Fire-Rated Glass

Fire-Resistive

Pyrobel
PyroDoors™
PyroFrames™
StileLite

Fire-Protective

Pyran® Platinum
PyroGuard
New Wire
Features & Benefits

- Manufactured by AGC for 45 minute fire rating with hose stream
- Multi-laminated glass with intumescent interlayers
- Designated on drawings and in specifications as Pyrobel 45
- Tested for use as door lites and 48” x 96” fixed lites in accordance with ASTM E119, NFPA 80, NFPA 257, NFPA 252, UL 9, UL 10B, and UL 10C
- Tested to ANSI Z97.1 and CPSC 16CFR 1201 to meet maximum safety ratings
- Available for standard steel door and frame assemblies with 5/8” stops
- Available with additional lite for decorative, patterned, or painted appearance
- For use in interior and exterior applications
- U.S. fabrication for fast delivery

Maximum Glazing Sizes (ClearView)

<table>
<thead>
<tr>
<th></th>
<th>Width</th>
<th>Height</th>
<th>Max. Sq. In.</th>
<th>Stop Height</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doors</td>
<td>58 3/4”</td>
<td>58 3/4”</td>
<td>2747”</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>Windows and</td>
<td>96”</td>
<td>96”</td>
<td>4608”</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>Borrowed Lites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidelites</td>
<td>96”</td>
<td>96”</td>
<td>4608”</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
</tbody>
</table>

For more information, please contact marketing@generalglass.com.
General Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Interior</th>
<th>Exterior</th>
<th>Insulated Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usage</strong></td>
<td>Interior</td>
<td>Ext. below 120°F, above -20°F</td>
<td>Ext. above 120°F, below -20°F</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>5/8” (16mm) -0/+1.5mm</td>
<td>3/4” (20mm) +/-1mm</td>
<td>1 1/4” (34mm) +/-2mm</td>
</tr>
<tr>
<td><strong>Weight/sq.ft.</strong></td>
<td>8.2 lbs (40kg/sq.m)</td>
<td>9.8 lbs (48kg/sq.m)</td>
<td>13.12 lbs (64kg/sq.m)</td>
</tr>
<tr>
<td><strong>Light transmission</strong></td>
<td>85%</td>
<td>83%</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Sound reduction</strong></td>
<td>RW=39 dB</td>
<td>RW=40 dB</td>
<td>RW=42 dB</td>
</tr>
<tr>
<td><strong>Safety rating</strong></td>
<td>CPSC 16CFR1201 Cat. II 400 ft. lbs. ANSI Z97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fire rating</strong></td>
<td>45 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R-value</strong></td>
<td>1.09</td>
<td>1.14</td>
<td>1.89</td>
</tr>
<tr>
<td><strong>U-value</strong></td>
<td>0.915</td>
<td>0.881</td>
<td>0.528</td>
</tr>
</tbody>
</table>

Product Guidelines

LISTINGS
Testing completed by Intertek/Warnock-Hersey and UL

LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION
All systems require 1/4” x thickness of glass x 3” calcium silicate setting blocks placed at sill quarter points. Each lite of Pyrobel must be inspected prior to installation for damage including review of edge protecting tape. (DO NOT INSTALL GLASS THAT HAS BEEN DAMAGED.) Pyrobel must be glazed with 1/8” x 1/2” closed cell foam glazing tape. Exterior glazing must have PVB side facing to exterior side. Refer to shop drawings for final assembly requirements.

STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain glass in a vertical position with back slightly inclined at 6-10°.

QUALITY STANDARD
Pyrobel products are specially prepared products designed to prevent the expansion of fire. Thus, the specific optical quality should not be compared to single float or laminated PVB glazing. Consult GGI for specific acceptable quality standards.

GUARANTEE
The manufacturer, AGC Flat Glass Europe, guarantees the characteristics of Pyrobel for a period of 5 years from date of delivery. Due to the nature of its interlayers, Pyrobel may develop some minor imperfections such as small bubbles or a slight distortion which will not affect the free vision through the glazing or fire performance. A variation of up to 5% of light transmission or haze shall not be considered a defect. This guarantee is for replacement of glass only. Any other costs associated with the removal or replacement of defective units is not the responsibility of the manufacturer. The guarantee shall apply only to glass handled, transported, stored and installed in accordance with normal procedures.

For more information, please contact marketing@generallglass.com.
Pyrobel 60

Features & Benefits

- Manufactured by AGC for 60 minute fire rating with hose stream
- Multi-laminated glass with intumescent interlayers
- Available in butt-glazed assembly*
- Designated on drawings and in specifications as Pyrobel 60
- Tested in accordance with ASTM E119, NFPA 80, NFPA 252, NFPA 257, UL 9, UL 10B, UL 10C and UL 263 as a transparent wall assembly using StileLite™ or GGI-KwicKap™ or GGI PyroFrames™
- Tested to ANSI Z97.1 and CPSC 16CFR 1201 to meet maximum safety ratings
- Available for use in door vision lite assemblies with 5/8” stop height
- Available with additional lite for decorative, patterned, or painted appearance
- For use in interior and exterior applications
- U.S. fabrication for fast delivery

Maximum Glazing Sizes (ClearView)

<table>
<thead>
<tr>
<th></th>
<th>Width</th>
<th>Height</th>
<th>Max. Sq. In.</th>
<th>Stop Height</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doors</td>
<td>87 5/8”</td>
<td>87 5/8”</td>
<td>3855</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>PyroFrames™</td>
<td>86 5/8”</td>
<td>86 5/8”</td>
<td>3833</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>KwicKap™</td>
<td>*87 5/8”</td>
<td>*87 5/8”</td>
<td>*3855</td>
<td>11/4”</td>
<td>Intertek/WHI &amp; UL</td>
</tr>
<tr>
<td>Vision 60™</td>
<td>*48”</td>
<td>*96”</td>
<td>*4608</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>StileLite 60™</td>
<td>93”</td>
<td>93”</td>
<td>4487</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
</tbody>
</table>

For more information, please contact marketing@generalglass.com.
General Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Interior</th>
<th>Exterior (below 120°F, above -20°F)</th>
<th>Insulated Exterior (above 120°F, below -20°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usage</strong></td>
<td>Interior</td>
<td>Ext. below 120°F, above -20°F</td>
<td>Ext. above 120°F, below -20°F</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>1” (25mm) +/-2mm</td>
<td>1 1/4” (29mm) +/-2mm</td>
<td>1 3/4” (45mm) +/-2mm</td>
</tr>
<tr>
<td><strong>Weight/sq.ft.</strong></td>
<td>12.3 lbs (60kg/sq.m)</td>
<td>13.94 lbs (68kg/sq.m)</td>
<td>17 lbs (83kg/sq.m)</td>
</tr>
<tr>
<td><strong>Light transmission</strong></td>
<td>81%</td>
<td>80%</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Sound reduction</strong></td>
<td>Rw=42 dB</td>
<td>Rw=43 dB</td>
<td>Rw=44 dB</td>
</tr>
<tr>
<td><strong>Safety rating</strong></td>
<td>CPSC 16CFR1201 Cat. II 400 ft. lbs. ANSI Z97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fire rating</strong></td>
<td>60 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R-value</strong></td>
<td>1.14</td>
<td>1.16</td>
<td>2.18</td>
</tr>
<tr>
<td><strong>U-value</strong></td>
<td>0.881</td>
<td>0.862</td>
<td>0.458</td>
</tr>
</tbody>
</table>

Maximum structural load performance (wind load–ASTM E330) of Pyrobel-60-25 is 1119.1 lbs./sq. ft.

