



Bullet Resistant Doors, Windows & Storefront Systems

Ballistica™ steel doors, windows and storefront systems are available in a wide variety of options to suit both your aesthetic and security requirements. Stiles provides a broader spectrum of protection options than anyone else in the industry.

- Full range of UL752 options
- Bullet Resistant Commercial Entrance Systems
- Flush, Glass Lite and Solid Panel Configurations
- Steel, Stainless or Bronze
- Custom designed to suit your requirements
- Sustainable materials and construction processes

Multiple features including:

- Sound Control
- Fire Rated



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Environmental Data

Stiles uses no lead, asbestos or formaldehyde in the construction of our bullet resistant doors or windows.

All resins and bonding agents utilized in fabrication are low VOC / environmentally friendly. Stock sheet materials are ordered to make provision for minimal waste.

The recyclability and superior longevity of Ballistica™ doors and windows make them truly sustainable products.

UNDERWRITERS LABORATORY UL 752 BALLISTIC STANDARDS

UL Level	Weapon	Ammunition	Shots	UL 752 Test Criteria (per UL 752 rev.10-5-05)
1	 Baretta 9mm Parabellum	 9mm, 124 grain FMJ	3	Target Range 12" X 12" 15 Feet Velocity 1175 to 1292.5 ft/sec. Shot Spacing 3 shots within 4.5" triangle Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F
2	 .Smith & Wesson .357 Magnum	 .357 Magnum, 158 grain JSP	3	Target Range 12" X 12" 15 Feet Velocity 1250 to 1375 ft/sec. Shot Spacing 3 shots within 4.5" triangle Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F
3	 Colt .44 Magnum	 .44 Magnum, 240 grain SWC	3	Target Range 12" X 12" 15 Feet Velocity 1350 to 1485 ft/sec. Shot Spacing 3 shots within 4.5" triangle Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F
4	 M-1 Garand 30-06, .30 Caliber	 .30 cal, 30-06, 180 grain JSP	1	Target Range 12" X 12" 15 Feet Velocity 2540 to 2794 ft/sec. Shot Spacing 1 shot, centered Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F
5	 Heckler & Koch Model G3 7.62 X 51 NATO	 .30 cal, 7.62 NATO, 150 grain FMJ	1	Target Range 12" X 12" 15 Feet Velocity 2750 to 3025 ft/sec. Shot Spacing (Parts 1-3) 1 shot, centered Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F
6	 Baretta 9mm Parabellum	 9mm, 124 grain FMJ	5	Target Range 12" X 12" 15 Feet Velocity 1400 to 1540 ft/sec. Shot Spacing 5 shots within a 4.5" square Witness Plate .125 cardboard @ 18" from target Test Temp 72F
7	 Colt M16 (AR15 Semi), 5.56 X 45 NATO	 .223 cal, 5.56 NATO, 55 grain FMJ	5	Target Range 12" X 12" 15 Feet Velocity 3080 to 3388 ft/sec. Shot Spacing 5 shots within a 4.5" square Witness Plate .125 cardboard @ 18" from target Test Temp 72F
8	 Heckler & Koch Model G3 7.62 X 51 NATO	 .30 cal, 7.62 NATO, 150 grain FMJ	5	Target Range 12" X 12" 15 Feet Velocity 2750 to 3025 ft/sec. Shot Spacing 5 shots within a 4.5" square Witness Plate .125 cardboard @ 18" from target Test Temp 72F
SHOTGUN SUPPLEMENT				
SG 1-8	 Benelli 12GA Shotgun	 12GA, 2.75" 437 grain Slug	5	Target Range 12" X 12" 15 Feet Velocity (Levels 1-8) 1585 to 1743.5 ft/sec. Shot Spacing (Levels 1-3 A-C) Total 3 shots within a 4.5" triangle (Levels 4-5, Parts 1A-B) 1 shot, centered (Levels 6-8, Part 1) 5 shots within a 4.5" square Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F (varies per level / part)
		 12GA, 2.75" 650 grain #00 Buck		Target Range 12" X 12" 15 Feet Velocity (1-8) 1200 to 1320 ft/sec. Shot Spacing (Levels 1-3 2A-C) Total 3 shots within a 4.5" triangle (Levels 4-5, Parts 2A-B) 1 shot, centered (Levels 6-8, Part 2) 5 shots within a 4.5" square Witness Plate .125 cardboard @ 18" from target Test Temp (-26/72) 55, 72, 95, 120F (varies per level / part)

Ballistica™ bullet and ricochet resistant steel doors, frames, windows, and storefront systems are built to order to provide the highest protection while retaining the aesthetic appearance of non-bullet resistant products.

In addition to options shown below, features such as sound control and fire-rating are available on many Ballistica™ door and window models.

Materials Options



Steel

Stainless Steel

Bronze

More Information:

Steel: Prime Painted

Stainless Steel: See [Stainless Section](#)

Bronze: See [Bronze Section](#)

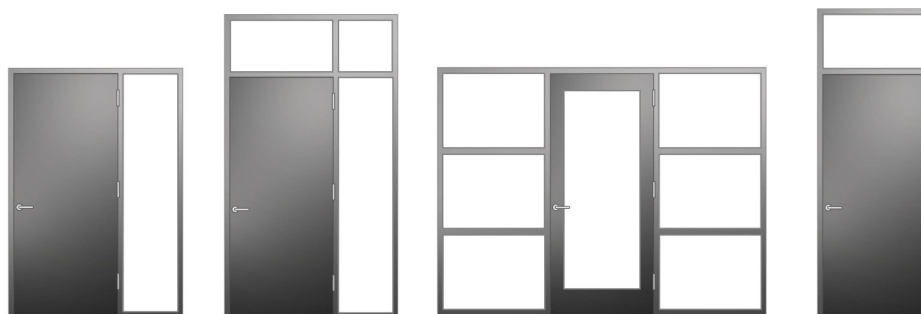
Glass Lite Options



Doors are available in a wide variety of elevation and lite kit options ranging from flush to full lite:

See [p. BR-4.0 Sampling of Available Elevations](#)










Frame Profile & Configuration Options



Choose from multiple frame profiles and configurations designed to accommodate virtually any wall construction and elevation requirement:

See [Frames Section](#)

