

Fire Rated Clear Tempered Safety Glass for 20 Minute Doors

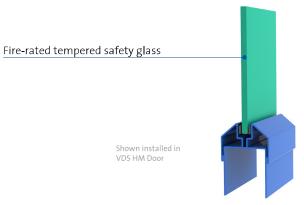
CLASSIFICATION

PRODUCT FEATURES









Fire Resistive
US Testing / Compliant
Impact Safety Rating
Nominal Thickness
Thickness Tolerance
U value (BTU/hr*sqft/°F)
STC Rating
Weight (lbs/sq.ft.)
Visible Light Transmission

AUTHORIZED DIMENSIONS

Rating	Application	Max Exposed Area of Glass (Sq In.)	Max Width of Exposed Glass	Max Height of Exposed Glass	Min Depth of Groove	Groove Width	Building Code ¹ Marking
20 Min	Swinging Doors	3419	47–1/2"	95–1/2"	5/8"	3/8"	D-NH-20



¹See Reference Page

KERALITE® FILMED

Fire-Rated Safety Glass Ceramic

CLASSIFICATION

PRODUCT FEATURES













TECHNICAL SPECIFICATIONS

Fire Rating	20-90, 180 Minute
US Testing	Listed and labeled with Underwriters Laboratories Inc. File #R14515
	Tested in accordance with UL 9, UL 10B, UL 10C, NFPA 80, NFPA 252, NFPA 257
Canadian Testing	CAN/ULC-S106, S104
Impact Safety Rating	CPSC 16CFR Part 1201 (CATEGORIES I & II), ANSI Z97.1, CAN/CGSB-12.1-M
Nominal Thickness	3/16" (5 mm)
Thickness Tolerance	+1/64" to -1/64" (+0.4 mm to -0.4 mm)
U value BTU/(hr*sqft*degF)	0.88
STC Rating	35
Weight (lbs/sq ft.)	2.4
Approx. Visible Light Transmission	86%

AUTHORIZED DIMENSIONS

	WINDOW/TRANSOM/SIDELIGHT			DOOR - NON-TEMPERATURE RISE			DOOR - TEMPERATURE RISE		
RATING	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT
	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)
20	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
45	4,500	95-3/8	95-3/8	3,627	46-1/2	78	N/A		
60	4,500	95-3/8	95-3/8	3,627	46-1/2	78	100	10	33
90	4,500	95-3/8	95-3/8	3,627	46-1/2	76	100	10	33
180		N/A			N/A		100	10	33

Maximum sheet size for this product is 46" x 96".

Height multiplied by width cannot exceed maximum exposed area.



KERALITE® SELECT FILMED

Fire-Rated Filmed Safety Polished Glass Ceramic

CLASSIFICATION

PRODUCT FEATURES













TECHNICAL SPECIFICATIONS

Fire Rating	20-90, 180 Minute
US Testing	Listed and labeled with Underwriters Laboratories Inc. File #R14515
	Tested in accordance with UL 9, UL 10B, UL 10C, NFPA 80, NFPA 252, NFPA 257
Canadian Testing	CAN/ULC-S106, S104
Impact Safety Rating	CPSC 16CFR Part 1201 (CATEGORIES I & II), ANSI Z97.1, CAN/CGSB-12.1-M
Nominal Thickness (in.; mm)	3/16" (5 mm)
Thickness Tolerance (in.; mm)	+1/64" to -1/64" (+0.4 mm to -0.4 mm)
U value BTU/(hr*sqft*degF)	0.88
STC Rating	35
Weight (lbs/sq ft.)	2.4
Approx. Visible Light Transmission	88%

AUTHORIZED DIMENSIONS

	WINDOW/TRANSOM/SIDELIGHT			DOOR - NON-TEMPERATURE RISE			DOOR -TEMPERATURE RISE		
RATING	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT
	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)
20	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
45	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
60	4,500	95-3/8	95-3/8	3,627	46-1/2	78	100	10	33
90	4,500	95-3/8	95-3/8	3,627	46-1/2	76	100	10	33
180		N/A			N/A		100	10	33

Maximum sheet size for this product is 46" x 96".

