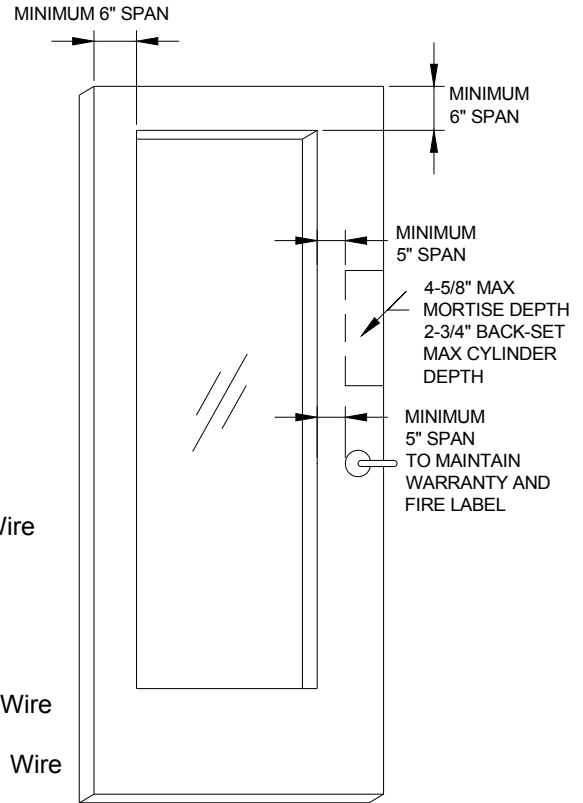
- Door Type** FD (Fire-Resistant Core)
- Max Door Size** 4'0" x 10'0" (1219 mm x 2743 mm)
- Light Cut Out to Bottom of Door**  
 Up to 7'0" (2134 mm) = 10" (254 mm)  
 Over 7'0" (2134 mm) = 12" (305 mm)
- Light Cut Out to Edge of Door Min.**  
 6" (152 mm)
- Light Cut Out to Light Cut Out Min.**  
 5" (127 mm)
- Light Cut Out To Hardware Cut Out min.**  
 5" (127 mm)

#### Using Wood Veneered Beads

- Max. Size **1296 sq. in.** using Firelite.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass.