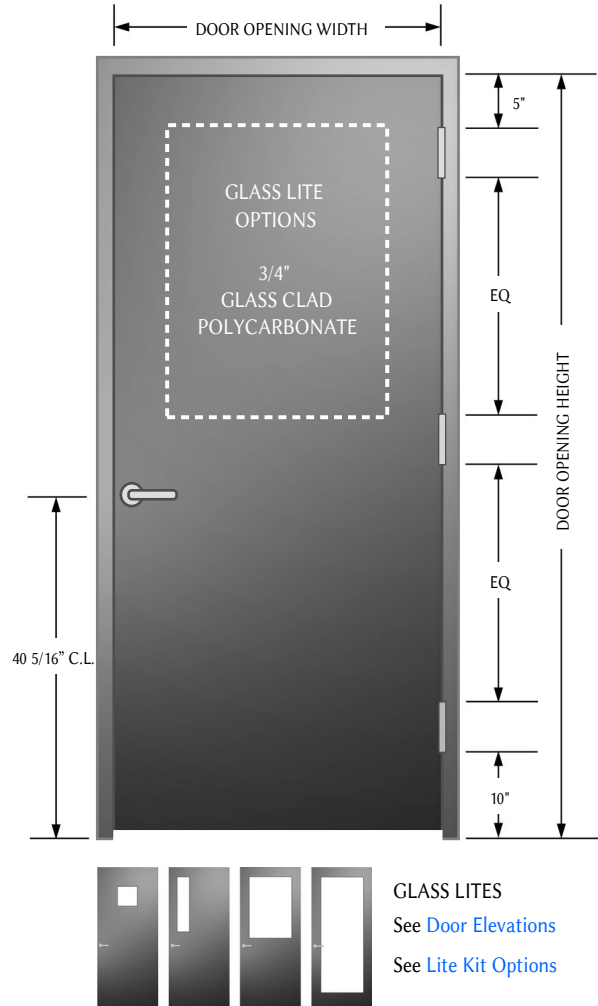
Ballistica™ bullet and ricochet resistant steel door assemblies are built to order and independently tested to meet UL 752 protection requirements. Glass lite door models are available factory glazed with level-appropriate UL 752 certified glazing material.

UL 752 Level	Ammunition	Ballistica™ Bullet Resistant Door Models				Glass	Page
		Steel	Stainless Steel	Bronze			
1		BSD-1	BSSD-1	BBD-1		3/4" GCP	BR-2.1
	9mm, 124 grain FMJ						
2		BSD-2	BSSD-2	BBD-2		15/16" GCP	BR-2.2
	.357 Magnum, 158 grain JSP						
3		BSD-3	BSSD-3	BBD-3		1-1/8" GCP	BR-2.3
	.44 Magnum, 240 grain SWC						
4		BSD-4	BSSD-4	BBD-4		1-1/4" GCP	BR-2.4
	.30 cal, 30-06, 180 grain JSP						
5		BSD-5	BSSD-5	BBD-5		1-5/16" GCP	BR-2.5
	.30 cal, 7.62 NATO, 150 grain FMJ						
6		BSD-6	BSSD-6	BBD-6		1-1/4" GCP	BR-2.6
	9mm, 124 grain FMJ						
7		BSD-7	BSSD-7	BBD-7		1-7/8" GCP	BR-2.7
	.223 cal, 5.56 NATO, 55 grain FMJ						
8		BSD-8	BSSD-8	BBD-8		2" GCP	BR-2.8
	.30 cal, 7.62 NATO, 150 grain FMJ						
SGS		Shotgun Supplement Available All Levels - Contact Factory				Varies per Level	

Level 1

Model BSD-1 / Bullet & Ricochet Resistant Door Assembly

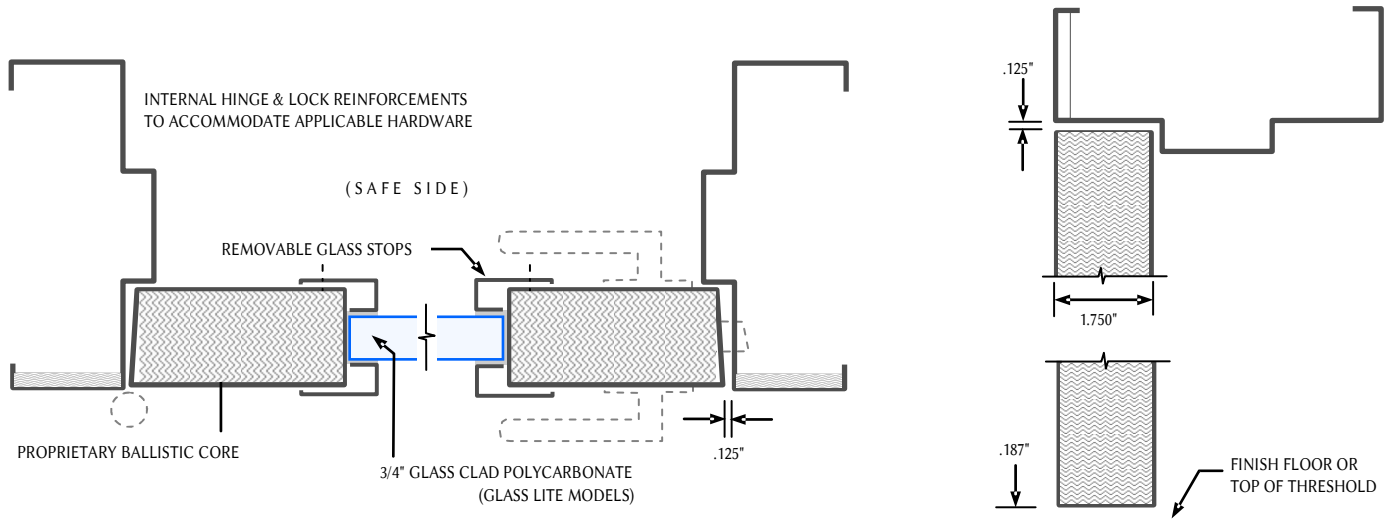
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze , Wood
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	9.4 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 3/4" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard 3. Factory installed glazing option insures optimal performance
Hardware	Hardware is not by Stiles.
Frames	See Frame Profiles and Frame Elevations
Primer	RPG Primer Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 1 Test Criteria

Independently tested in accordance with UL 752 requirements

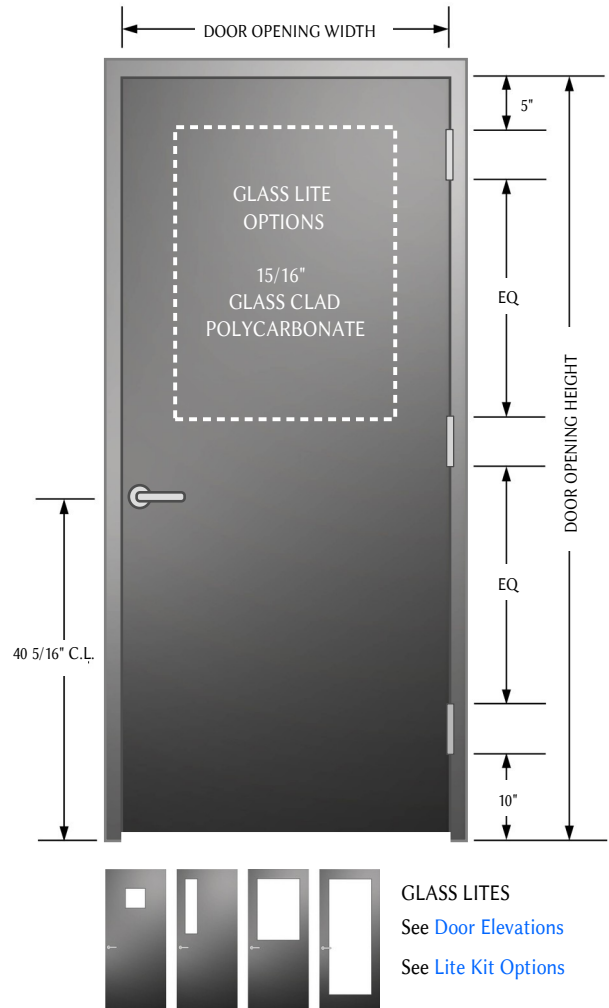
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Baretta 9mm Parabellum	9mm, 124 gr. FMJ	3	1,175 to 1,292	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 2