Height multiplied by width cannot exceed maximum exposed area.



KERALITE® LAMINATED

Fire-Rated Laminated Safety Glass Ceramic

CLASSIFICATION

PRODUCT FEATURES













TECHNICAL SPECIFICATIONS

Fire Rating	20-90, 180 Minute
US Testing	Listed and labeled with Underwriters Laboratories Inc. File #R14515 Tested in accordance with UL 9, UL 10B, UL 10C, NFPA 80, NFPA 252, NFPA 257
Canadian Testing	CAN/ULC-S106, S104
Impact Safety Rating	CPSC 16CFR Part 1201 (CATEGORIES I & II). ANSI Z97.1, CAN/CGSB-12.1-M
Nominal Thickness	5/16" (8 mm)
Thickness Tolerance	+1/64" to -1/64" (+0.4 mm to -0.4 mm)
U value BTU/(hr*sqft*degF)	0.88
STC Rating	37
Weight (lbs/sq ft.)	4.1
Approx. Visible Light Transmission	82%

AUTHORIZED DIMENSIONS

	WINDOW/TRANSOM/SIDELIGHT			DOOR - NON-TEMPERATURE RISE			DOOR -TEMPERATURE RISE		
RATING	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT
	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)
20	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
45	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
60	4,500	95-3/8	95-3/8	3,627	46-1/2	78	100	10	33
90	4,500	95-3/8	95-3/8	3,627	46-1/2	76	100	10	33
180		N/A			N/A		100	10	33

Maximum sheet size for this product is 44" x 96".

Height multiplied by width cannot exceed maximum exposed area.



KERALITE® SELECT LAMINATED

Fire-Rated Laminated Polished Safety Glass Ceramic

CLASSIFICATION

PRODUCT FEATURES













TECHNICAL SPECIFICATIONS

Fire Rating	20-90, 180 Minute
US Testing	Listed and labeled with Underwriters Laboratories Inc. File #R14515
	Tested in accordance with UL 9, UL 10B, UL 10C, NFPA 80, NFPA 252, NFPA 257
Canadian Testing	CAN/ULC-S106, S104
Impact Safety Rating	CPSC 16CFR Part 1201 - (CATEGORIES I & II), ANSI Z97.1, CAN/CGSB-12.1-M
Nominal Thickness (in.; mm)	5/16" (8 mm)
Thickness Tolerance (in.; mm)	+1/64" to -1/64" (+0.4 mm to -0.4 mm)
U value BTU/(hr*sqft*degF)	0.88
STC Rating	37
Weight (lbs/sq ft.)	4.1
Approx. Visible Light Transmission	82%

AUTHORIZED DIMENSIONS

	WINDOW/TRANSOM/SIDELIGHT			DOOR - NON-TEMPERATURE RISE			DOOR - TEMPERATURE RISE		
RATING	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT	AREA	WIDTH	HEIGHT
	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)	(Max.)
20	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
45	4,500	95-3/8	95-3/8	3,627	46-1/2	78		N/A	
60	4,500	95-3/8	95-3/8	3,627	46-1/2	78	100	10	33
90	4,500	95-3/8	95-3/8	3,627	46-1/2	76	100	10	33
180		N/A			N/A		100	10	33

Maximum sheet size for this product is 44" x 96".

Height multiplied by width cannot exceed maximum exposed area.