Product Guidelines

LISTINGS
Testing completed by Intertek/Warnock-Hersey and UL

LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION
All systems require 1/4” x thickness of glass x 3” calcium silicate setting blocks placed at sill quarter points. Each lite of Pyrobel must be inspected prior to installation for damage including review of edge protecting tape. (DO NOT INSTALL GLASS THAT HAS BEEN DAMAGED.) Pyrobel must be glazed with 1/8” x 1/2” closed cell foam glazing tape. Exterior glazing must have PVB side facing to exterior side. Refer to shop drawings for final assembly requirements.

STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain glass in a vertical position with back slightly inclined at 6-10°.

QUALITY STANDARD
Pyrobel products are specially prepared products designed to prevent the expansion of fire. Thus, the specific optical quality should not be compared to single float or laminated PVB glazing. Consult GGI for specific acceptable quality standards.

GUARANTEE
The manufacturer, AGC Flat Glass Europe, guarantees the characteristics of Pyrobel for a period of 5 years from date of delivery. Due to the nature of its interlayers, Pyrobel may develop some minor imperfections such as small bubbles or a slight distortion which will not affect the free vision through the glazing or fire performance. A variation of up to 5% of light transmission or haze shall not be considered a defect. This guarantee is for replacement of glass only. Any other costs associated with the removal or replacement of defective units is not the responsibility of the manufacturer. The guarantee shall apply only to glass handled, transported, store and installed in accordance with normal procedures.

For more information, please contact marketing@generalglass.com.
Pyrobel 90

Features & Benefits

- Manufactured by AGC for 90 minute fire rating with hose stream
- Multi-laminated glass with intumescent interlayers
- Designated on drawings and in specifications as Pyrobel 90
- Tested in accordance with ASTM E119, NFPA 80, NFPA 252, NFPA 257, UL 9, UL 10B, UL 10C and UL 263 as a transparent wall assembly using GGI-PyroFrames™ or GGI-KwicKap™ and in GGI-PyroDoors™
- Tested to ANSI Z97.1 and CPSC 16CFR 1201 to meet maximum safety ratings
- Available for standard steel door vision lite assemblies with 5/8” stop height
- Available with additional lite for decorative, patterned, or painted appearance
- For use in interior and exterior applications
- U.S. fabrication for fast delivery

Maximum Glazing Sizes (ClearView)

<table>
<thead>
<tr>
<th></th>
<th>Width</th>
<th>Height</th>
<th>Max. Sq. In.</th>
<th>Stop Height</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>PyroDoors™</td>
<td>39 3/4”</td>
<td>87 5/8”</td>
<td>3492</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>PyroFrames™</td>
<td>87 5/8”</td>
<td>87 5/8”</td>
<td>3833</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>KwickKap™</td>
<td>87 5/8”</td>
<td>87 5/8”</td>
<td>3528</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>Vision Lites</td>
<td>36”</td>
<td>61”</td>
<td>2196</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
</tbody>
</table>

For more information, please contact marketing@generalglass.com.
General Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Interior</th>
<th>Exterior</th>
<th>Insulated Exterior</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usage</strong></td>
<td>Interior</td>
<td>Ext. below 120°F, above -20°F</td>
<td>Ext. above 120°F, below -20°F</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>1 3/8” (35mm) +/-2mm</td>
<td>1 1/2” (37mm) +/-2mm</td>
<td>2” (50mm) +/-2mm</td>
</tr>
<tr>
<td><strong>Weight/sq.ft.</strong></td>
<td>16.4 lbs (80kg/sq.m)</td>
<td>18 lbs (88kg/sq.m)</td>
<td>21 lbs (103kg/sq.m)</td>
</tr>
<tr>
<td><strong>Light transmission</strong></td>
<td>82%</td>
<td>81%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Sound reduction</strong></td>
<td>Rw=43 dB</td>
<td>Rw=44 dB</td>
<td>Rw=46 dB</td>
</tr>
<tr>
<td><strong>Safety rating</strong></td>
<td>CPSC 16CFR1201 Cat. II 400 ft. lbs. ANSI Z97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fire rating</strong></td>
<td>90 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R-value</strong></td>
<td>1.16</td>
<td>1.21</td>
<td>2.22</td>
</tr>
<tr>
<td><strong>U-value</strong></td>
<td>0.862</td>
<td>0.828</td>
<td>0.460</td>
</tr>
</tbody>
</table>

Maximum structural load performance (wind load–ASTM E330) of Pyrobel-90-37 is 512.4 lbs/sq.

Product Guidelines

LISTINGS

Testing completed by Intertek/Warnock-Hersey and UL

LABELING

All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION

All systems require 1/4” x thickness of glass x 3” calcium silicate setting blocks placed at sill quarter points. Each lite of Pyrobel must be inspected prior to installation for damage including review of edge protecting tape. (DO NOT INSTALL GLASS THAT HAS BEEN DAMAGED.) Pyrobel must be glazed with 1/8” x 1/2” closed cell foam glazing tape. Exterior glazing must have PVB side facing to exterior side. Refer to shop drawings for final assembly requirements.

STORAGE AND HANDLING

Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain glass in a vertical position with back slightly inclined at 6-10°.

QUALITY STANDARD

Pyrobel products are specially prepared products designed to prevent the expansion of fire. Thus, the specific optical quality should not be compared to single float or laminated PVB glazing. Consult GGI for specific acceptable quality standards.

GUARANTEE

The manufacturer, AGC Flat Glass Europe, guarantees the characteristics of Pyrobel for a period of 5 years from date of delivery. Due to the nature of its interlayers, Pyrobel may develop some minor imperfections such as small bubbles or a slight distortion which will not affect the free vision through the glazing or fire performance. A variation of up to 5% of light transmission or haze shall not be considered a defect. This guarantee is for replacement of glass only. Any other costs associated with the removal or replacement of defective units is not the responsibility of the manufacturer. The guarantee shall apply only to glass handled, transported, store and installed in accordance with normal procedures.