Model BSD-2 / Bullet & Ricochet Resistant Door Assembly

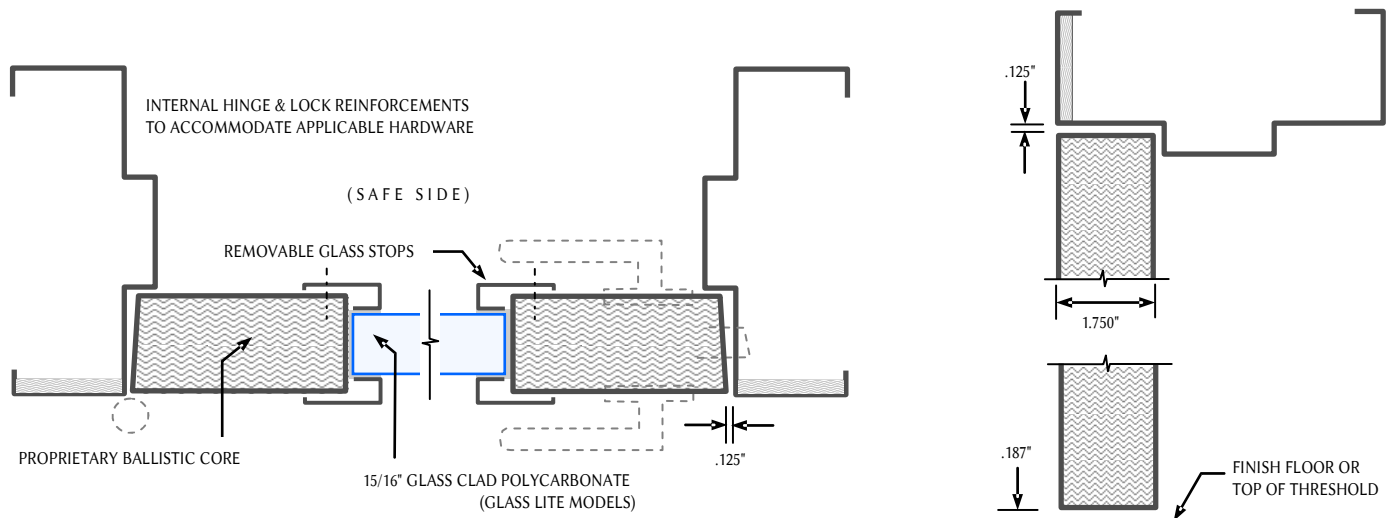
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	9.4 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 15/16" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard 3. Factory installed glazing option insures optimal performance
Hardware	Hardware is not by Stiles
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer, Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 2 Test Criteria

Independently tested in accordance with UL 752 requirements

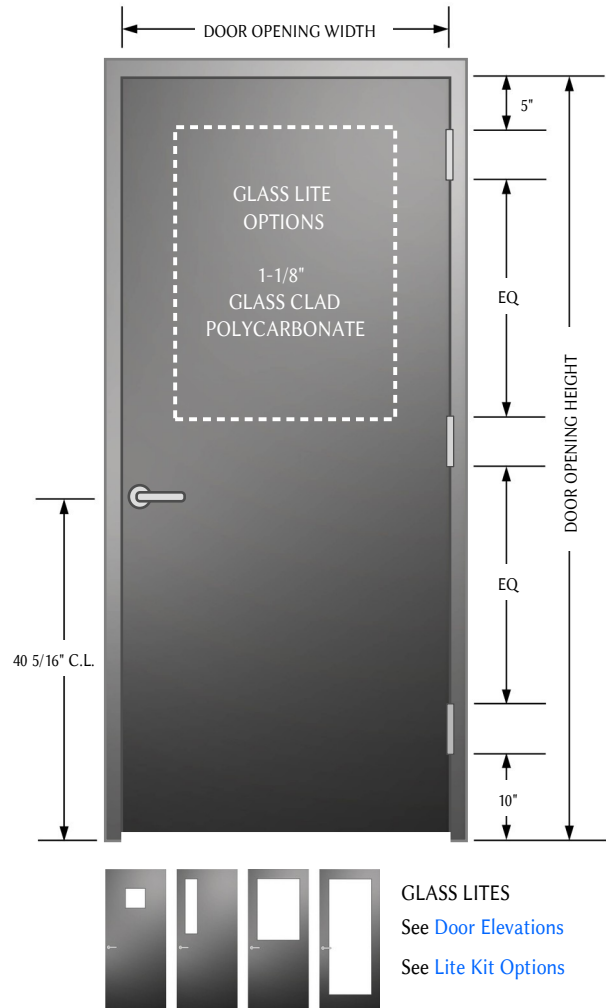
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
S&W .357 Magnum	.357 Mag, 158 gr. JSP	3	1,250 to 1,375	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 3

