

## Fire-Rated and Bullet-Resistant-Rated Transparent Wall Panel Fire-Rating: Up to 120 Minutes

Pilkington Pyrostop® BR is fire rated for up to 120 minutes and offers Level III bullet resistance ratings. It can be combined with Smartgard® products to achieve nearly any level of security.

### FEATURES

- Fire-rated for up to 120 minutes with required hose stream test
- Bullet resistance ratings from Level I to Level VII available in different make-ups
- Protection against radiant and conductive heat transfer
- Impact safety-rated—meets ANSI Z97.1 and CPSC 16 CFR1201 (Cat. I and II)
- May be lightly sandblasted or etched on one side without affecting fire rating
- Withstands thermal shock
- For use in interior and exterior applications
- 5-year limited warranty
- Large sizes available
- Available in insulated units with other glass products, including (but not limited to): Tinted; One-Way Mirror; Low-E; Reflective; Art Glass; Translucent Interlayer (for added obscurity and privacy)
- Fits in Fireframes® Heat Barrier Series windows. Contact TGP for allowable ballistic ratings
- Available for use in compliant frames by others (see frame manufacturer for details)
- Multi-laminate, not a sensitive polymer unit
- Comprised of Pilkington Optiwhite™ nearly colorless, wireless, low-iron float glass and clear intumescent interlayers

Pilkington Pyrostop sales are a cooperative effort between Technical Glass Products and Pilkington North America.

### LISTINGS/STANDARDS

Classified and labeled by Underwriters Laboratories, Inc.® and Underwriters Laboratories of Canada. File number for labeled fire-rated assemblies is R13377 (45 minutes) and R38725 (60-120 minutes). Tests performed in accordance with:

|        |          |              |           |              |             |
|--------|----------|--------------|-----------|--------------|-------------|
| UL 9   | NFPA 80  | CAN4 S-104   | ASTM E119 | MEA 241-00-M | NIJ 0108.01 |
| UL 10B | NFPA 251 | CAN4 S-106   |           | LARR 25798   |             |
| UL 10C | NFPA 252 | CAN/ULC-S101 |           |              |             |
| UL 263 | NFPA 257 |              |           |              |             |
| UL 752 |          |              |           |              |             |

### LABELING

Each piece of Pilkington Pyrostop BR shall be permanently labeled with the Pilkington Pyrostop BR logo, UL logo and fire rating.

### STORAGE & HANDLING

Pilkington Pyrostop must be handled with care during transportation, storage, inspection and installation. It should be stored in dry conditions, stocked vertically and fully supported in a manner which prevents the glass from sagging. During storage and transportation, the temperature of Pilkington Pyrostop should not exceed 122°F (50°C). Do not expose the “non-PVB” side of the glass to UV light. Do not remove the protective edge tape. See manufacturer’s installation and warranty information for further details.



BIM 3D Model Available



UL Classified & Labeled



Fire-Rated



Hose Stream Tested



Impact-Rated



Heat Barrier



Positive Pressure Tested



Bullet Resistant

| UL-752 BULLET RESISTANCE RATING | FIRE RATING | MANUFACTURER'S DESIGNATION | SUPPLY FORM    | NOMINAL THICKNESS | WEIGHT APPROX.  | U-VALUE | DAYLIGHT TRANS. APPROX. (dB) | STC RATING APPROX. (dB) | ASSEMBLY                 | MAX. EXPOSED AREA  | MAX. WIDTH OF EXPOSED GLAZING     | OR | MAX. HEIGHT OF EXPOSED GLAZING        |
|---------------------------------|-------------|----------------------------|----------------|-------------------|---|---------|------------------------------|-------------------------|--------------------------|--|-----------------------------------|----|---------------------------------------|
| Level I                         | 60 min.     | 60-201 (with film**)       | Single Glazing | 1-1/16" (27 mm)   | 12.90 lbs/ft <sup>2</sup> (63.00 kg/m <sup>2</sup> )  | .83     | 86                           | 44                      | OTHER THAN DOORS<br>DOOR | 7,442 in <sup>2</sup> (4.80 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 96" (2.44 m)<br>41-5/8" (1.06 m)  |    | 118-1/8" (3.00 m)<br>89-3/4" (2.28 m) |
| Level II                        | 120 min.    | 120-201*                   | I.G. Units     | 2-7/16" (62 mm)   | 25.81 lbs/ft <sup>2</sup> (126.00 kg/m <sup>2</sup> ) | .44     | 76                           | 46                      | OTHER THAN DOORS         | 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )   | 111" (2.81 m)                     |    | 111" (2.81 m)                         |
| Level III                       | 120 min.    | 120-201 (with film**)      | I.G. Units     | 2-7/16" (62 mm)   | 25.81 lbs/ft <sup>2</sup> (126.00 kg/m <sup>2</sup> ) | .44     | 73                           | 46                      | OTHER THAN DOORS         | 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )   | 111" (2.81 m)                     |    | 111" (2.81 m)                         |
| Level II                        | 120 min.    | 120-202 (with film*)       | Single Glazing | 1-9/16" (41 mm)   | 18.64 lbs/ft <sup>2</sup> (91.00 kg/m <sup>2</sup> )  | .72     | 85                           | 46                      | OTHER THAN DOORS<br>DOOR | 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 111" (2.81 m)<br>41-5/8" (1.06 m) |    | 111" (2.81 m)<br>89-3/4" (2.28 m)     |