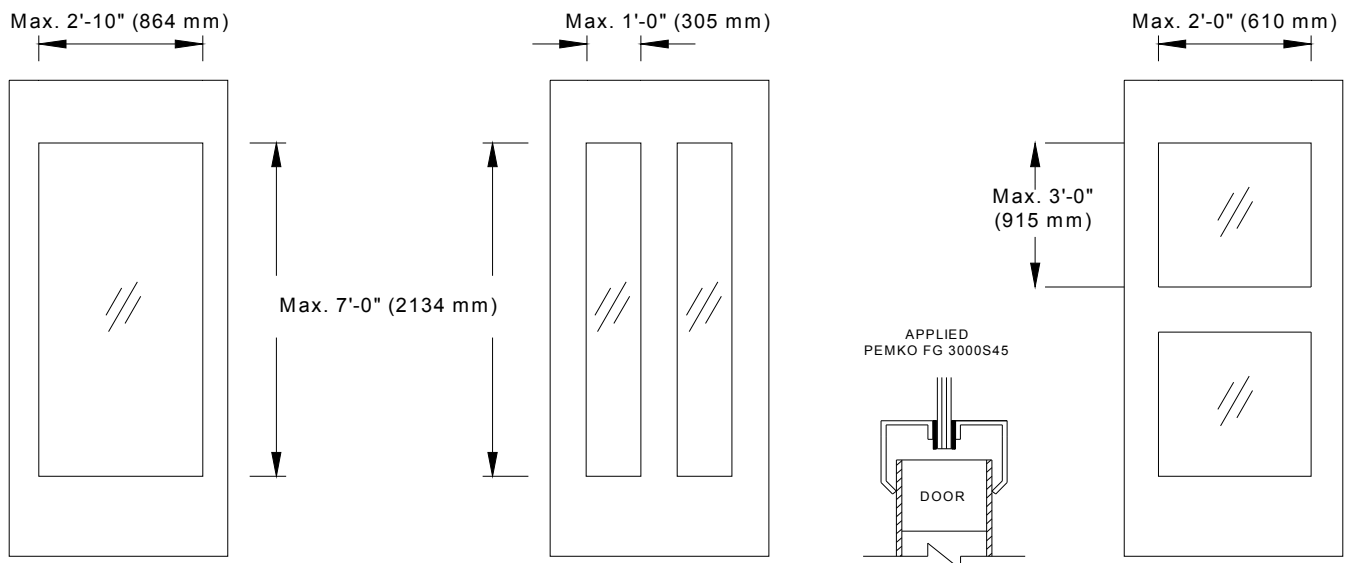
#### Using Metal Light Kit

- Max. Size **2208 sq. in.** using Firelite and Silicon caulk.
- Max. Size **2208 sq. in.** using 1/4" (6 mm) Wire Glass and Pemko FG 3000S45.
- Max. Size **100 sq. in.** using 1/4" (6 mm) Wire Glass and Firelite only.



#### Notes

Multiple vision lights are allowed, the gross total area is not to exceed the limits as stated above. For additional glass types and changing openings, see adjoining table.



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Cambridge Door Inc. recognizes when using specialty doors, sometimes a light may be something that one may want to incorporate in the door. That's why we have included some information about many of the glasses that have been approved for use in these specialty doors.

### FireLite NT™

FireLite NT is a 3/16" thick fire-rated and impact safety-rated glass that is composed of FireLite, a glass ceramic, and a high performance surface-applied 3M Scotchshield Ultra Film. It can be used for use in doors, sidelights, transoms and borrowed lights. All FireLite NT glasses are hose stream tested and are rated for up to 180 minutes.



**Safety Rated:** meets ANSI Z97.1 and CPSC 16 CFR1201 (Cat. I and II)

**Surface:** fire and impact ratings unaffected by which way surface film faces when used in interior applications

### Product Specifications

<b>Thickness:</b>	3/16"
<b>Weight:</b>	2.4 lbs./sq. ft.
<b>Appearance:</b>	Clear, wireless
<b>Light Transmission:</b>	88%
<b>Hardness (Vickers):</b>	700

### FireLite Plus™



FireLite Plus is a 5/16" thick laminated fire-rated and impact safety-rated glass. It can be used for use in doors, sidelights, transoms and borrowed lights. All FireLite Plus glasses are hose stream tested and are rated for up to 180 minutes. FireLite Plus can be lightly sandblasted/etched or beveled on one side and the fire rating of the glass will not be affected.

**Safety Rated:** meets ANSI Z97.1 and CPSC 16 CFR1201 (Cat. I and II)

**Surface:** Premium grade (polished) FireLite surfaces only

### Product Specifications

<b>Thickness:</b>	5/16"
<b>Weight:</b>	4 lbs./sq. ft.
<b>Appearance:</b>	Clear, wireless
<b>Light Transmission:</b>	85%
<b>STC Rating:</b>	35 (db.)



### Fireglass 20™

Fireglass 20 is a 1/4" thick fire-rated and impact safety-rated glass. Fireglass 20 can be used in doors, transoms, sidelights, and borrowed lights. Fireglass 20 is tempered so that it is at least 4 times stronger than wired glass and it is also available in an insulated glass unit.