Fire Rated Safety Clear Glass Ceramic

CLASSIFICATION

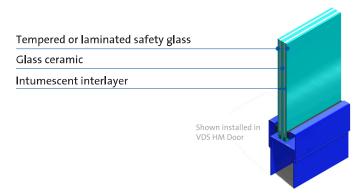
PRODUCT FEATURES











TECHNICAL SPECIFICATIONS

Fire Resistive
US Testing / Compliant
CAN Testing / Compliant
Impact Safety Rating
Nominal Thickness
Thickness Tolerance
U value (BTU/hr*sqft/°F)
STC Rating
Weight (lbs/sq.ft.)
Visible Light Transmission

20 – 180 Minutes
Listed and labeled with Underwriters Laboratories Inc. File #R14515

Tested in accordance with UL 9, UL 10C, NFPA 80, NFPA 252 NFPA 257

CAN/ULC-S106, S104

CPSC 16C PART 1201 (CATEGORIES I & II)

3/4" (18 mm) or 7/8" (22mm)

0.719" to 0.934" (18.26 mm to 23.74 mm)¹

0.79

(per ASTM E90)

7.6

≈ 79%

AUTHORIZED DIMENSIONS

Rating	Application	Max Exposed Area of Glass (Sq In.)	Max Width of Exposed Glass	Max Height of Exposed Glass	Min Depth of Groove	Groove Width	Building Code ² Marking
3/4 hr	Door - Non-Temp Rise	e 2736	46-1/2"	76"	5/8"	1"	D-H-45
3/4 hr	Window, Transom, Sidelite	2736	60-1/2"	76"	5/8"	1"	OH-45
1 hr	Door - Temp Rise or Non-Temp Rise	2736	46-1/2"	76"	5/8"	1"	D-H-T-60
1 hr	Window, Transom, Sidelite	2736	60-1/2"	76"	5/8"	1"	OH-60
1-1/2 hr	Door - Temp Rise or Non-Temp Rise	2736	46-1/2"	76"	5/8"	1"	D-H-T-90
1-1/2 hr	Window, Transom, Sidelite	2736	60-1/2"	76"	5/8"	1"	OH-90
3 hr	Door-Temp Rise	100	10"	33"	5/8"	1"	D-H-T-180



¹ For sizes under 7" width or height

² See Reference page

CONTRAFLAM® 60

Fire-Rated Clear Tempered Safety Glass

CLASSIFICATION

PRODUCT FEATURES

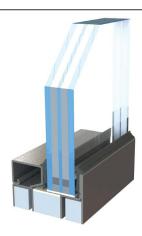












TECHNICAL SPECIFICATIONS

Fire Rating	60 Minutes
US Testing	UL 9, 10B, UL 10C, NFPA 80, NFPA 251, NFPA 252, NFPA 257, ASTM E119, UL 263
Canadian Testing	CAN/ULC-S101, S104, S106
Building Code Marking	D-H-T-60, OH-60, W-60, D-H-T-W-60
Impact Safety Rating	CPSC 16CFR 1201-CAT II, CAN/CGSB-12.1-M, ANSI Z97.1
Nominal Thickness (in.; mm)	1" (25 mm)
Thickness Tolerance (in.; mm)	+1/8" to -1/16" (+3 mm to -1.5 mm)
U value BTU/(hr*sqft*degF)	0.76
STC Rating	40
Approx. Visible Light Transmission	80%
Groove (in.; mm)	Depth: 7/8" (22 mm) Width: 1-3/4" (45 mm)
Weight (lbs./ft.²; kg/m²)	10.3 (58.0)

MAXIMUM DIMENSIONS	Window, Transom, Sidelight	Door Non-Temp Rise	Door Temp Rise
Maximum Exposed Height (in; m)*	94-13/16 (2.41)	89-1/2 (2.27)	89-1/2 (2.27)
Maximum Exposed Width (in; m)*	94-13/16 (2.41)	30 (0.76)	30 (0.76)
Maximum Exposed Area (in²; m²)*	4,449 (2.87)	2,685 (1.73)	2,685 (1.73)

^{*}Height multiplied by width cannot exceed maximum exposed area.

Low iron glass is available upon request.