For more information, please contact marketing@generalglass.com.
Pyrobel 120

Features & Benefits

- Manufactured by AGC for 120 minute fire rating with hose stream
- Multi-laminated glass with intumescent interlayers
- Available in butt-glazed assembly*
- Designated on drawings and in specifications as Pyrobel 120
- Tested in accordance with ASTM E119, NFPA 80, NFPA 252, NFPA 257, UL 9, UL 10B, UL 10C and UL 263 as a transparent wall assembly using *GGI-PyroFrames™* or *StileLite 300™* or *GGI-KwickKap™*
- Tested to ANSI Z97.1 and CPSC 16CFR 1201 to meet maximum safety ratings
- Available for standard steel door vision lite assemblies with 5/8” stop height
- Available with additional lite for decorative, patterned, or painted appearance
- Meets maximum performance requirements of ASTM C1629
- Hard Body Impact testing
- ASTM C1629 Hard Body impact Classification Level 3 for materials; soft Body Impact Classification Level 2 for the Assembly as required by NYBC

Maximum Glazing Sizes (ClearView)

<table>
<thead>
<tr>
<th></th>
<th>Width</th>
<th>Height</th>
<th>Max. Sq. In.</th>
<th>Stop Height</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>PyroFrames™</td>
<td>86 5/8”</td>
<td>86 5/8”</td>
<td>3833</td>
<td>5/8”</td>
<td>Intertek/WHI</td>
</tr>
<tr>
<td>StileLite300</td>
<td>94”</td>
<td>94”</td>
<td>4434</td>
<td>5/8”</td>
<td>Intertek/WHI &amp; UL</td>
</tr>
<tr>
<td>KwicKap™</td>
<td>*100 7/8”</td>
<td>*100 7/8”</td>
<td>*4434</td>
<td>11/4”</td>
<td>UL</td>
</tr>
<tr>
<td>Butt-Glazed Panel</td>
<td>40”</td>
<td>114”</td>
<td>4560</td>
<td>11/4”</td>
<td>UL</td>
</tr>
</tbody>
</table>

For more information, please contact marketing@generalglass.com.
### General Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Interior</th>
<th>Ext. below 120°F, above -20°F</th>
<th>Ext. above 120°F, below -20°F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usage</strong></td>
<td>Interior</td>
<td>Ext. below 120°F, above -20°F</td>
<td>Ext. above 120°F, below -20°F</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>2 1/8” (53mm) +3/-1mm</td>
<td>2 5/16” (57mm) +3/-1mm</td>
<td>2 3/4” (70mm) +3/-1mm</td>
</tr>
<tr>
<td><strong>Weight/sq.ft.</strong></td>
<td>24.6 lbs (120kg/sq.m)</td>
<td>26.2 lbs (128kg/sq.m)</td>
<td>30 lbs (146kg/sq.m)</td>
</tr>
<tr>
<td><strong>Light transmission</strong></td>
<td>71%</td>
<td>70%</td>
<td>Varies</td>
</tr>
<tr>
<td><strong>Sound reduction</strong></td>
<td>Rw=46 dB</td>
<td>Rw=47 dB</td>
<td>Varies</td>
</tr>
<tr>
<td><strong>Safety rating</strong></td>
<td>CPSC 16CFR1201 Cat. II 400 ft. lbs. ANSI Z97.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fire rating</strong></td>
<td>120 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R-value</strong></td>
<td>1.18</td>
<td>1.21</td>
<td>Varies</td>
</tr>
<tr>
<td><strong>U-value</strong></td>
<td>0.845</td>
<td>0.828</td>
<td>Varies</td>
</tr>
</tbody>
</table>

Maximum structural load performance (wind load–ASTM E330) of Pyrobel 120 is 512.4 lbs/sq. ft.

### Product Guidelines

#### LISTINGS
Testing completed by Intertek/Warnock-Hersey and UL

#### LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

#### INSTALLATION
All systems require 1/4” x thickness of glass x 3” calcium silicate setting blocks placed at sill quarter points. Each lite of Pyrobel must be inspected prior to installation for damage including review of edge protecting tape. (DO NOT INSTALL GLASS THAT HAS BEEN DAMAGED.) Pyrobel must be glazed with 1/8” x 1/2” closed cell foam glazing tape. Exterior glazing must have PVB side facing to exterior side. Refer to shop drawings for final assembly requirements.

#### STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain glass in a vertical position with back slightly inclined at 6-10°.

#### QUALITY STANDARD
Pyrobel products are specially prepared products designed to prevent the expansion of fire. Thus, the specific optical quality should not be compared to single float or laminated PVB glazing. Consult GGI for specific acceptable quality standards.

#### GUARANTEE
The manufacturer, **AGC Flat Glass Europe**, guarantees the characteristics of Pyrobel for a period of 5 years from date of delivery. Due to the nature of its interlayers, Pyrobel may develop some minor imperfections such as small bubbles or a slight distortion which will not affect the free vision through the glazing or fire performance. A variation of up to 5% of light transmission or haze shall not be considered a defect. This guarantee is for replacement of glass only. Any other costs associated with the removal or replacement of defective units is not the responsibility of the manufacturer. The guarantee shall apply only to glass handled, transported, stored and installed in accordance with normal procedures.

For more information, please contact marketing@generalglass.com.
GGI-PyroFrames™

Features & Benefits

• Narrow profile, roll-formed steel framing manufactured for 45 to 120 minute fire rating applications with hose stream
• Designated on drawings and in specifications as GGI-PyroFrames™
• Tested in accordance with UL 263, ASTM E119, and NFPA 251 as a transparent wall assembly with Pyrobel glazing
• Available with narrow stile GGI-PyroDoors™
• Internal and external surface protection provided by Sendzimir galvanizing for maximum durability in combination with painted finishes
• Multiple profile options available, including stainless steel
• Fully weeped system with glazing gaskets
• Shear block construction can be supplied in KD bar lengths or fully fabricated

General Characteristics

Profile materials:

-Mild steel to ST37-2 quality according to DIN 17100. (Equivalent to S235 JRG2 according to EN10025)
-Stainless steel to 1.4301 & 1.4404 quality according to DIN 17100. (Equivalent to 304 & 316L to AISI standards)
-Sendzimir galvanising of interior and exterior of profiles to 275g/m2 according to EN10142.