**Safety Rated:** tempered to meet CPSC16 CFR1201 (Cat. I and II) and ANSI Z97.1

**Custom Make-up:** May be lightly sandblasted/etched or beveled on one side without affecting fire-rating

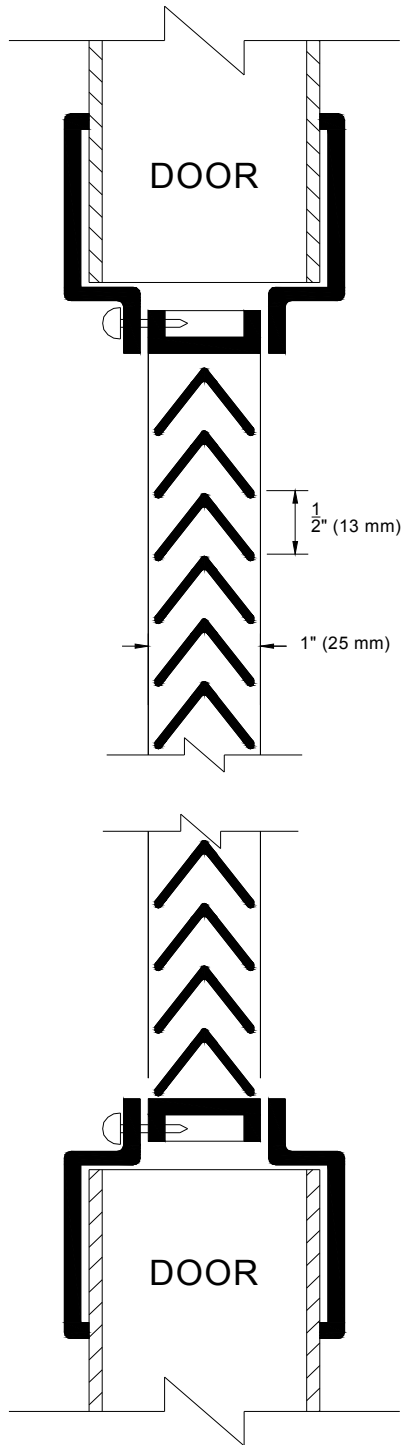
**Surface:** colorless, distortion free

### Product Specifications

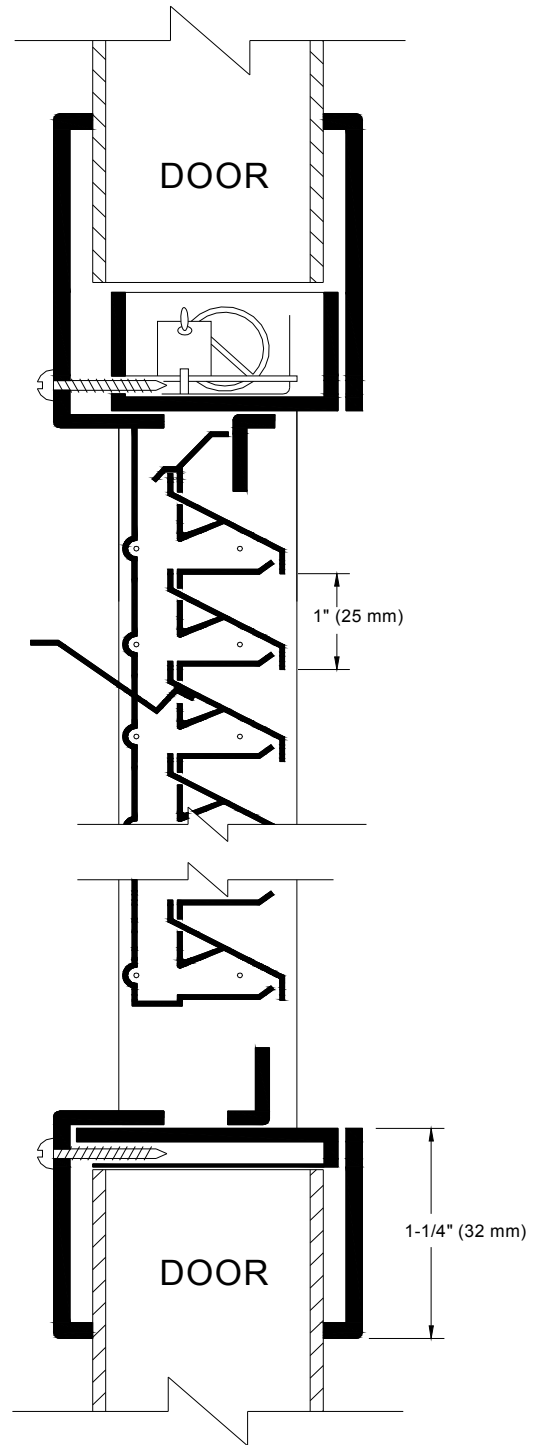
<b>Thickness:</b>	1/4"
<b>Weight:</b>	3.0 lbs./sq. ft.
<b>Appearance:</b>	Clear, wireless
<b>Light Transmission:</b>	89%