CONTRAFLAM® 90

Fire-Rated Clear Tempered Safety Glass

CLASSIFICATION

PRODUCT FEATURES

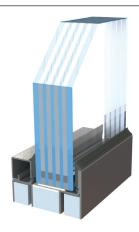












TECHNICAL SPECIFICATIONS

Fire Rating	90 Minutes
US Testing/Compliant	UL 9, 10B, UL 10C, NFPA 80, NFPA 252, NFPA 257
Canadian UL Listing	CAN/ULC S104, S106
Building Code Marking	D-H-T-90, OH-90
Impact Safety Rating	CPSC 16CFR 1201-CAT II; CAN/CGSB-12.1-M; ANSI Z97.1
Nominal Thickness (in.; mm)	1-7/16" (37 mm)
Thickness Tolerance (in.; mm)	+1/8" to -1/16" (+3 mm to -1.5 mm)
U value (BTU/hr*sqft/°F)	0.69
STC Rating	45
Visible Light Transmission	≈ 82%
Groove (in.; mm)	Depth: 13/16" (21 mm) Width: 1-15/16" (49 mm)
Weight (lbs./ft.²; kg/m²)	14.6 (71.5)

MAXIMUM DIMENSIONS	Window, Transom, Sidelight	Door Non-Temp Rise	Door Temp Rise
Maximum Exposed Height (in; m)*	88-9/16 (2.25)	88-9/16 (2.25)	88-9/16 (2.25)
Maximum Exposed Width (in; m)*	88-9/16 (2.25)	35-3/4 (0.91)	35-3/4 (0.91)
Maximum Exposed Area (in²; m²)*	3,174 (2.05)	3,174 (2.05)	3,174 (2.05)

 $^{^*}$ Height multiplied by width cannot exceed maximum exposed area.



CONTRAFLAM® 120

Fire-Rated Clear Tempered Safety Glass

CLASSIFICATION

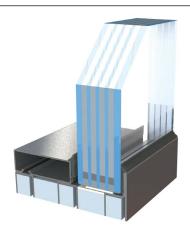
PRODUCT FEATURES











TECHNICAL SPECIFICATIONS

Fire Rating	120 Minutes
US Testing	UL 263, NFPA 251, ASTM E119
Canadian Testing	CAN/ULC-S101
Building Code Marking	W-120
Impact Safety Rating	CPSC 16CFR 1201-CAT II, CAN/CGSB-12.1-M, ANSI Z97.1
Nominal Thickness (in.; mm)	1-9/16" (39 mm)
Thickness Tolerance (in.; mm)	+1/8" to -1/16" (+3 mm to -1.5 mm)
U value BTU/(hr*sqft*degF)	0.65
STC Rating	46
Approx. Visible Light Transmission	82%
Groove (in.; mm)	Depth: 7/8" (22 mm) Width: 2-15/16" (75 mm)
Weight (lbs./ft.²; kg/m²)	17.4 (77.5)

MAXIMUM DIMENSIONS	Window, Transom, Sidelight	Door Non-Temp Rise	Door Temp Rise
Maximum Exposed Height (in; m)*	94-5/8 (2.40)	N/A	N/A
Maximum Exposed Width (in; m)*	94-5/8 (2.40)	N/A	N/A
Maximum Exposed Area (in²; m²)*	4,435 (2.86)	N/A	N/A

^{*}Height multiplied by width cannot exceed maximum exposed area. Low iron glass is available upon request.





Fire Rated Framing System

CLASSIFICATION

PRODUCT DESCRIPTION





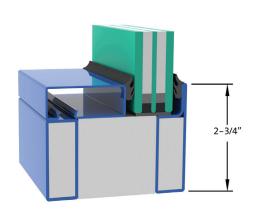
60 minute fire rated wall assembly with narrow profiles providing open vision areas allowing natural daylight without compromising life safety and design flexibility. This fully insulated system can be complemented with 45 or 60 minute rated doors where requested.