Cap materials:

-Aluminium alloy to eloxadisable ALMgSi0.5 according to DIN 1747 and DIN 17615. (Equivalent to 6063-T6 to BSEN573-3)

For more information, please contact marketing@generalglass.com.
System fasteners:
-Zinc coated 1.4301 stainless steel according to DIN EN17440. (Equivalent to 304 quality to AISI standards)

System gaskets:
-Non cellular elastomer compound to DIN EN7863. (Equivalent to BS3734)
Performance classifications according to EN13830: 2003:
-Water Intrusion Resistance 1650 Pa / Air Permeability >600 Pa / Sound Insulation up to 47 dB

Product Guidelines

LISTINGS
Testing completed by Intertek/ Warnock-Hersey

LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION
GGI-PyroFrames™ have been tested in combination with Pyrobel fire-resistive glazing and require ¼” x 3” calcium silicate setting blocks at quarter points. Refer to shop drawing setting conditions for final installation requirements.

STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain in original packaging until ready for use.

QUALITY STANDARD
Sendzimir galvanizing process uses a small amount of aluminum in the zinc bath and produces a coating with essentially no iron-zinc alloy. The process guarantees high resistance to oxidation and increased durability versus hot-dipped and electro-galvanizing processes.

GUARANTEE
The manufacturer guarantees the characteristics of GGI-PyroFrames™ for a period of 5 years from date of delivery.

This guarantee is for replacement only. Any other costs associated with the removal or replacement of defective parts or units is not the responsibility of the manufacturer. The guarantee shall apply only to materials transported, stored and installed in accordance with recommended procedures.
Features & Benefits

- Narrow profile, roll-formed steel doors and frames manufactured for 20 to 90 minute fire rating applications with hose stream
- Designated on drawings and in specifications as GGI-PyroDoors™
- Tested in accordance with UL 10c, UBC 7-2, NFPA 252, CAN4 S104 with Pyrobel glazing
- Available with narrow profile GGI-PyroFrames™
- Internal and external surface protection provided by Sendzimir galvanizing for maximum durability in combination with painted finishes
- Limits Temperature - Rise to 250°F at 30 minutes
- A choice of concealed or surface mounted hinges and closers
- Non-rebated or rebated meeting stiles
- Standard panic bars and automatic operators available
- Fully fabricated door and frame assembly for ease of installation

General Characteristics

Profile materials:
-Mild steel to ST37-2 quality according to DIN 17100. (Equivalent to S235 JRG2 according to EN10025)
-Stainless steel to 1.4301 & 1.4404 quality according to DIN 17100. (Equivalent to 304 & 316L to AISI standards)
-Sendzimir galvanising of interior and exterior of profiles to 275g/m2 according to EN10142.

For more information, please contact marketing@generalglass.com.
System fasteners:
-Zinc coated 1.4301 stainless steel according to DIN EN17440. (Equivalent to 304 quality to AISI standards)

System gaskets:
-Non cellular elastomer compound to DIN EN7863. (Equivalent to BS3734)
-Water Intrusion Resistance 1650 Pa / Air Permeability >600 Pa / Sound Insulation up to 47 dB

Product Guidelines

LISTINGS
Testing completed by Intertek/ Warnock-Hersey

LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION
GGI-PyroDoors™ have been tested in combination with Pyrobel fire-resistive glazing. Refer to shop drawing setting conditions for final installation requirements.

STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain in original packaging until ready for use.

QUALITY STANDARD
Sendzimir galvanizing process uses a small amount of aluminum in the zinc bath and produces a coating with essentially no iron-zinc alloy. The process guarantees high resistance to oxidation and increased durability versus hot-dipped and electro-galvanizing processes.

GUARANTEE
The manufacturer guarantees the characteristics of GGI-PyroDoors™ for a period of 5 years from date of delivery.

This guarantee is for replacement only. Any other costs associated with the removal or replacement of defective parts or units is not the responsibility of the manufacturer. The guarantee shall apply only to materials transported, stored and installed in accordance with recommended procedures.

For more information, please contact sales@generalglass.com.
StileLite™
Frames & Doors

Features & Benefits

- 60-120 minute temperature rise hollow metal transparent wall systems
- 20-90 doors with temperature-rise option
- Unlimited number of framing modules up to 49-7/8” wide
- Visible glass area of each opening can be up to 3,916 sq. in., not exceeding 46-3/4” x 83-3/4”
- All frames 14 gauge steel
- Jamb size from 4-3/4” to 14” with 5/8” glass stops
- Tnemec factory painted finishes and powder coating available
- Can be manufactured from cold-rolled, galvanized, or No. 4 stainless steel
- Doors up to 48” wide (96” pairs) x 108” high
- Finishing options for doors include: wood grain stainable steel, plastic laminate, factory-finished wood
- Frames and doors comply with ASTM E119, NFPA 251, UL 263, and CANULC S101, and UL 10c

General Characteristics

After extensive testing over the last 3 decades, Stiles has become a groundbreaking industry leader in developing hollow metal technology for fire rated doors, windows, sidelites, and storefront systems. Stiles pioneered uniquely modular 60 and 120 minute transparent wall systems tested in combination with Pyrobel fire-resistive glazing.

The maximum overall door and frame sizes that can be fire rated by Stiles are as follows:

a) Frames: 174” X 144”
b) Single Doors: 51” X 120”
c) Door Pairs: 102” X 120”
d) Transparent Wall System: No Size Limit

For more information, please contact marketing@generalglass.com.
Product Guidelines

LISTINGS
Testing completed by Intertek / Warnock-Hersey and UL

LABELING
All products are labeled bearing the manufacturers name, testing laboratory, rating and safety standards.

INSTALLATION
StileLite™ frames and doors have been tested in combination with Pyrobel fire-resistive glazing and require ¼” x 3” calcium silicate setting blocks at quarter points. Refer to shop drawing setting conditions for final installation requirements.

STORAGE AND HANDLING
Store in a dry, ventilated location, not exposed to solar radiation at temperatures not to exceed -20°F or 120°F. Always maintain in original packaging until ready for use.

QUALITY STANDARD
StileLite™ framing and doors conform to the Hollow Metal Manufacturer’s Association (HMMA) quality and performance standards.

GUARANTEE
The manufacturer guarantees the characteristics of their framing and doors for a period of 5 years from date of delivery.

This guarantee is for replacement only. Any other costs associated with the removal or replacement of defective parts or units is not the responsibility of the manufacturer. The guarantee shall apply only to materials transported, stored and installed in accordance with recommended procedures.