**Model 600-A1**  
Metal Chevrons  
Non Rated

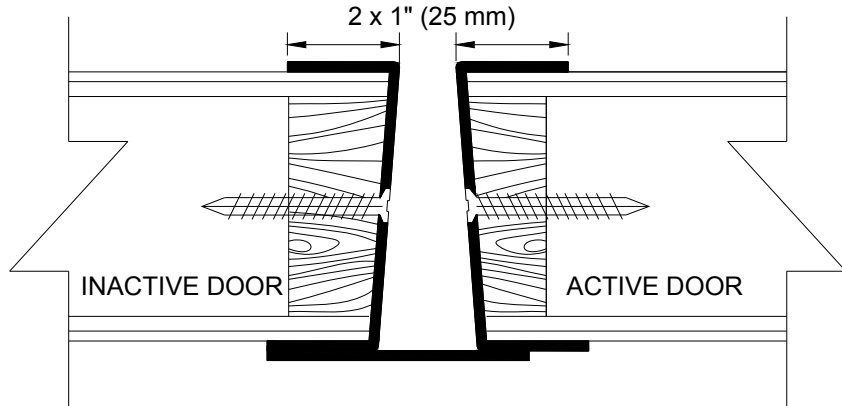


**Model 1900-A**  
Fusible Link  
Rated up to 90mins.

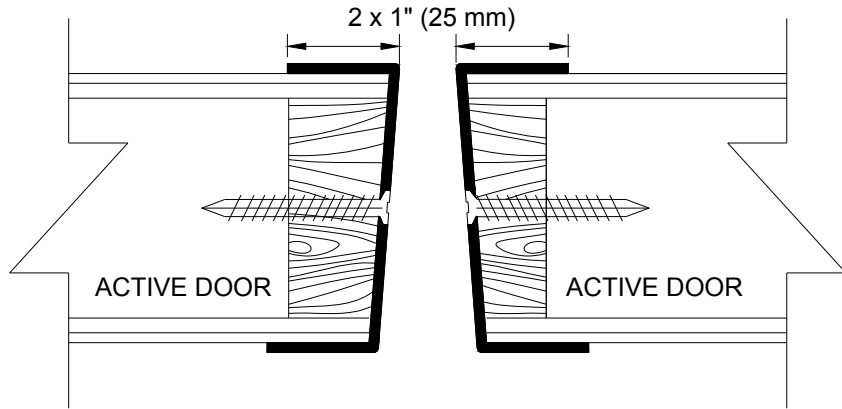


<b>Materials</b>	20-gauge CRS frame and blades with mitered and welded corners and mineral bronze baked on powder coat.
<b>Detail Use</b>	For use in any FD series door up to 90-minute fire ratings, as well as any non-rated door series and model.
<b>Max Cut Out Size</b>	Louver size shall not exceed maximum of 576 square inches, 24 inches width and 24 inches height. The minimum width and height shall not be less than 10 inches and 6 inches, respectively.
<b>Options</b>	Available in 20-gauge #304 stainless steel - #4 satin finish, 16-gauge. CRS, electro-galvanized steel, or hot dipped galvanized steel. Finishing options include baked on powder coat gray prime for field painting, or special order custom colours. (Provide with colour sample chip).
<b>Construction (For 1900-A)</b>	Mitered and welded corners; screws fastened through prepared frame into louver core; this mounting method leaves corridor side of frame free of fasteners for esthetic and security purposes. Adjustable blades of 16-gauge cold rolled steel pivot on cadmium-plated steel rivets. A manual trigger operates the blades. A spring-loaded fusible link mechanism is incorporated into the design. Upon melting of the link, the action bar is actuated thereby closing and locking all of the blades. Louver assembly is 19/16" deep.