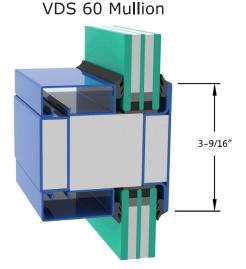
TECHNICAL SPECIFICATIONS

US Testing/Compliant	ASTM E-119, UL 101, UL 263, NFPA 80, NFPA 252, NFPA 257
CAN Testing/Compliant	CAN/ULC-5101
Finish Option	Powder Coat/Enamel
Custom Colors ¹	Yes
Fabrication	Welded/Clipped
Certification	Underwriters Laboratories
Fabricated in the US	Yes
Glazing Options	CONTRAFLAM [®] 60; CONTRAFLAM [®] STRUCTURE 60
Single/Double Doors	Yes (see VDS Doors)
Weight (lbs/lin.ft.)	5 (does not include glass)

DETAILS

VDS 60 Perimeter







¹ Surcharge May Apply

PRODUCT TERMS AND CONDITIONS

Fire Rated Frame and Door Systems: VDS° / VDS° CURTAINWALL / VDS° Lite / VDS° HM

- 1. General: This document applies to VDS®, VDS® CURTAINWALL, VDS® Lite, VDS® HM of all types and fire ratings as specified. When fire-resistant framing systems are used, it is assumed that the buyer will use abovementioned framing systems only in combination with fire-rated glazing materials approved by a valid and independent institution, e.g. UL/Underwriters Laboratories. Copies of authorized listing and specifications, as well as instructions for handling and installation are available online at vetrotechusa.com, or by calling 1-888-803-9533.
- **2. Limited 5 Year Warranty:** Vetrotech Saint-Gobain warrants that products furnished per approved shop drawings will be free from manufacturing defects. Proper handling and installation by skilled craftsmen in accordance with VDS° installation instructions and consistent with trade practices extend a warranty for a period of:
 - five (5) years on door and frame fabrication
 - five (5) years on Powder Coat or Baked Enamel finish
 - two (2) years on Anodized finish
 - one (1) year on door hardware as furnished.

The obligation of this warranty shall be limited to replacement or repair of the products supplied, or, at Vetrotech Saint-Gobain's sole option, to a refund of the purchase price. Vetrotech Saint-Gobain reserves the right to have any products to which the foregoing warranty apply, field inspected by a qualified representative, and to have samples returned to Vetrotech Saint-Gobain for examination and laboratory analysis.

Vetrotech Saint-Gobain will repair or replace F.O.B. manufacturer's warehouse any merchandise which proves to be defective in workmanship or material within the stated time from the date of shipment to the buyer. The foregoing states the entire liability of the seller to the buyer in respect to all merchandise hereby purchased, and there is no warranty as to merchantability or fitness or any other statutory, implied or expressed warranty.

Vetrotech Saint-Gobain shall in no event be liable for loss of profits or other consequential or special damages or for labor or other expense for adjustments, repairs, replacements or transportation of defective merchandise incurred by the buyer. Vetrotech Saint-Gobain assumes no responsibility for the assembly, installation, or erection beyond approved shop drawings/installation documents,

and shall in no event be liable for any loss or damage sustained thereby. Any merchandise replaced under this warranty is limited to the original warranty period and shall not be extended beyond that term.

This warranty shall not apply if the failure is caused by acts of God, intervening cause, mishandling, misuse, abuse, improper installation, installation by unqualified staff or by any other cause whatsoever not within our exclusive control, and shall not apply unless the failure occurs within five years after the date of shipment. Vetrotech Saint-Gobain shall have no liability for any liquidated damages whatsoever unless specifically agreed to in writing by the President of Vetrotech Saint-Gobain.

- **3. Transportation and Storage Conditions:** Transport and storage of VDS°, VDS° CURTAINWALL, VDS° Lite, VDS° HM products must be in a vertical and dry state. Extreme climatic conditions and exposure to weather must be avoided.
- **4.** Handling and Installation Requirements: The product warranty is subject to VDS°, VDS° CURTAINWALL, VDS° Lite, VDS° HM product having been handled and installed in accordance with VDS° installation instructions, approved shop drawings and consistent with trade practices. It is essential that contractors or other handlers or installers be familiar with such instructions. All subsequent product processing, additions or alterations not authorized and monitored by Vetrotech Saint-Gobain are specifically prohibited. If the products are used in fire-rated applications not covered by Vetrotech Saint-Gobain product specifications, all warranty is null and void.