Model BSD-3 / Bullet & Ricochet Resistant Door Assembly

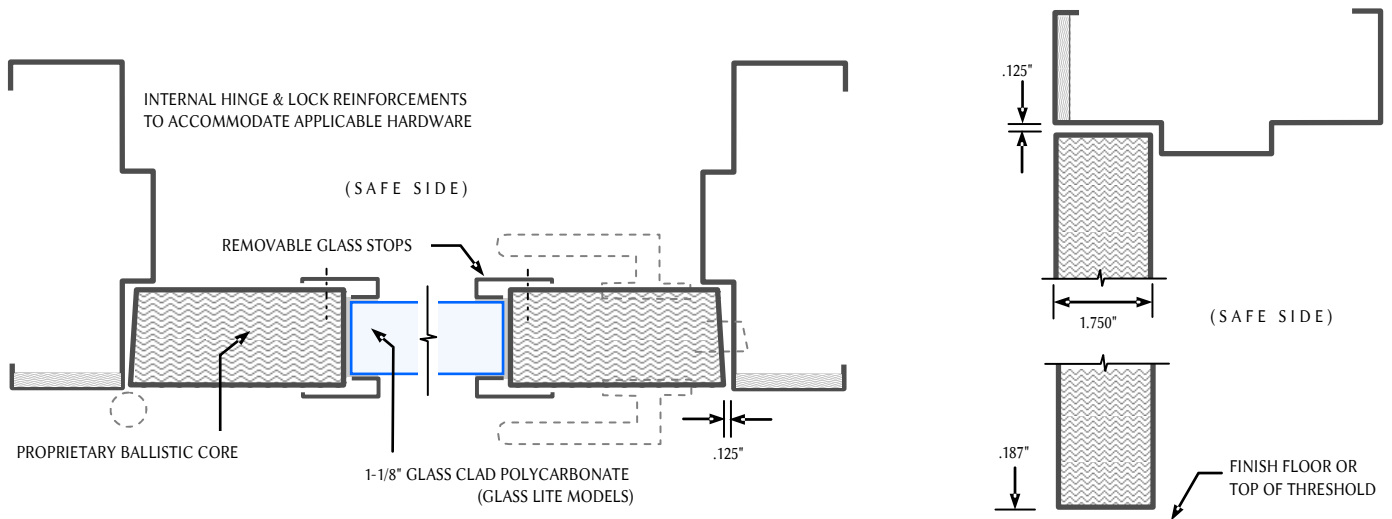
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	12.3 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 1-1/8" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 3 Test Criteria

Independently tested in accordance with UL 752 requirements

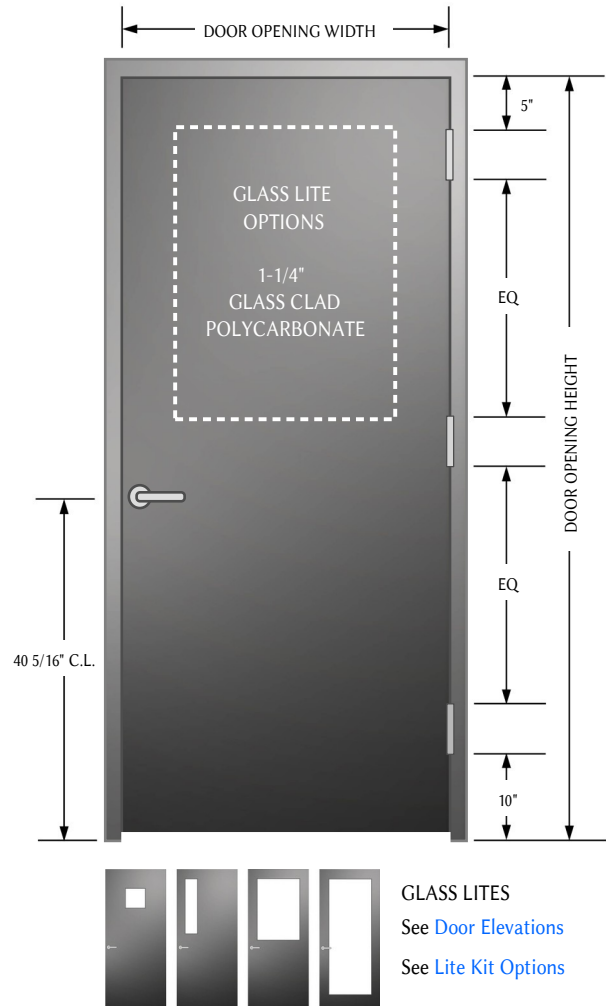
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Colt .44 Magnum	.44 Mag, 240 gr. SWC	3	1,350 to 1,485	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 4

Model BSD-4 / Bullet & Ricochet Resistant Door Assembly

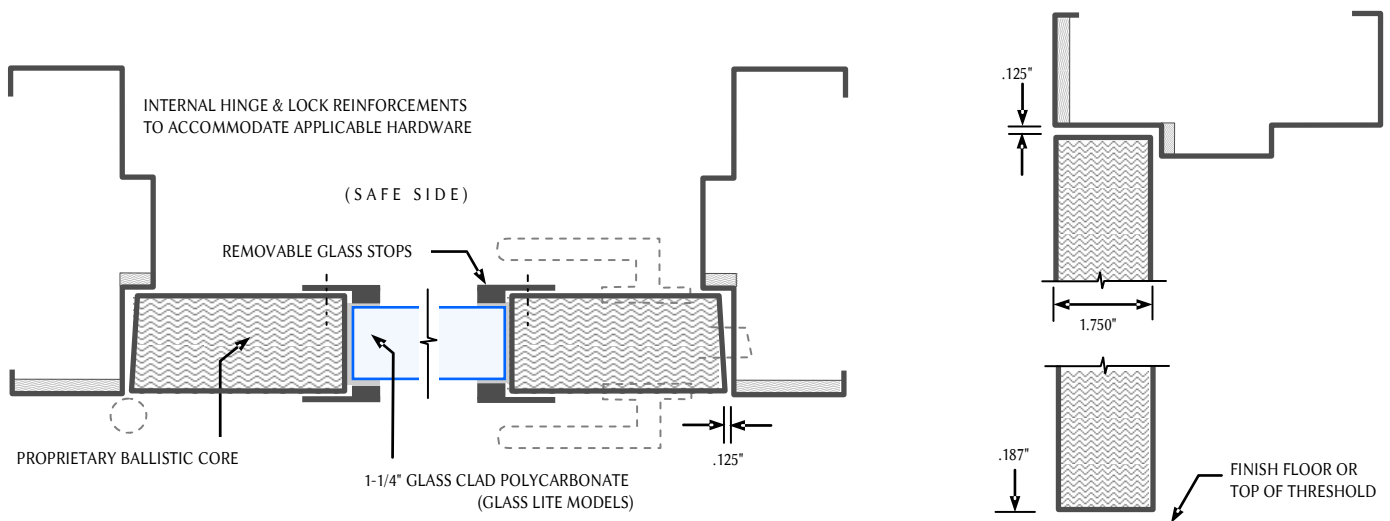
Assembly	Ballistica™ built-to-order bullet resistant steel door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos . fiberglass & formaldehyde free
Door Weight	19.9 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 1-1/4" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles.
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 4 Test Criteria