\*For filmed products, one dimension of the glass cannot exceed 60" (1.52 m)

+ Available with a translucent interlayer

FOR APPROVED FRAMING SYSTEMS FOR USE WITH PILKINGTON PYROSTOP, VISIT FIREGLASS.COM OR CALL 800.426.0279

### SMARTGARD BULLET RESISTANT (LEVEL I-III)

|               |                                 | SMARTGARD BR1<br>LEVEL I** |   | SMARTGARD BR2<br>LEVEL II** |   | SMARTGARD BR3<br>LEVEL III* |   | SMARTGARD BR3TH<br>LEVEL III* |   |
|---------------|---------------------------------|----------------------------|---|-----------------------------|---|-----------------------------|---|-------------------------------|---|
| FIRE RATING   | PILKINGTON PYROSTOP DESIGNATION | NOMINAL THICKNESS          | WEIGHT APPROX.  | NOMINAL THICKNESS           | WEIGHT APPROX.  | NOMINAL THICKNESS           | WEIGHT APPROX.  | NOMINAL THICKNESS             | WEIGHT APPROX.  |
| 45 min.       | 45-200                          | 1.60" (41 mm)              | 16.82 lbs/ft <sup>2</sup> (82.11 kg/m <sup>2</sup> )  | 1.72" (44 mm)               | 19.42 lbs/ft <sup>2</sup> (94.80 kg/m <sup>2</sup> )  | 2.07" (52 mm)               | 23.39 lbs/ft <sup>2</sup> (114.8 kg/m <sup>2</sup> )  | 1.73" (44 mm)                 | 19.42 lbs/ft <sup>2</sup> (94.80 kg/m <sup>2</sup> )  |
| 60 min.       | 60-101                          | 1.75" (45 mm)              | 18.46 lbs/ft <sup>2</sup> (90.11 kg/m <sup>2</sup> )  | 1.88" (48 mm)               | 21.06 lbs/ft <sup>2</sup> (102.80 kg/m <sup>2</sup> ) | 2.22" (56 mm)               | 25.03 lbs/ft <sup>2</sup> (122.18 kg/m <sup>2</sup> ) | 1.89" (48 mm)                 | 21.06 lbs/ft <sup>2</sup> (102.80 kg/m <sup>2</sup> ) |
| 60 min.       | 60-201                          | 1.91" (49 mm)              | 20.50 lbs/ft <sup>2</sup> (100.11 kg/m <sup>2</sup> ) | 2.04" (52 mm)               | 23.10 lbs/ft <sup>2</sup> (112.80 kg/m <sup>2</sup> ) | 2.38" (60 mm)               | 27.07 lbs/ft <sup>2</sup> (132.18 kg/m <sup>2</sup> ) | 2.04" (52 mm)                 | 23.10 lbs/ft <sup>2</sup> (112.80 kg/m <sup>2</sup> ) |
| 90 min.       | 90-102                          | 2.30" (59 mm)              | 25.21 lbs/ft <sup>2</sup> (123.11 kg/m <sup>2</sup> ) | 2.43" (62 mm)               | 27.81 lbs/ft <sup>2</sup> (135.80 kg/m <sup>2</sup> ) | 2.77" (70 mm)               | 31.78 lbs/ft <sup>2</sup> (155.18 kg/m <sup>2</sup> ) | 2.44" (62 mm)                 | 27.81 lbs/ft <sup>2</sup> (135.80 kg/m <sup>2</sup> ) |
| 120 min.      | 120-104                         | 2.97" (76 mm)              | 29.31 lbs/ft <sup>2</sup> (143.11 kg/m <sup>2</sup> ) | 3.10" (79 mm)               | 31.91 lbs/ft <sup>2</sup> (155.80 kg/m <sup>2</sup> ) | 3.44" (87 mm)               | 35.88 lbs/ft <sup>2</sup> (175.18 kg/m <sup>2</sup> ) | 3.11" (79 mm)                 | 31.91 lbs/ft <sup>2</sup> (155.80 kg/m <sup>2</sup> ) |
| 90 - 120 min. | 120-202                         | 2.42" (62 mm)              | 26.24 lbs/ft <sup>2</sup> (128.11 kg/m <sup>2</sup> ) | 2.55" (65 mm)               | 28.84 lbs/ft <sup>2</sup> (140.80 kg/m <sup>2</sup> ) | 2.89" (73 mm)               | 32.18 lbs/ft <sup>2</sup> (160.18 kg/m <sup>2</sup> ) | 2.55" (65 mm)                 | 28.84 lbs/ft <sup>2</sup> (140.80 kg/m <sup>2</sup> ) |
| 90 - 120 min. | 120-262                         | 3.21" (82 mm)              | 29.31 lbs/ft <sup>2</sup> (143.11 kg/m <sup>2</sup> ) | 3.34" (85 mm)               | 31.91 lbs/ft <sup>2</sup> (155.80 kg/m <sup>2</sup> ) | 3.68" (93 mm)               | 35.88 lbs/ft <sup>2</sup> (175.18 kg/m <sup>2</sup> ) | 3.34" (85 mm)                 | 31.91 lbs/ft <sup>2</sup> (155.80 kg/m <sup>2</sup> ) |