For more information, please contact sales@generalglass.com.
SCHOTT PYRAN® Platinum

Features & Benefits

• Fire-rated up to 90 minutes with required hose stream test
• Specially floated glass-ceramic does not require polishing
• Transparent and wireless
• Withstands thermal shock
• Approved for use with any standard fire-rated frame with the same rating
• Conforms to positive pressure test standards
• Environmentally-friendly glass-ceramic; produced without hazardous heavy metals arsenic and antimony
• Cradle to Cradle® Certified Silver by MBDC
• Meets Leed Innovation in Design requirements
• Qualifies for Environmentally Preferred Purchasing Program (EPP)
• Can be used to construct insulated glazing units
• Can be lightly sandblasted or delivered with surface-applied opacity film
• Available locally through GGI distributor network

General Characteristics

• Thickness: 3/16” (5mm)
• Weight: 2.5 lbs/ft²
• Clear, No amber tint
• Surface finish: Float glass quality
• Maximum sheet sizes: Approximately 43” x 77”
• Impact Rating: None (For applications requiring an impact-rated material SCHOTT offers PYRAN® Platinum F and PYRAN® Platinum L products)

For more information, please contact marketing@generalglass.com.
Ratings in Minutes | Location | Max. exposed area of glazing (in²) | Max. width of exposed glazing (in) | Max. height of exposed glazing (in) | Min. depth of groove (in) | Groove width (in) | Building code marking |
--- | --- | --- | --- | --- | --- | --- | --- |
Up to 90 min | Transom lites, sidelites, windows | 3,422 (23.7 ft²) | 76 | 76 | 5/8 | 7/16, 3/8 | OH-90 |

Classified and labeled by Underwriters Laboratories, Inc. for the United States and Canada under File # R22036. All fire tests performed in accordance with UL 9, UL 10C, UBC 7-2 (1997), UBC 7-4 (1997), NFPA 257, NFPA 80, ASTM E2010-01, ASTM E2074-00, and ULC CAN4-S106.

Note: This product is not considered a barrier to radiant heat and has not met the ASTM E-119 or UL 263 test standards. For additional information: contact GGI, 101 Venture Way, Secaucus, NJ 07094 or call (800) 431-2042.

**Labeling**

After cutting, each lite of PYRAN® Platinum fire-rated glass-ceramic shall be permanently labeled according to local building code requirements with product and manufacturers name, UL certification mark, fire-rating, etc.

**Storage and Handling**

PYRAN® Platinum fire-rated glass-ceramic should be handled with care during transportation, storage, inspection, and installation. It should be stored in dry conditions only and needs to be stacked upright or at a slight angle. In addition, the panels must be separated by an appropriate material, such as soft pads made of cork, and the bottom edge must be supported along its entire length.

**Installation**

PYRAN® Platinum shall only be installed into fire-rated frame and window assemblies carrying the same rating. Each PYRAN® Platinum panel should be inspected carefully before installation, and any pieces visible edge or surface damage should be sorted out. All glazing components and the stop height must be chosen according to the PYRAN® Platinum UL classification. The panel must be placed on calcium silicate or hardwood setting blocks and glazed using PYRAN® Platinum classified glazing tape, such as closed cell PVC, Fiberfrax tape or Pemko FG3000S90. The installation of the framed unit must comply with the frame supplier’s instructions.

PYRAN® Platinum is a specially developed glass-ceramic that fulfills the fire protection rating requirements. The production process may create certain optical imperfections, such as bubbles or knots. Since these do not generally impair the transparency or the technical performance of the glass-ceramic, they do not represent cause for rejection or replacement.

**Maintenance and Care**

To maintain the aesthetics, it is important to keep the panel clean. A soft, clean, non-abrasive cloth and a mild soap, detergent, or non abrasive window cleaning solution is suitable for cleaning. After cleaning, rinse immediately with clean water and remove any excess water from the panel surface. Also, do not allow any metal or hard parts of the cleaning equipment to come in contact with the panel surface.

For more information, please contact marketing@generallglass.com.
SCHOTT PYRAN® Platinum F

Features & Benefits

- Fire-rated up to 90 minutes (up to 180 minutes in doors) with required hose stream test
- Specially-floated glass-ceramic with surface applied safety film - does not require surface polishing
- Transparent and wireless
- Withstands thermal shock
- Approved for use with any standard fire-rated frame with the same rating
- Conforms to positive pressure test standards
- Environmentally-friendly glass-ceramic; produced without hazardous heavy metals arsenic and antimony
- Cradle to Cradle® Certified Silver by MBDC
- Meets Leed innovation in Design Requirements
- Qualifies for Environmentally Preferred Purchasing Program (EPP)
- Can be used to construct insulated glazing units
- Can be lightly sandblasted or delivered with surface-applied opacity film
- Available locally through GGI distributor network

General Characteristics

- Thickness: 3/16” (5mm)
- Weight: 2.5 lbs/ft²
- Clear, No amber tint
- Surface: Float glass quality
- Maximum sheet sizes: Approximately 51” x 99”
- Impact Rating: ANSI Z97.1 (Class A) and CPSC 16 CFR1201 (Cat. I and II)
Labeling

After cutting, each lite of PYRAN® Platinum F fire- and safety-rated glass-ceramic shall be permanently labeled according to local building code requirements with product and manufacturers name, UL certification mark, fire-rating, etc.

Storage and Handling

PYRAN® Platinum F fire-rated glass-ceramic should be handled with care during transportation, storage, inspection, and installation. It should be stored in dry conditions only and needs to be stacked upright or at a slight angle. In addition, the panels must be separated by an appropriate material, such as acid-free tissue paper, and the bottom edge must be supported along its entire length.

Installation

PYRAN® Platinum F shall only be installed into fire-rated frame and window assemblies carrying the same rating. Each panel should be inspected carefully before installation, and any pieces with visible edge or surface damage should be sorted out. All glazing components and the stop height must be chosen according to the PYRAN® Platinum F UL classification. The panel must be placed on calcium silicate or hardwood setting blocks and glazed using PYRAN® Platinum F classified glazing tape, such as closed cell PVC, Fiberfrax tape or Pemko FG3000S90. The installation of the framed unit must comply with the frame supplier’s instructions.

PYRAN® Platinum F is a specially developed glass-ceramic that fulfills the fire and safety protection rating requirements. The production process may create certain optical imperfections, such as bubbles or knots. Since these do not generally impair the transparency or the technical performance of the glass-ceramic, they do not represent cause for rejection or replacement.

Maintenance and Care

To maintain the aesthetics, it is important to keep the panel clean. A soft, clean, non-abrasive cloth and a mild soap, detergent, or non-abrasive window cleaning solution is suitable for cleaning. After cleaning, rinse immediately with clean water and remove any excess water from the panel surface. Also, do not allow any metal or hard parts of the cleaning equipment to come in contact with the panel surface.