Independently tested in accordance with UL 752 requirements

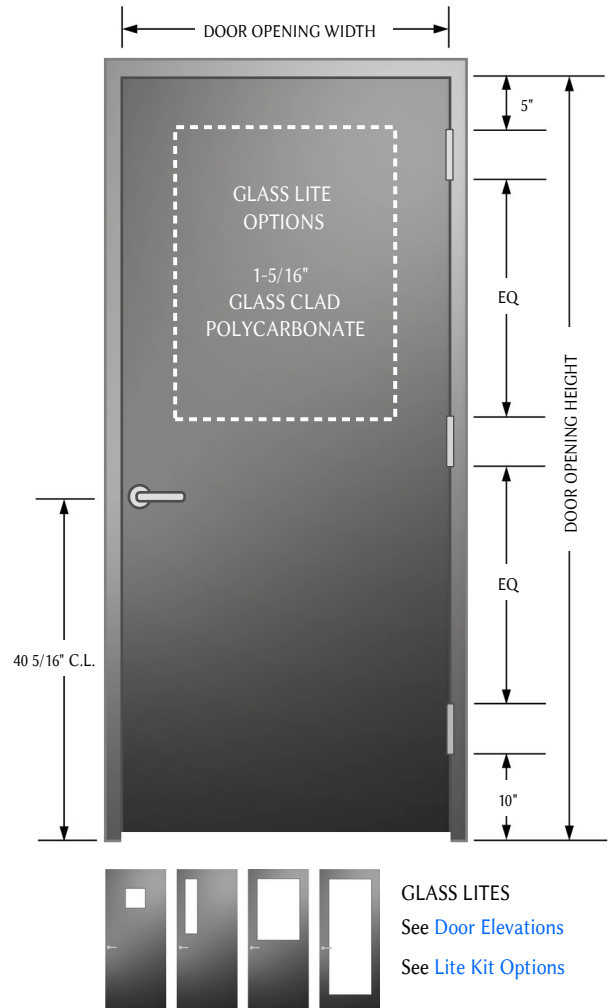
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
M-1 Garand, 30-06, .30 cal	.30 cal, 30-06, 180 gr. JSP	1	2,540 to 3,025	1 shot, centered	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 5

Model BSD-5 / Bullet & Ricochet Resistant Door Assembly

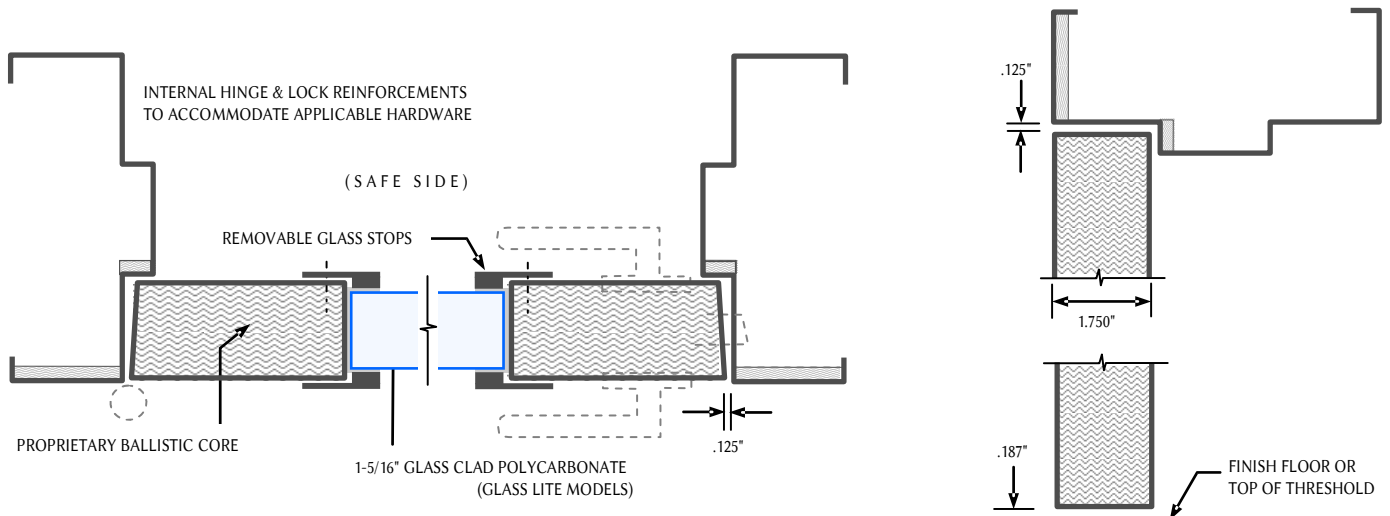
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	19.9 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 1-5/16" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles.
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 5 Test Criteria

Independently tested in accordance with UL 752 requirements

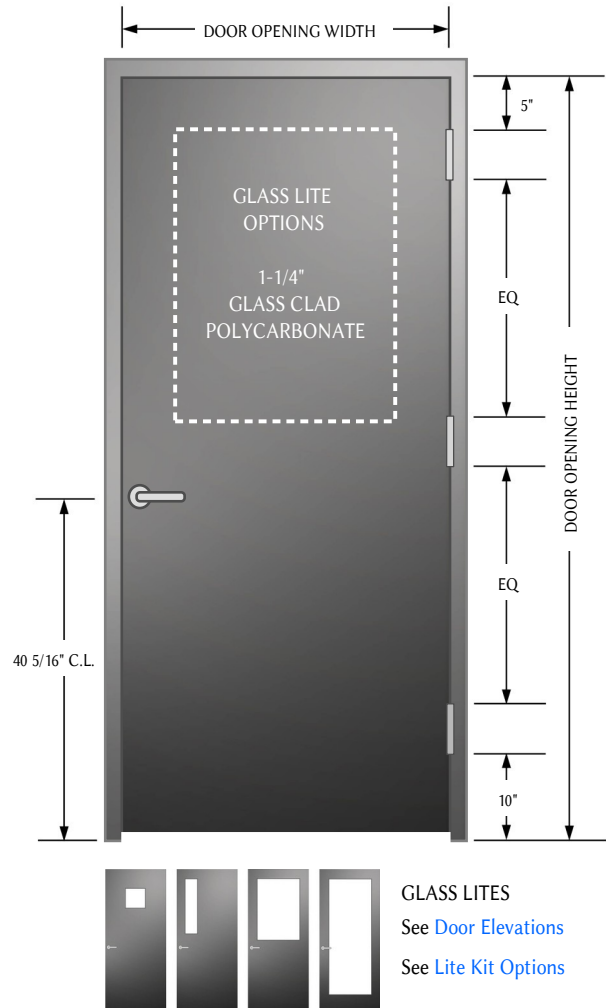
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
H&K G3, 7.62 X 51 NATO	.30 cal, 7.62 NATO, 150 gr. FMJ	1	2,750 to 3,025	1 shot, centered	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 6

