

## FIRE-RATED, FORCED ENTRY AND BULLET RESISTANT TRANSPARENT WALL PANEL FOR DETENTION CENTERS

Pilkington Pyrostop® laminated to Smartgard® is fire rated for up to 120 minutes, and offers ballistic features and containment ratings up to 60 minutes in standard detention fire-rated doors and frames.

 **FIRE RATING**  
**UP TO 120 MINUTES**

### FEATURES

- Attack and containment ratings up to 60 minutes in compliant fire-rated and attack-rated doors and frames
- Available in ASTM F1915 Grades 1-4
- Attack-rated products offer bullet resistance up to Level III in some configurations (additional fire-rated bullet resistant glazing options available up to NIJ Level IV and UL Level VII)
- Ballistic features and containment ratings up to 60 minutes in standard detention fire-rated doors and frames
- Protection against radiant and conductive heat transfer
- Barrier to fire and smoke
- Impact safety-rated—meets ANSI Z97.1 and CPSC 16 CFR1201 (Cat. I and II)
- Wireless with nearly the same clarity as ordinary float glass
- For use in interior and exterior applications
- Available incorporating a variety of 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 by TGP
- Available for use in compliant frames by others (see frame manufacturer for details)
- Multi-laminate, not a sensitive polymer unit

#### NOTES:

1. Pilkington Pyrostop sales are a cooperative effort between Technical Glass Products and Pilkington North America.
2. If your project requires a bullet-resistant-rated product, please contact TGP regarding Pilkington Pyrostop® Bullet-Resistant-Rated glass.

### 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	CAN/ULC-S101	ASTM E119	MEA 290-90-M-6
UL 10B	NFPA 251	CAN/ULC-S104	ASTM F1915 Grades 1-4	LARR 25798
UL 10C	NFPA 252	CAN/ULC-S106		
UL 263	NFPA 257			
UL 752				

### LABELING

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



BIM 3D Model



Fire-Rated



Hose Stream Tested



Heat Barrier



Positive Pressure Tested



Impacted Rated



Bullet Resistant



Forced Entry Resistant



UL Classified & Labeled



NORTH AMERICA'S  
**MOST SPECIFIED**  
FIRE-RATED GLASS COMPANY

## 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.

## INSTALLATION

If either dimension exceeds 84” or if the unit exceeds 34 ft<sup>2</sup>, the SmartGard glass clad polycarbonate thickness will increase by 1/8” thus increasing the unit thickness by 1/8”.

Only Kerafix® is approved for use with Pilkington Pyrostop SmartGard.

## UL-752 BULLET RESISTANCE

UL-752 BULLET RESISTANCE RATING	FIRE RATING	PILKINGTON PYROSTOP DESIGNATION	SUPPLY FORM	NOMINAL THICKNESS	WEIGHT APPROX.	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> )	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> )	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> )	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> )	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, one dimension of the glass cannot exceed 60" (1.52 m)

+ Available with a translucent interlayer

^ Interior use only

FOR APPROVED FRAMING SYSTEMS FOR USE WITH PILKINGTON PYROSTOP, VISIT [FIREGLASS.COM](http://FIREGLASS.COM) OR CALL 800.426.0279.