\*Tested according to UL 752 standards, registered with UL

\*\*Tested according to UL 752 standard

**SMARTGARD BULLET RESISTANT (LEVEL IV-VII)**

| FIRE RATING   | PILKINGTON PYROSTOP DESIGNATION | SMARTGARD BR4<br>LEVEL IV* |  | SMARTGARD BR5<br>LEVEL V* |  | SMARTGARD BR7<br>LEVEL VII** |  |
|---------------|---------------------------------|----------------------------|--|---------------------------|--|------------------------------|--|
|               |                                 | NOMINAL THICKNESS          | WEIGHT APPROX.   | NOMINAL THICKNESS         | WEIGHT APPROX.   | NOMINAL THICKNESS            | WEIGHT APPROX.   |
| 45 min.       | 45-200                          | 2.09"<br>(53 mm)           | 23.69 lbs/ft <sup>2</sup><br>(115.7 kg/m <sup>2</sup> )  | 2.31"<br>(59 mm)          | 25.07 lbs/ft <sup>2</sup><br>(122.39 kg/m <sup>2</sup> ) | 2.31"<br>(59 mm)             | 25.19 lbs/ft <sup>2</sup><br>(122.97 kg/m <sup>2</sup> ) |
| 60 min.       | 60-101                          | 2.25"<br>(57 mm)           | 25.33 lbs/ft <sup>2</sup><br>(123.65 kg/m <sup>2</sup> ) | 2.47"<br>(63 mm)          | 26.71 lbs/ft <sup>2</sup><br>(130.89 kg/m <sup>2</sup> ) | 2.47"<br>(63 mm)             | 26.83 lbs/ft <sup>2</sup><br>(130.97 kg/m <sup>2</sup> ) |
| 60 min.       | 60-201                          | 2.41"<br>(61 mm)           | 27.37 lbs/ft <sup>2</sup><br>(133.65 kg/m <sup>2</sup> ) | 2.62"<br>(67 mm)          | 28.75 lbs/ft <sup>2</sup><br>(140.39 kg/m <sup>2</sup> ) | 2.62"<br>(67 mm)             | 28.87 lbs/ft <sup>2</sup><br>(140.97 kg/m <sup>2</sup> ) |
| 90 min.       | 90-102                          | 2.80"<br>(71 mm)           | 32.08 lbs/ft <sup>2</sup><br>(156.65 kg/m <sup>2</sup> ) | 3.02"<br>(77 mm)          | 33.46 lbs/ft <sup>2</sup><br>(163.39 kg/m <sup>2</sup> ) | 3.02"<br>(77 mm)             | 33.58 lbs/ft <sup>2</sup><br>(163.97 kg/m <sup>2</sup> ) |
| 120 min.      | 120-104                         | 3.47"<br>(88 mm)           | 36.18 lbs/ft <sup>2</sup><br>(176.65 kg/m <sup>2</sup> ) | 3.69"<br>(94 mm)          | 37.56 lbs/ft <sup>2</sup><br>(183.39 kg/m <sup>2</sup> ) | 3.69"<br>(94 mm)             | 37.68 lbs/ft <sup>2</sup><br>(183.97 kg/m <sup>2</sup> ) |
| 90 - 120 min. | 120-202                         | 2.92"<br>(74 mm)           | 33.11 lbs/ft <sup>2</sup><br>(161.65 kg/m <sup>2</sup> ) | 3.14"<br>(80 mm)          | 34.49 lbs/ft <sup>2</sup><br>(168.39 kg/m <sup>2</sup> ) | 3.14"<br>(80 mm)             | 34.61 lbs/ft <sup>2</sup><br>(168.97 kg/m <sup>2</sup> ) |
| 90 - 120 min. | 120-262                         | 3.71"<br>(94 mm)           | 36.18 lbs/ft <sup>2</sup><br>(176.65 kg/m <sup>2</sup> ) | 3.92"<br>(100 mm)         | 37.56 lbs/ft <sup>2</sup><br>(183.39 kg/m <sup>2</sup> ) | 3.92"<br>(100 mm)            | 37.68 lbs/ft <sup>2</sup><br>(183.97 kg/m <sup>2</sup> ) |