Model BSD-6 / Bullet & Ricochet Resistant Door Assembly

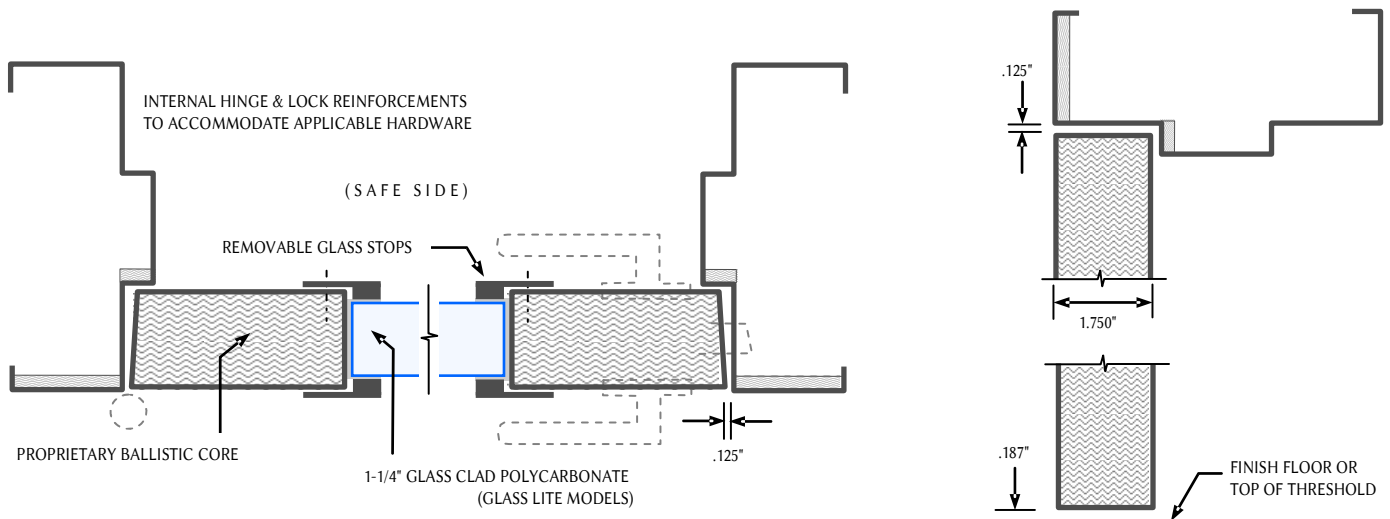
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	9.4 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 1-1/4" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles.
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 6 Test Criteria

Independently tested in accordance with UL 752 requirements

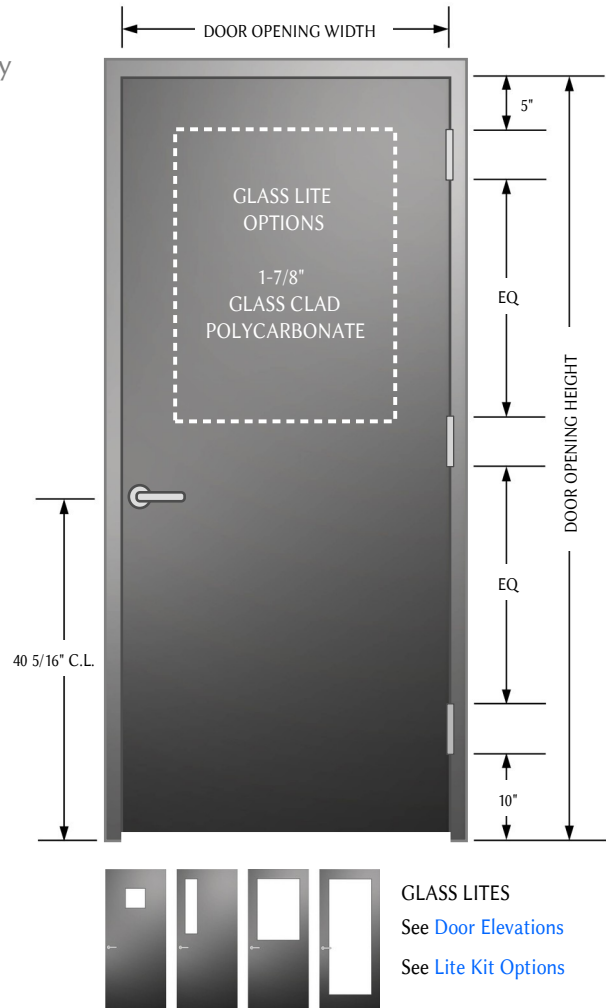
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Baretta 9mm Parabellum	9mm, 124 grain FMJ	5	1,400 to 1,2540	5 shots, 4.5" square	.125 cardboard @ 18"	72F



Level 7

Model BSD-7 / Bullet & Ricochet Resistant Steel Door Assembly

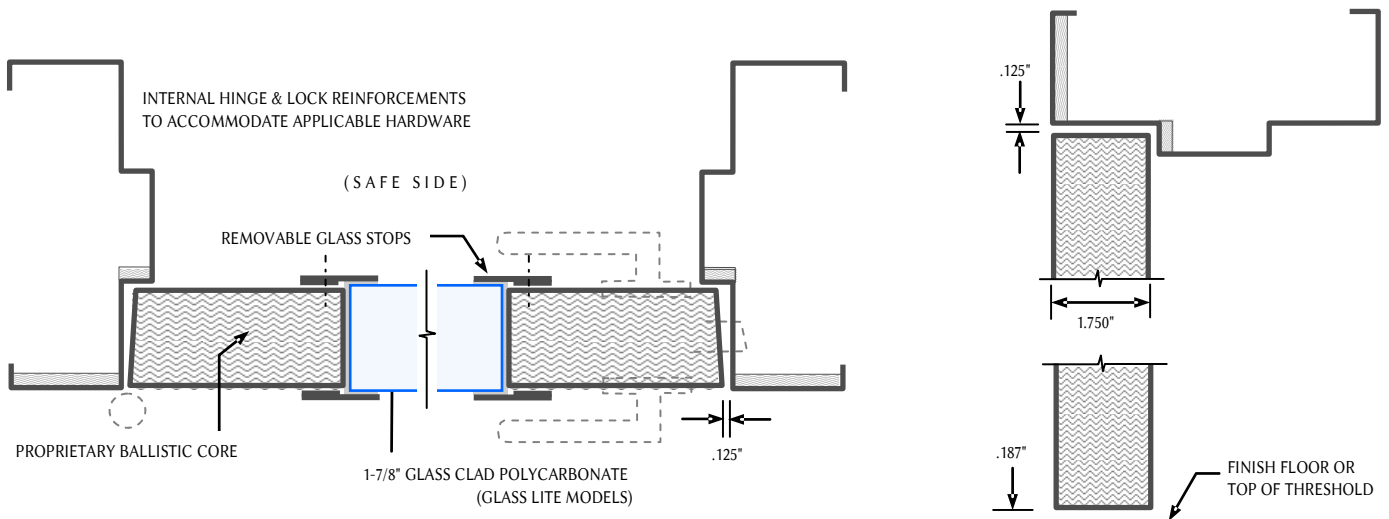
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	15.4 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 1-7/8" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 7 Test Criteria