(UL

Fire Rated Framing System

CLASSIFICATION

PRODUCT DESCRIPTION





120 minute fire rated wall assembly with narrow profiles providing open vision areas allowing natural daylight without compromising life safety and design flexibility. This fully insulated system can be complemented with 90 minute rated doors where desired.

TECHNICAL SPECIFICATIONS

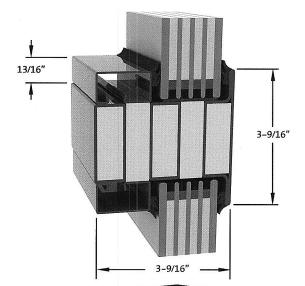
Meets/Compliant	
Finish Option	
Custom Colors ¹	
Fabrication	***
Certification	
Fabricated in the US	
Glazing Options	
Single/Double Doors	
Weight (lbs/lin.ft.)	-
Max Door Leaf Size	

Powder Coat/Enamel	
Yes	
Welded	
Underwriters Laboratories	2
Yes	
sggCONTRAFLAM 120	
Yes (see VDS Doors)	
8	

DETAILS

VDS 120 Perimeter

3-9/16"



VDS 120 Mullion

1 Surcharge May Apply

SAINT-GOBAIN
VETROTECH

VDS® CURTAIN WALL by FORSTER®

Fire-Rated Curtain Wall System

CLASSIFICATION

PRODUCT DESCRIPTION



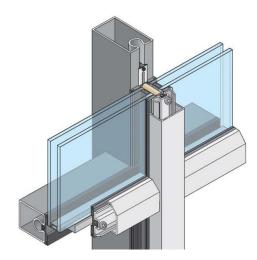


VDS Curtain Wall by Forster is a comprehensive steel curtain wall system that offers monumental advantages. Ideal for applications that require high-span, self-supporting construction. VDS Curtain Wall by Forster can meet the demand for fire resistance and a barrier to radiant heat in both interior and exterior openings. The versatile VDS Curtain Wall by Forster features a thermal break which adds to the overall performance of this fire-rated system.

TECHNICAL SPECIFICATIONS

US Testing	ASTM E119, NFPA 257, UL 263, & UBC 7
Canadian Testing	CAN/ULC-S101
Custom Colors	Powder Coat/Enamel (Custom colors available. Surcharges may apply.)
Fabrication	Welded/Clipped
Certification	Underwriters Laboratories
Fabricated in the US	Yes
Glazing Options	Contraflam 60, 90 & 120
Single/Double Doors	Yes (see VDS by Forster Doors)
Weight (Ibs/lin. ft.)	3.5 - 7 (does not include glass)

DETAILS





VDS® DOORS by FORSTER®

45, 60 and 90 Minute Door Assemblies

CLASSIFICATION

PRODUCT DESCRIPTION





VDS Doors by Forster 60 and 90 minute fire-rated doors provide maximum vision area while maintaining narrow stiles and rails. These systems complement our fully-insulated VDS by Forster framing systems where doors are requested.

TECHNICAL SPECIFICATIONS

US Testing	NFPA 80, NFPA 251 NFPA 252, UL 10B, UL 10C
Canadian Testing	CAN/ULC-S101
Custom Colors	Powder Coat/Enamel (Custom colors available. Surcharges may apply.)
Fabrication	Welded
Certification	Underwriters Laboratories - UL LLC
Fabricated in the US	Yes
Glazing Options	Contraflam 60, 90
Single/Double Doors	Yes
Weight (lbs/lin. ft; kg/lin. ft)	5-7 (2.3-3.2) *Weight per unit provided prior to shipment*
Max Door Leaf Size	60 min 48" x 120", 90 min 42" x 96"
MAXIMUM DIMENSIONS	*Daylight opening size limitations dependent on maximum exposed glass area*
Maximum Height (in.; m)	120 (3.048) Call for details
Maximum Width (in.; m)	57 (1.448) Call for details

DETAILS