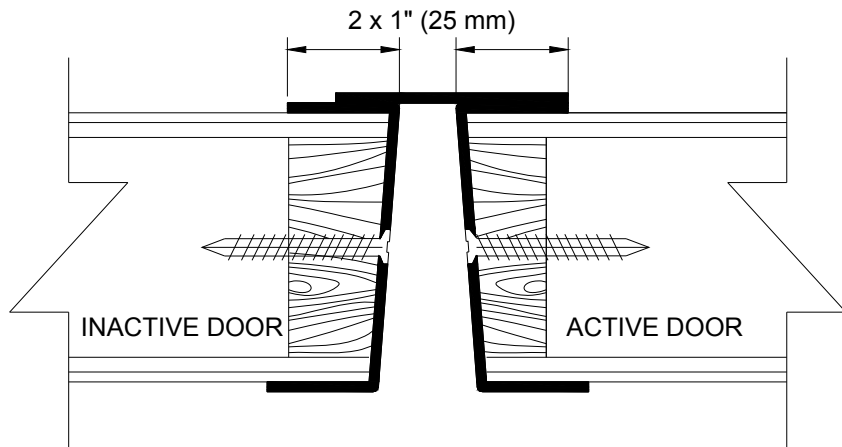
**#207**  
Standard Bevel  
Astragal and Edge



**#208**  
Double Edge Set  
Bevelled



**#211**  
Reverse Bevel  
Astragal and Edge



<b>Materials</b>	20-gauge CRS frame with standard beige baked on powder coat.
<b>Detail Use</b>	For use in any FD series door up to 90-minute fire ratings, as well as any non-rated door series and model.
<b>Hardware</b>	Punched and coined for #8 x 3/4" Phillips flat head screws (included). Hole centers 12" or less. 3-1/2" maximum from ends and machined openings.
<b>Options</b>	Available in stainless steel.

**Fire Resistant Blocking Material**

Cambridge Door Inc. uses fire resistant material that is a durable, heat and fire resistant mineral based product used extensively in the manufacturing of fire rated doors. This material is used as stiles, rails and blocking in the fire-rated doors made by Cambridge Door Ltd. and also as stiles, rails and interior panels in the manufacturing of Stile & Rail doors. Extensive testing at both Intertek Testing Services (ITS) and Underwriters Laboratory (UL) has proven that this material to be the leader as a component in the fire rated door industry. This material does not contain asbestos or formaldehyde.

**Testing**

Fire-rated door components have been tested by five different certified agencies for construction ratings from 45 minutes to 120 minutes with excellent results. These test were held at Intertek Testing Services, USA, Underwriters Laboratories, USA, Omega Point Laboratories, USA, Chiltern International Fire Ltd., UK, and Warrington Fire Research, UK.

**Certification**

Cambridge Door Ltd's fire resistant material is certified (UBC 7-2, 90 min.) as a component for fire rated doors in all openings up to and including 8' X 9' pairs with all applicable hardware.

**Machining**

Our fire resistant material is not as dense and not as hard as other comparable products in the industry, so it machines with less abrasive to tooling equipment. WSCP uses diamond at their manufacturing facility and this tooling is extremely efficient.

**Sizing**

Our fire resistant material is manufactured in 4' x 8' panels and 4' x 10' panels. Panel thicknesses vary from 1/2" to 2 1/8". It is available in full sheets or any dimensional cut up to the parameters of the manufactured panel.