For more information, please contact marketing@generalglass.com.
SCHOTT PYRAN® Platinum L

Features & Benefits

• Fire-rated up to 90 minutes (up to 180 minutes in doors) with required hose stream test
• Laminated specially floated glass-ceramic does not require polishing
• Transparent and wireless
• Withstands thermal shock
• Approved for use with any fire-rated frame
• Conforms to positive pressure test standards
• Environmentally-friendly glass-ceramic; produced without hazardous heavy metals arsenic and antimony
• Cradle to Cradle® Certified Silver by MBDC
• Meets Leed Innovation in Design requirements
• Qualifies for Environmentally Preferred Purchasing Program (EPP)
• Can be used to construct insulated glazing units
• Can be lightly sandblasted or delivered with surface-applied opacity film
• Available locally through GGI distributor network

General Characteristics

• Thickness: 3/8" (9mm)
• Weight: 4.0 lbs/ft²
• Clear, No amber tint
• Surface finish: Float glass quality
• Maximum sheet sizes: Approximately 43” x 77”
• Impact Rating: ANSI Z97.1 (Class A) and CPSC 16CFR1201 (Cat. I and II)
• STC rating: Approximately 36 dB

For more information, please contact marketing@generalglass.com.
Labeling

After cutting, each lite of PYRAN® Platinum L fire-and safety-rated glass-ceramic shall be permanently labeled according to local building code requirements with product and manufacturers name, UL certification mark, fire-rating, etc.

<table>
<thead>
<tr>
<th>Ratings in Minutes</th>
<th>Location</th>
<th>Max. exposed area of glazing (in²)</th>
<th>Max. width of exposed glazing (in)</th>
<th>Max. height of exposed glazing (in)</th>
<th>Min. depth of groove (in)</th>
<th>Groove width (in)</th>
<th>Building code marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 90 min</td>
<td>Doors Non-Temp Rise</td>
<td>2,736 (19 ft²)</td>
<td>76</td>
<td>75</td>
<td>5/8</td>
<td>5/8, 1/2</td>
<td>D-H-NT-90</td>
</tr>
<tr>
<td>Up to 180 min</td>
<td>Doors Temp Rise and Non-Temp Rise</td>
<td>100 (0.69 ft²)</td>
<td>12</td>
<td>33</td>
<td>1/2</td>
<td>5/8</td>
<td>D-H-NT-180</td>
</tr>
<tr>
<td>Up to 90 Min</td>
<td>Transom lites, sidelites, windows</td>
<td>3,143 (21.8 ft²)</td>
<td>75</td>
<td>75</td>
<td>5/8</td>
<td>5/8</td>
<td>OH-90</td>
</tr>
</tbody>
</table>

Classified and labeled by Underwriters Laboratories, Inc. for the United States and Canada under File # R22036. All fire tests performed in accordance with UL 9, UL 10B, UL10C, UBC 7-2 (1997), UBC 7-4 (1997), NFPA 252, NFPA 257, NFPA 80, UL Can4-5104, and UL CAN4-5106.

Note: This product is not considered a barrier to radiant heat and has not met the ASTM E-119 or UL 263 test standards.

Storage and Handling

PYRAN® Platinum L fire-rated glass-ceramic should be handled with care during transportation, storage, inspection, and installation. It should be stored in dry conditions only and needs to be stacked upright or at a slight angle. In addition, the panels must be separated by an appropriate material, such as soft pads made of cork, and the bottom edge must be supported along its entire length.

Installation

PYRAN® Platinum L shall only be installed into fire-rated frame and window assemblies carrying the same rating. Each PYRAN® Platinum panel should be inspected carefully before installation, and any pieces visible edge or surface damage should be sorted out. All glazing components and the stop height must be chosen according to the PYRAN® Platinum L product classification. The panel must be placed on calcium silicate or hardwood setting blocks and glazed using PYRAN® Platinum L classified glazing tape, such as closed cell PVC, Fiberfrax tape or Pemko FG3000S90. The installation of the framed unit must comply with the frame supplier’s instructions.

PYRAN® Platinum L is a specially developed glass-ceramic that fulfills fire-protection rating requirements. The production process may create certain optical imperfections, such as bubbles or knots. Since these do not generally impair the transparency or the technical performance of the glass-ceramic, they do not represent cause for rejection or replacement.

Maintenance and Care

To maintain the aesthetics, it is important to keep the panel clean. A soft, clean, non-abrasive cloth and a mild soap, detergent, or non abrasive window cleaning solution is suitable for cleaning. After cleaning, rinse immediately with clean water and remove any excess water from the panel surface. Also, do not allow any metal or hard parts of the cleaning equipment to come in contact with the panel surface.

For more information, please contact marketing@generalglass.com.
NEW WIRE by GGI

Features & Benefits

• Meets impact safety standards ANSI Z97.1 Class A
• UL certified for fire-ratings of 20, 45, 60 and 90 minutes.
• Case quantity sheet sizes up to 48” by 100” in Diamond (misco) and Georgian (square) patterns available for distribution
• Locally available through GGI distributor network

Specifications

• Thickness: Nominal 1/4” (6.8 mm)
• Weight: approximately 3.85 lbs. per square foot
• Visible Light Transmittance: Approximately 78%

Installation

• Must be glazed into appropriate fire-rated framing.
• Appropriate glazing compounds, such as Fiberfrax tape, closed cell PVC and Pemko FG300S45, must be used.
• For interior applications, fire-rating will not be affected by which surface has the film

Storage and Handling

• Handled with care when shipping to prevent damage to edges and filmed surface.
  Small occlusions and process marks from the manufacturing process may be visible, but do not affect the fire-rating or safety performance of the product.
• Store in a dry place.

Warranty

• 3-year limited warranty

For more information, please contact marketing@generalglass.com.
<table>
<thead>
<tr>
<th>Rating</th>
<th>Application</th>
<th>Max. exposed area of glazing (in²)</th>
<th>Max. width of exposed glazing (in)</th>
<th>Max. height of exposed glazing (in)</th>
<th>Min. depth of groove (in)</th>
<th>Groove width (in)</th>
<th>Building code marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>20, 30, and 45 min</td>
<td>Doorframe, window, sidelite/ transom with or w/o 2nd piece of 1/4” thick tempered glass</td>
<td>1296</td>
<td>54</td>
<td>54</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT-20, OH-20, D-H-NT-30, OH-30, D-H-NT-45, OH-45</td>
</tr>
<tr>
<td>20 min. No Hose</td>
<td>Hollow metal door</td>
<td>3289</td>
<td>35 3/4</td>
<td>92</td>
<td>3/4</td>
<td>1/2</td>
<td>D-NH-NT-20</td>
</tr>
<tr>
<td>45 min.</td>
<td>Transom light</td>
<td>3456</td>
<td>96</td>
<td>36</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT-45</td>
</tr>
<tr>
<td>45 min.</td>
<td>Sidelite or window</td>
<td>4608</td>
<td>100</td>
<td>100</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT-45, OH-45</td>
</tr>
<tr>
<td>45 min.</td>
<td>Hollow metal door</td>
<td>2856</td>
<td>34</td>
<td>84</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT45</td>
</tr>
<tr>
<td>90 min.</td>
<td>Hollow metal door</td>
<td>552</td>
<td>12</td>
<td>46</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT-90</td>
</tr>
<tr>
<td>60 min.</td>
<td>Wood door</td>
<td>960</td>
<td>12</td>
<td>80</td>
<td>5/8</td>
<td>1/2</td>
<td>D-H-NT-60</td>
</tr>
</tbody>
</table>
Pyroguard

