

## 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 up to UL 752 Level 3 bullet resistance ratings. It can be combined with Smartgard® products to achieve up to UL 752 Level 8 bullet resistance rating.

### FEATURES

- Fire-rated for up to 120 minutes with required hose stream test
- Bullet resistance ratings from UL 752 Level 1 to UL 752 Level 8 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	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 DOOR	7,442 in <sup>2</sup> (4.80 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	96" (2.44 m) 41-5/8" (1.06 m)	118-1/8" (3.00 m) 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 DOOR	3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	111" (2.81 m) 41-5/8" (1.06 m)	111" (2.81 m) 89-3/4" (2.28 m)

\*For filmed products, two dimensions 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](http://FIREGLASS.COM) OR CALL 800.426.0279

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

		SMARTGARD BR1 LEVEL I**		SMARTGARD BR2 LEVEL II**		SMARTGARD BR3 LEVEL III*		SMARTGARD BR3TH 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, classified and labeled with UL

\*\*Tested according to UL 752 standard

SMARTGARD BULLET RESISTANT (LEVEL IV-VIII)

		SMARTGARD BR4 LEVEL IV**		SMARTGARD BR5 LEVEL V*		SMARTGARD BR7 LEVEL VII**		SMARTGARD BR8 LEVEL VIII*	
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	2.09" (53 mm)	23.69 lbs/ft <sup>2</sup> (115.7 kg/m <sup>2</sup> )	2.31" (59 mm)	25.07 lbs/ft <sup>2</sup> (122.39 kg/m <sup>2</sup> )	2.31" (59 mm)	25.19 lbs/ft <sup>2</sup> (122.97 kg/m <sup>2</sup> )	3.17" (80 mm)***	35.27 lbs/ft <sup>2</sup> (172.19 kg/m <sup>2</sup> )
60 min.	60-101	2.25" (57 mm)	25.33 lbs/ft <sup>2</sup> (123.65 kg/m <sup>2</sup> )	2.47" (63 mm)	26.71 lbs/ft <sup>2</sup> (130.89 kg/m <sup>2</sup> )	2.47" (63 mm)	26.83 lbs/ft <sup>2</sup> (130.97 kg/m <sup>2</sup> )	3.32" (84 mm)	36.91 lbs/ft <sup>2</sup> (180.19 kg/m <sup>2</sup> )
60 min.	60-201	2.41" (61 mm)	27.37 lbs/ft <sup>2</sup> (133.65 kg/m <sup>2</sup> )	2.62" (67 mm)	28.75 lbs/ft <sup>2</sup> (140.39 kg/m <sup>2</sup> )	2.62" (67 mm)	28.87 lbs/ft <sup>2</sup> (140.97 kg/m <sup>2</sup> )	3.48" (88 mm)	38.95 lbs/ft <sup>2</sup> (190.19 kg/m <sup>2</sup> )
90 min.	90-102	2.80" (71 mm)	32.08 lbs/ft <sup>2</sup> (156.65 kg/m <sup>2</sup> )	3.02" (77 mm)	33.46 lbs/ft <sup>2</sup> (163.39 kg/m <sup>2</sup> )	3.02" (77 mm)	33.58 lbs/ft <sup>2</sup> (163.97 kg/m <sup>2</sup> )	3.88" (98 mm)	43.66 lbs/ft <sup>2</sup> (213.19 kg/m <sup>2</sup> )
120 min.	120-104	3.47" (88 mm)	36.18 lbs/ft <sup>2</sup> (176.65 kg/m <sup>2</sup> )	3.69" (94 mm)	37.56 lbs/ft <sup>2</sup> (183.39 kg/m <sup>2</sup> )	3.69" (94 mm)	37.68 lbs/ft <sup>2</sup> (183.97 kg/m <sup>2</sup> )	4.54" (115 mm)	47.76 lbs/ft <sup>2</sup> (233.19 kg/m <sup>2</sup> )
90 - 120 min.	120-202	2.92" (74 mm)	33.11 lbs/ft <sup>2</sup> (161.65 kg/m <sup>2</sup> )	3.14" (80 mm)	34.49 lbs/ft <sup>2</sup> (168.39 kg/m <sup>2</sup> )	3.14" (80 mm)	34.61 lbs/ft <sup>2</sup> (168.97 kg/m <sup>2</sup> )	3.99" (101 mm)	44.69 lbs/ft <sup>2</sup> (218.19 kg/m <sup>2</sup> )
90 - 120 min.	120-262	3.71" (94 mm)	36.18 lbs/ft <sup>2</sup> (176.65 kg/m <sup>2</sup> )	3.92" (100 mm)	37.56 lbs/ft <sup>2</sup> (183.39 kg/m <sup>2</sup> )	3.92" (100 mm)	37.68 lbs/ft <sup>2</sup> (183.97 kg/m <sup>2</sup> )	4.78" (121 mm)	47.76 lbs/ft <sup>2</sup> (233.19 kg/m <sup>2</sup> )

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\*\*Tested according to UL 752 standard

\*\*\*Must be used in fire-resistive framing

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 DOOR	4,500 in <sup>2</sup> (2.90 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	95-1/4" (2.42 m) 41-5/8" (1.06 m)		95-1/4" (2.42 m) 89-3/4" (2.28 m)
60 min.	60-101*	Single Glazing	OTHER THAN DOORS DOOR	5,616 in <sup>2</sup> (3.62 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	96" (2.44 m) 41-5/8" (1.06 m)		96" (2.44 m) 89-3/4" (2.28 m)
60 min.	60-201*	Single Glazing	OTHER THAN DOORS DOOR	7,442 in <sup>2</sup> (4.80 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	96" (2.44 m) 41-5/8" (1.06 m)		118-1/8" (3.00 m) 89-3/4" (2.28 m)
90 min.	90-102*	Single Glazing	OTHER THAN DOORS DOOR	3,724 in <sup>2</sup> (2.40 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	96" (2.44 m) 41-5/8" (1.06 m)		96" (2.44 m) 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 DOOR	3,730 in <sup>2</sup> (2.41 m <sup>2</sup> ) 3,724 in <sup>2</sup> (2.40 m <sup>2</sup> )	111" (2.81 m) 41-5/8" (1.06 m)		111" (2.81 m) 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