Independently tested in accordance with UL 752 requirements

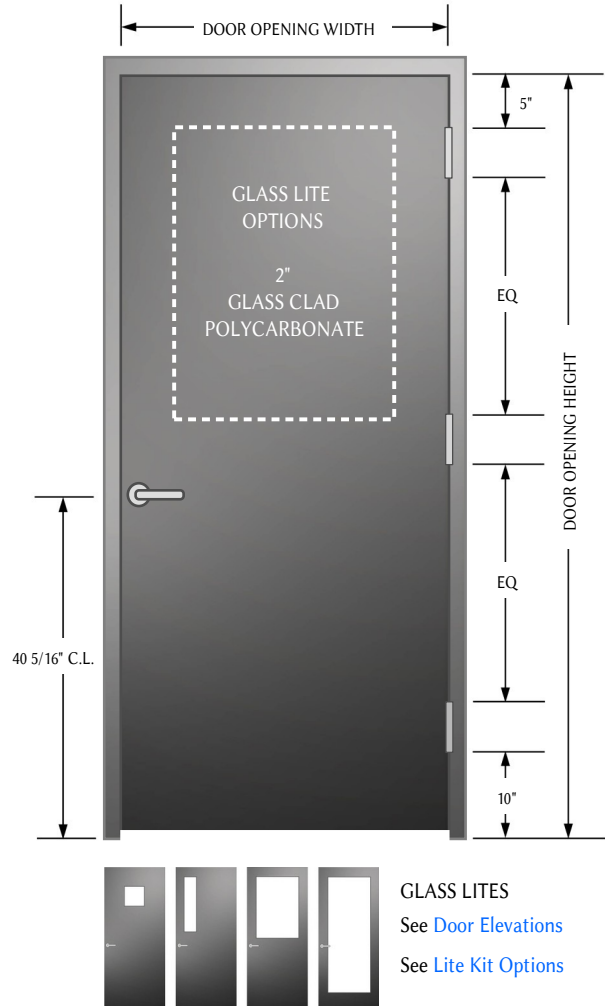
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Colt M16, 5.56 X 45 NATO	.223 cal, 5.56 NATO, 55 gr. FMJ	5	3,080 to 3,388	5 shots, 4.5" square	.125 cardboard @ 18"	72F



Level 8

Model BSD-8 / Bullet & Ricochet Resistant Door Assembly

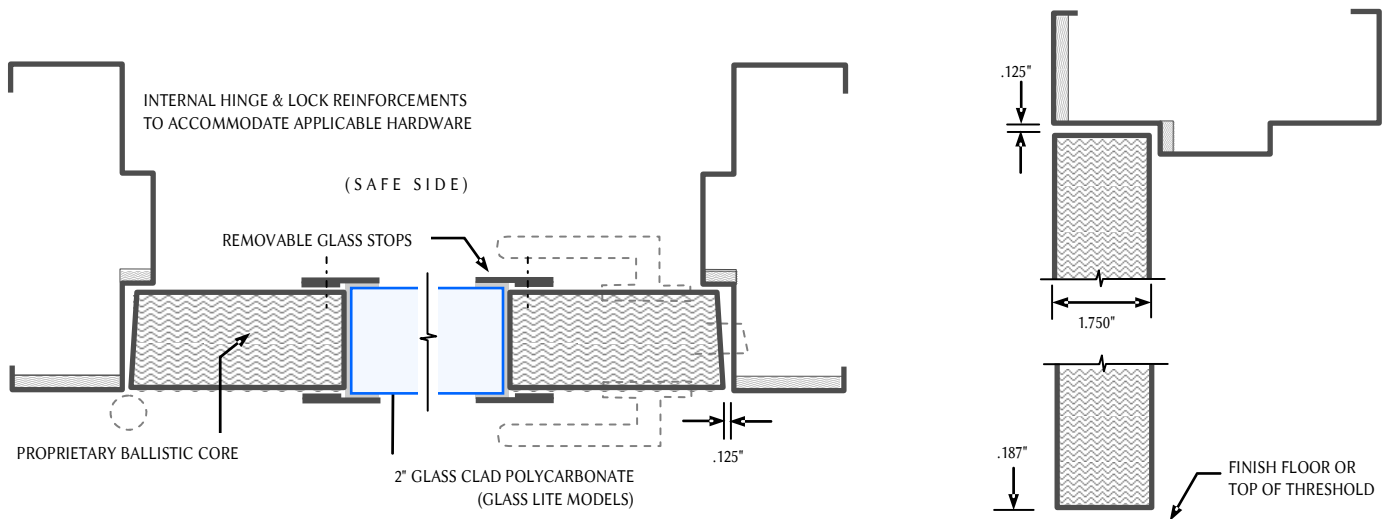
Assembly	Ballistica™ built-to-order bullet resistant door assemblies come complete with door, frame and lite kit (if applicable). For both interior or exterior locations. Oversized industrial assemblies available.
Material	A60 Galvanized, Stainless Steel , Bronze
Door Edges	1-3/4" thick, beveled 1/8" in 2"
Core	Proprietary; lead , asbestos , fiberglass & formaldehyde free
Door Weight	19.9 lbs. / sf Weight must be considered in hinge selection and wall design.
Glazing	1. 2" Glass Clad Polycarbonate required See Glass 2. Glass & glazing not included, standard
Hardware	Hardware is not by Stiles.
Frames	See Frame Profiles and Frame Elevations
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 252 Positive Pressure Up to 3 Hour Rating See Fire Rated
Sound	See Sound Control



UL752 Level 8 Test Criteria

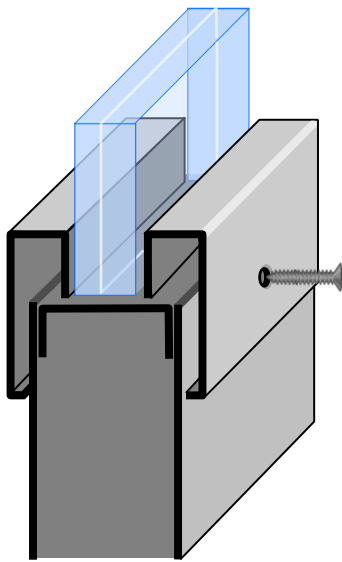
Independently tested in accordance with UL 752 requirements.

Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
H&K G3, 7.62 X 51 NATO	.30 cal, 7.62 NATO, 150 gr. FMJ	5	2,750 to 3,025	5 shots, 4.5" square	.125 cardboard @ 18"	72F



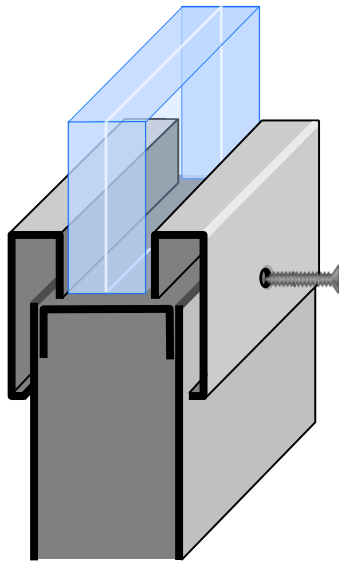
Stiles also offers moulding configurations not shown below. Contact factory for more information.

NOTE: Removable glass stops are typically installed to the interior of the building.