Features & Benefits

- Wire-free laminated glass
- 7mm thickness for 20 minute applications without hose stream
- Intumescent interlayer provides protection against radiant heat
- Easy to cut, no edge taping needed
- UV stability for interior and exterior applications
- UL certified, ANSI Z97.1 Class B impact resistance
- Cut-to-size available locally through GGI distributor network
- Case quantity available with sheet size of 62” x 109”

General Characteristics

<table>
<thead>
<tr>
<th>Ratings in Minutes</th>
<th>Location</th>
<th>Max. exposed area of glazing (in²)</th>
<th>Max. width of exposed glazing (in)</th>
<th>Max. height of exposed glazing (in)</th>
<th>Min. depth of groove (in)</th>
<th>Groove width (in)</th>
<th>Building code marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 min NH</td>
<td>Door Lites</td>
<td>1404</td>
<td>28</td>
<td>62</td>
<td>3/4</td>
<td>9/16</td>
<td>D-NH-NT-20</td>
</tr>
</tbody>
</table>
GGI-PYROFRAMES™ - STRUCTURAL MULLION

3 9/16"

3/16"

Pyrobel 60 / 120

3/16"

9/16"

2 3/8"
STILELITE 100 - 60MIN MODULAR WALL ASSEMBLY
STILELITE 200 - 60 MIN MODULAR WALL ASSEMBLY

DISTRIBUTED BY GGI
101 VENTURE WAY
SECAUCUS, NJ 07094
DOOR JAMB CONNECTION

3.500" MIN

3.500" MIN

VERTICAL MULLION

VERTICAL MULLION

HORIZONTAL MULLION

SILL

STILELITE 300 - MODULAR 120MIN WALL ASSEMBLY

DISTRIBUTED BY GGI
101 VENTURE WAY
SECAUCUS, NJ 07094
### IBC REFERENCE TABLES

The following pages provide product references based on typical IBC requirements. Please consult with your local Authority Having Jurisdiction to confirm correct product applications.

#### APPENDIX A - 2015 IBC SECTION 716 TABLES

**Marking Fire-Rated Glazing Assemblies**

<table>
<thead>
<tr>
<th>Fire Test Standard</th>
<th>Marking</th>
<th>Definition of Marking</th>
<th>Products added for reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM E119 or UL 263</td>
<td>W</td>
<td>Meets wall assembly criteria.</td>
<td>Pyrobel 60-120</td>
</tr>
<tr>
<td>NFPA 257 or UL 9</td>
<td>OH</td>
<td>Meets fire window assembly criteria including the hose stream test.</td>
<td>Pyrobel 45, PYRAN Platinum F, PYRAN Platinum L, GGI NEW WIRE</td>
</tr>
<tr>
<td>NFPA 252 or UL 10B or UL 10C</td>
<td>D, H, T</td>
<td>Meets fire door assembly criteria, Meets fire door assembly “Hose Stream” test, Meets 450º F temperature rise criteria for 30 minutes</td>
<td>Pyroguard 20, Pyrobel 45-120, PYRAN Platinum F, PYRAN Platinum L, GGI NEW WIRE, Pyrobel 45-120, PYRAN Platinum F, PYRAN Platinum L, GGI NEW WIRE</td>
</tr>
<tr>
<td></td>
<td>XXX</td>
<td>The time in minutes of the fire resistance or fire protection rating of the glazing assembly</td>
<td></td>
</tr>
</tbody>
</table>

For SI: °C = [°F − 32]/1.8.

---

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## 2015 IBC Table 716.5

### Opening Fire Protection Assemblies, Ratings and Markings

<table>
<thead>
<tr>
<th>Type of Assembly</th>
<th>Required Wall Assembly Rating (Hrs.)</th>
<th>Minimum Fire Door and Fire Shutter Assembly Rating (Hrs.)</th>
<th>Door Vision Panel Size</th>
<th>Fire Rated Glazing Marking Door Vision Panel</th>
<th>Products for Door Vision Panel added for Reference</th>
<th>Minimum Sidelite/Transom Assembly Rating (Hrs.)</th>
<th>Fire Rated Glazing Marking Sidelite/Transom Panel</th>
<th>Products for Sidelite/Transom added for Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire walls and fire barriers having a required fire resistance rating greater than 1 hour</td>
<td>4 3</td>
<td>See Note b</td>
<td>D-H-W-240</td>
<td>Not Permitted</td>
<td>4 Not Permitted</td>
<td>W-240</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>See Note b</td>
<td>D-H-W-180</td>
<td>Not Permitted</td>
<td>3 Not Permitted</td>
<td>W-180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| | 2 1-1/2 100 sq. in | ≤100 sq. in  
= D-H-90  
>100 sq. in  
= D-H-W-90 | GGI NEW WIRE  
PYRAN Platinum F and L  
Pyrobel 90 | Not Permitted | 2 Not Permitted | W-120 | Pyrobel 120 |
| | 1-1/2 1-1/2 100 sq. in | ≤100 sq. in  
= D-H-90  
>100 sq. in  
= D-H-W-90 | GGI NEW WIRE  
PYRAN Platinum F and L  
Pyrobel 90 | Not Permitted | 1-1/2 Not Permitted | W-90 | Pyrobel 90 |
| Enclosures for shafts, interior exit stairways and interior exit ramps | 2 1-1/2 100 sq. in | ≤100 sq. in  
= D-H-90  
>100 sq. in  
= D-H-T-90 or  
D-H-T-W-90 | GGI NEW WIRE  
PYRAN Platinum F and L  
Pyrobel 90 | Not Permitted | 2 Not Permitted | W-120 | Pyrobel 120 |
| Horizontal exits in fire walls | 4 3 | 100 sq. in | ≤100 sq. in  
= D-H-180  
>100 sq. in  
D-H-W-240 | PYRAN Platinum F and L | Not Permitted | 4 Not Permitted | W-240 | |
| | 3 3<sup>a</sup> | 100 sq. in | ≤100 sq. in  
= D-H-180  
>100 sq. in  
D-H-W-180 | PYRAN Platinum F and L | Not Permitted | 3 Not Permitted | W-180 | |

<sup>a</sup> See Note b

<sup>b</sup> D-H-W-240 Not Permitted

<sup>c</sup> D-H-W-180 Not Permitted

<sup>d</sup> Products for Door Vision Panel added for reference

<sup>e</sup> Horizontal exits in fire walls

(continued on next page)