**Properties**

<b>Color</b>	Gray
<b>Density (pcf)</b>	61-72
<b>Modulus of Rupture (ASTM C133) (psi)</b>	minimum 900
<b>Compressive Strength (ASTM C 109-93) (psi)</b>	minimum 1586
<b>Moisture Content (%)</b>	<6
<b>Thermal Conductivity (ASTM C182)</b>	946 F 1.33
<b>(BTU-in/hr-ft<sup>2</sup>-F)</b>	1632 F 1.36
<b>Shrinkage (ASMT C356) – (average. %)</b>	4.4
<b>Heat Transfer (ASMT E 152) (°F)</b>	
<b>Unexposed Surface Rise Above Ambient</b>	193
<b>1 1/2" panel, 90 min., 1772 F</b>	
<b>Screw Withdrawal (Face) (lbs.)</b>	Exceeds all WDMA I.S. 1A Requirements

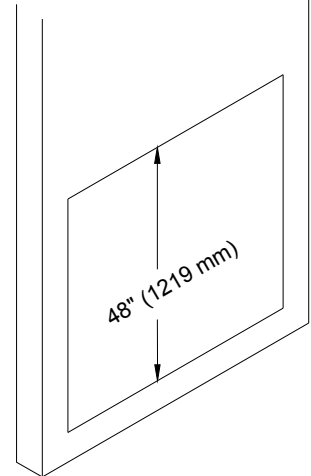
**Protection Plates on Fire Doors**

The National Fire Protection Association (NFPA) Pamphlet #80, Standard for Fire Doors and Fire Windows, states that a non-labeled kickplates or protection plates are allowed to be a maximum 16" (406 mm) high at the bottom of the door. Anything that is higher than 16" from the bottom of the door could potentially affect the fire protection ability of the door, but can be used if tested and approved. The "approvals" must be listed in the door manufacturers fire door listings and procedures if the kick plate is to be higher than 16" from the bottom of the door.

**Cambridge Door Inc. fire doors are approved for use with protection plates up to 48" from the bottom of the door.**

Protection plates are to be attached to wood doors using screws, adhesives or other forms of mechanical fasteners. Similar to the kick plate height, the method of attachment must be tested and approved.

**NFPA 80 LIMITATION  
ON PROTECTION PLATES**



Unless tested and approved, all protection plates at the bottom of the door can only be 16" (406 mm) in height.

**45, 60, 90 Minute Wood Fire Doors:**

<b>Materials:</b>	U.L. listed cladding materials for doors and frames (Rigid-PVC), aluminum, bronze, stainless steel, or high-pressure laminates. Max. thickness 0.060" (1.5 mm)
<b>Maximum Size:</b>	48" (1219 mm) from bottom of door, one or both faces of door.
<b>Attachment:</b>	May be applied with the peel and stick adhesive supplied on the back of the protective plate or with an adhesive as recommended by the cladding manufacturer or with Swifts #17383 contact cement and/or metal wood screws. Screws must fasten into stiles, rails, or core reinforcement (blocking) in mineral core doors.
<b>Other Options:</b>	Can be used with full or partial height surface type Rigid-PVC or stainless steel edge guards, listed door knob protectors (polycarbonate or Rigid-PVC), and Rigid-PVC frame protectors up to 0.094" 92.4 mm) thick.

**20 Minute Wood Fire Doors:**

<b>Materials:</b>	U.L. listed cladding materials for doors and frames (Rigid-PVC), aluminum, bronze, stainless steel, or high-pressure laminates. Max. thickness 0.060" (1.5 mm)
<b>Maximum Size:</b>	48" (1219 mm) from bottom of door, one or both faces of door.
<b>Attachment:</b>	May be applied with the peel and stick adhesive supplied on the back of the protective plate or with an adhesive as recommended by the cladding manufacturer or with Swifts #17383 contact cement and/or metal wood screws.
<b>Other Options:</b>	Can be used with full or partial height surface or mortise type Rigid-PVC or stainless steel edge guards, listed door knob protectors (polycarbonate or Rigid-PVC), and Rigid-PVC frame protectors up to 0.094" 92.4 mm) thick.