## SMARTGARD FORCED ENTRY ASTM F1915 GRADES 1-4 FIRE AND ATTACK RATING OPTIONS

GCP TYPE: ATTACK RATING:		GCPHG2216MOD GRADE 1 60 MIN +BR3		GCPHG1616 GRADE 1 60 MIN		GCP1416 GRADE 2 40 MIN		GCP1116 GRADE 3 20 MIN		GCP0916 GRADE 4 10 MIN	
FIRE RATING	PILKINGTON PYROSTOP DESIGNATION	NOMINAL THICKNESS	WEIGHT APPROX.	NOMINAL THICKNESS	WEIGHT APPROX.	NOMINAL THICKNESS	WEIGHT APPROX.	NOMINAL THICKNESS	WEIGHT APPROX.	NOMINAL THICKNESS	WEIGHT APPROX.
45 min.	45-200	2.27" (58 mm)	22.54 lbs/ft <sup>2</sup> (110.03 kg/m <sup>2</sup> )	1.91" (49 mm)	18.09 lbs/ft <sup>2</sup> (88.31 kg/m <sup>2</sup> )	1.63" (41 mm)	16.62 lbs/ft <sup>2</sup> (81.13 kg/m <sup>2</sup> )	1.50" (38 mm)	15.12 lbs/ft <sup>2</sup> (73.81 kg/m <sup>2</sup> )	1.36" (35 mm)	14.68 lbs/ft <sup>2</sup> (71.66 kg/m <sup>2</sup> )
60 min.	60-101*	2.43" (62 mm)	24.18 lbs/ft <sup>2</sup> (118.03 kg/m <sup>2</sup> )	2.07" (53 mm)	19.73 lbs/ft <sup>2</sup> (96.31 kg/m <sup>2</sup> )	1.78" (45 mm)	18.26 lbs/ft <sup>2</sup> (89.13 kg/m <sup>2</sup> )	1.66" (42 mm)	16.76 lbs/ft <sup>2</sup> (81.81 kg/m <sup>2</sup> )	1.52" (39 mm)	16.32 lbs/ft <sup>2</sup> (79.66 kg/m <sup>2</sup> )
60 min.	60-201	2.59" (66 mm)	26.22 lbs/ft <sup>2</sup> (128.03 kg/m <sup>2</sup> )	2.23" (57 mm)	21.77 lbs/ft <sup>2</sup> (106.31 kg/m <sup>2</sup> )	1.94" (49 mm)	20.30 lbs/ft <sup>2</sup> (99.13 kg/m <sup>2</sup> )	1.82" (46 mm)	18.80 lbs/ft <sup>2</sup> (91.81 kg/m <sup>2</sup> )	1.68" (43 mm)	18.36 lbs/ft <sup>2</sup> (89.66 kg/m <sup>2</sup> )
90 min.	90-102*	2.98" (76 mm)	30.93 lbs/ft <sup>2</sup> (151.03 kg/m <sup>2</sup> )	2.62" (67 mm)	26.48 lbs/ft <sup>2</sup> (129.31 kg/m <sup>2</sup> )	2.33" (59 mm)	25.01 lbs/ft <sup>2</sup> (122.13 kg/m <sup>2</sup> )	2.21" (56 mm)	23.51 lbs/ft <sup>2</sup> (114.81 kg/m <sup>2</sup> )	2.07" (53 mm)	23.07 lbs/ft <sup>2</sup> (112.66 kg/m <sup>2</sup> )
120 min.	120-104*	3.65" (93 mm)	35.03 lbs/ft <sup>2</sup> (171.03 kg/m <sup>2</sup> )	3.29" (84 mm)	30.58 lbs/ft <sup>2</sup> (149.31 kg/m <sup>2</sup> )	3.00" (76 mm)	29.11 lbs/ft <sup>2</sup> (142.13 kg/m <sup>2</sup> )	2.88" (73 mm)	27.61 lbs/ft <sup>2</sup> (134.81 kg/m <sup>2</sup> )	2.74" (70 mm)	27.17 lbs/ft <sup>2</sup> (132.66 kg/m <sup>2</sup> )
90 - 120 min.	120-202	3.10" (79 mm)	31.96 lbs/ft <sup>2</sup> (156.03 kg/m <sup>2</sup> )	2.74" (70 mm)	27.51 lbs/ft <sup>2</sup> (134.31 kg/m <sup>2</sup> )	2.43" (62 mm)	26.04 lbs/ft <sup>2</sup> (127.13 kg/m <sup>2</sup> )	2.33" (59 mm)	24.39 lbs/ft <sup>2</sup> (119.07 kg/m <sup>2</sup> )	2.19" (56 mm)	24.10 lbs/ft <sup>2</sup> (117.66 kg/m <sup>2</sup> )
90 - 120 min.	120-262	3.88" (99 mm)	35.03 lbs/ft <sup>2</sup> (171.03 kg/m <sup>2</sup> )	3.53" (90 mm)	30.58 lbs/ft <sup>2</sup> (149.31 kg/m <sup>2</sup> )	3.24" (82 mm)	29.11 lbs/ft <sup>2</sup> (142.13 kg/m <sup>2</sup> )	3.12" (79 mm)	27.61 lbs/ft <sup>2</sup> (134.81 kg/m <sup>2</sup> )	2.98" (76 mm)	27.17 lbs/ft <sup>2</sup> (132.66 kg/m <sup>2</sup> )

Notes: The chart above reflects the UL-approved Pilkington Pyrostop sizing per rating but does not represent the available sizes of SMARTGARD panels laminated to Pilkington Pyrostop. Please contact LTI if your panels exceed 15 square feet, or any dimension exceeds 72" (413.637.5001).

Both Pilkington Pyrostop and SmartGuard have a ± 1/16" tolerance giving an overall thickness tolerance of ± 1/8"

\*Interior use only.

## 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