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<table>
<thead>
<tr>
<th>TYPE OF ASSEMBLY</th>
<th>REQUIRED WALL ASSEMBLY RATING (HRS.)</th>
<th>MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (HRS.)</th>
<th>DOOR VISION PANEL SIZE</th>
<th>FIRE RATED GLAZING MARKING DOOR VISION PANEL</th>
<th>Product for Door Vision Panel added for reference</th>
<th>MINIMUM Sidelite/Transom ASSEMBLY RATING (HRS.)</th>
<th>FIRE RATED GLAZING MARKING SIDELITE/TRANSOM PANEL</th>
<th>Products for Sidelite/Transom added for reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access stairways, exit access ramp, interior exit stairways, interior exit ramps and exit passageway walls.</td>
<td>1</td>
<td>1</td>
<td>100 sq. in</td>
<td>≤100 sq. in  = D-H-60</td>
<td>GGI NEW WIRE PYRAN Platinum F and L Pyrobel 60</td>
<td>Not Permitted</td>
<td>1</td>
<td>Not Permitted</td>
</tr>
</tbody>
</table>

**Fire Protection**

<table>
<thead>
<tr>
<th>Other Fire Barriers</th>
<th>1</th>
<th>3/4</th>
<th>Maximum Size Tested</th>
<th>D-H</th>
<th>GGI NEW WIRE Pyrobel 45 PYRAN Platinum F and L</th>
<th>3/4</th>
<th>D-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Partitions/Corridor Walls</td>
<td>1</td>
<td>1/3</td>
<td>Maximum Size Tested</td>
<td>D-20</td>
<td>Pyroguard 20 GGI NEW WIRE PYRAN Platinum F and L</td>
<td>3/4</td>
<td>D-H-OH-45</td>
</tr>
<tr>
<td>Other Fire Partitions</td>
<td>0.5</td>
<td>1/3</td>
<td>Maximum Size Tested</td>
<td>D-20</td>
<td>Pyroguard 20 GGI NEW WIRE PYRAN Platinum F and L</td>
<td>1/3</td>
<td>D-H-OH-20</td>
</tr>
<tr>
<td>Other Fire Partitions</td>
<td>0.5</td>
<td>1/3</td>
<td>Maximum Size Tested</td>
<td>D-H-20</td>
<td>Pyrobel45 GGI NEW WIRE PYRAN Platinum F and L</td>
<td>1/3</td>
<td>D-H-20</td>
</tr>
</tbody>
</table>

(continued on next page)
<table>
<thead>
<tr>
<th>TYPE OF ASSEMBLY</th>
<th>REQUIRED WALL ASSEMBLY RATING (HRS.)</th>
<th>MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (HRS.)</th>
<th>DOOR VISION PANEL SIZE</th>
<th>FIRE RATED GLAZING MARKING DOOR VISION PANEL</th>
<th>Product for Door Vision Panel added for reference</th>
<th>MINIMUM Sidelite/Transom Assembly Rating (HRS.)</th>
<th>FIRE RATED GLAZING MARKING SIDELITE/TRANSOM PANEL</th>
<th>Products for Sidelite/Transom added for reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Walls</td>
<td>3</td>
<td>1-1/2</td>
<td>100 sq. in. b</td>
<td>≤100 sq. in. = D-H-90</td>
<td>GGI NEW WIRE</td>
<td>Not Permitted</td>
<td>3</td>
<td>Not Permitted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;100 sq. in. = D-H-W-90</td>
<td>PYRAN Platinum F and L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pyrobel 90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1-1/2</td>
<td>100 sq. in. b</td>
<td>≤100 sq. in. = D-H-90</td>
<td>GGI NEW WIRE</td>
<td>Not Permitted</td>
<td>2</td>
<td>Not Permitted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&gt;100 sq. in. = D-H-W-90</td>
<td>PYRAN Platinum F and L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pyrobel 90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fire Protection


Smoke Barriers

| 1               | 1/3                                 | Maximum Size Tested                                   | D-20                   | Pyroguard 20                              | GGI NEW WIRE                                    | 3/4                                         | D-H-OH-45                                     | Pyrobel 45 GGI NEW WIRE PYRAN Platinum F and L |

For SI: 1 square inch – 645.2 mm

a. Two doors, each with a fire protection rating of 1-1/2 hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door.
b. Fire resistance rated glazing tested to ASTM E119 in accordance with Section 716.2 shall be permitted, in the maximum size tested.
c. Except where the building is equipped throughout with an automatic sprinkler and the fire-rated glazing meets the criteria established in Section 716.5.5.
d. Under the column heading “Fire rated glazing marking door vision panel”, W refers to the fire-resistance rating of the glazing, not the frame.
e. See Section 716.5.8.1.2.1.
## Fire Window Assembly Fire Protection Ratings

<table>
<thead>
<tr>
<th>TYPE OF WALL ASSEMBLY</th>
<th>REQUIRED WALL ASSEMBLY RATING (hours)</th>
<th>FIRE RATED GLAZING MARKING</th>
<th>MINIMUM FIRE WINDOW ASSEMBLY RATING (hours)</th>
<th>PRODUCTS ADDED FOR REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior walls</td>
<td>All</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 60-120</td>
</tr>
<tr>
<td>Fire walls</td>
<td>&gt;1</td>
<td>W-XXX</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Fire barriers</td>
<td>1</td>
<td>W-XXX</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Incidental use areas</td>
<td>1</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Mixed occupancy separations(707.3.9)</td>
<td>1</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Fire Partitions</td>
<td>0.5</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Smoke Barrier</td>
<td>1</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Exterior walls</td>
<td>&gt;1</td>
<td>NP a</td>
<td>1/3 OH-45 or W-60</td>
<td>Pyrobel 90 or 120</td>
</tr>
<tr>
<td>Fire Parons</td>
<td>0.5</td>
<td>NP a</td>
<td>1/3 OH-90 or W-XXX</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Smoke Parons</td>
<td>1</td>
<td>NP a</td>
<td>1/3 OH-90 or W-XXX</td>
<td>Pyrobel 45 or 60</td>
</tr>
<tr>
<td>Party wall</td>
<td>All</td>
<td>NP</td>
<td>Not Applicable</td>
<td>Pyrobel 45 or 60</td>
</tr>
</tbody>
</table>

**Note opening limits per Table 705.8:**

**NP – Not Permitted**

a. Not permitted except fire resistance rated glazing assemblies tested to ASTM E119 or UL 263, as specified in Section 716.2.

b. XXX = The fire rating duration period in minutes, which shall be equal to the fire resistance rating required for the wall assembly.


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