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\*\*Tested according to UL 752 standard

**MAXIMUM ALLOWABLE SIZES**

| FIRE RATING   | PILKINGTON PYROSTOP DESIGNATION | SUPPLY FORM    | ASSEMBLY                 | MAX. EXPOSED AREA  | MAX. WIDTH OF EXPOSED GLAZING        | OR | MAX. HEIGHT OF EXPOSED GLAZING        |
|---------------|---------------------------------|----------------|--------------------------|--|--------------------------------------|----|---------------------------------------|
| 45 min.       | 45-200                          | Single Glazing | OTHER THAN DOORS<br>DOOR | 4,500 in <sup>2</sup> (2.90 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 95-1/4" (2.42 m)<br>41-5/8" (1.06 m) |    | 95-1/4" (2.42 m)<br>89-3/4" (2.28 m)  |
| 60 min.       | 60-101*                         | Single Glazing | OTHER THAN DOORS<br>DOOR | 5,616 in <sup>2</sup> (3.62 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 96" (2.44 m)<br>41-5/8" (1.06 m)     |    | 96" (2.44 m)<br>89-3/4" (2.28 m)      |
| 60 min.       | 60-201+                         | Single Glazing | OTHER THAN DOORS<br>DOOR | 7,442 in <sup>2</sup> (4.80 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 96" (2.44 m)<br>41-5/8" (1.06 m)     |    | 118-1/8" (3.00 m)<br>89-3/4" (2.28 m) |
| 90 min.       | 90-102*                         | Single Glazing | OTHER THAN DOORS<br>DOOR | 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 96" (2.44 m)<br>41-5/8" (1.06 m)     |    | 96" (2.44 m)<br>89-3/4" (2.28 m)      |
| 120 min.      | 120-104*                        | I.G. Units     | OTHER THAN DOORS         | 3,730 in <sup>2</sup> (2.41 m <sup>2</sup> )   | 111" (2.81 m)                        |    | 111" (2.81 m)                         |
| 90 - 120 min. | 120-202                         | Single Glazing | OTHER THAN DOORS<br>DOOR | 3,730 in <sup>2</sup> (2.41 m <sup>2</sup> )<br>3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) | 111" (2.81 m)<br>41-5/8" (1.06 m)    |    | 111" (2.81 m)<br>89-3/4" (2.28 m)     |
| 90 - 120 min. | 120-262                         | I.G. Units     | OTHER THAN DOORS         | 3,730 in <sup>2</sup> (2.41 m <sup>2</sup> )   | 111" (2.81 m)                        |    | 111" (2.81 m)                         |

+ Available with a translucent interlayer

\*Interior use only