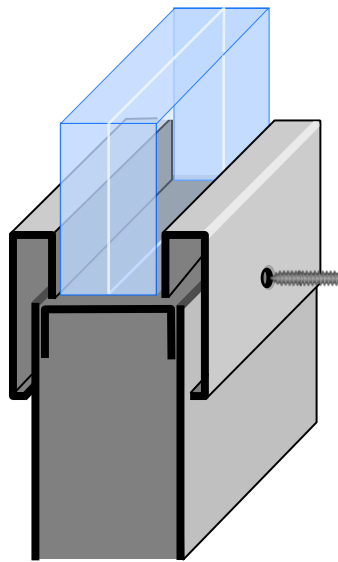
Level 1

1-3/4" Metal Door
3/4" Glass Clad Polycarbonate
5/8" X 5/8" Removable Stops
**Concealed Fasteners Available*



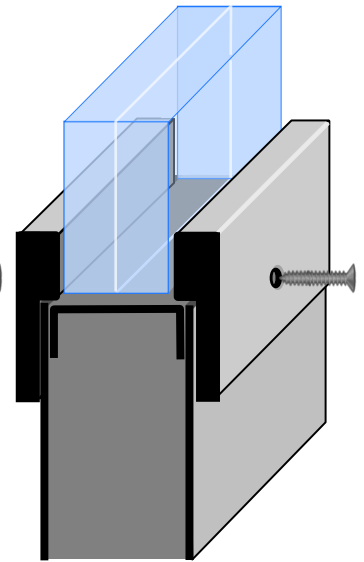
Level 2

1-3/4" Metal Door
15/16" Glass Clad Polycarbonate
7/16" X 5/8" Removable Stops
**Concealed Fasteners Available*



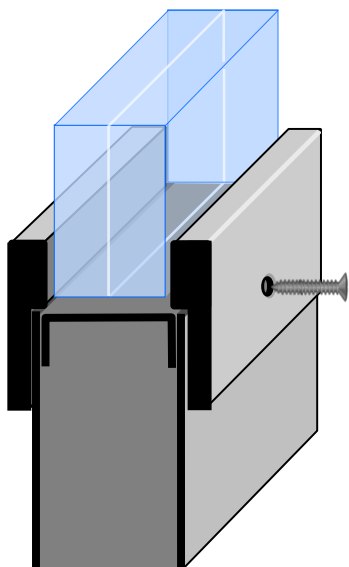
Level 3

1-3/4" Metal Door
1-1/8" Glass Clad Polycarbonate
1-1/2" Removable Stops



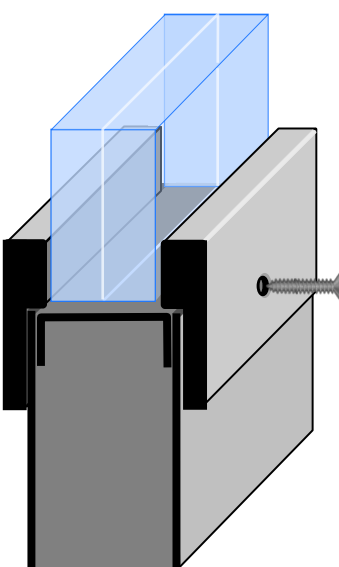
Level 4

1-3/4" Metal Door
1-1/4" Glass Clad Polycarbonate
1-1/2" Removable Stops



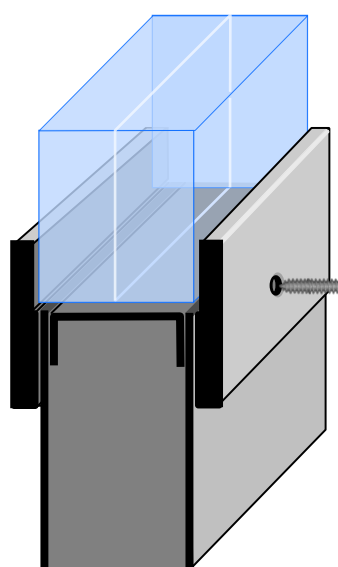
Level 5

1-3/4" Metal Door
1-5/16" Glass Clad Polycarbonate
1-1/2" Removable Stops



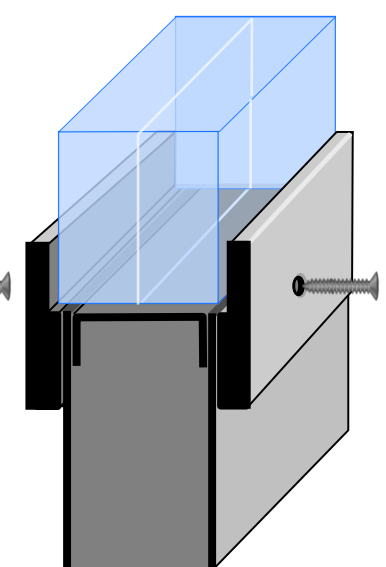
Level 6

1-3/4" Metal Door
1-1/4" Glass Clad Polycarbonate
1-1/2" Removable Stops



Level 7

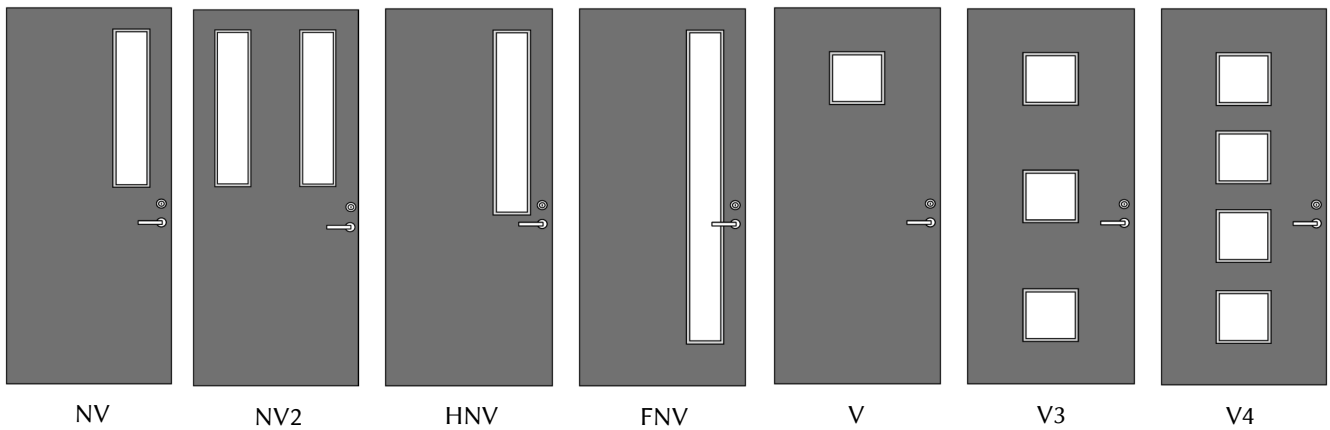
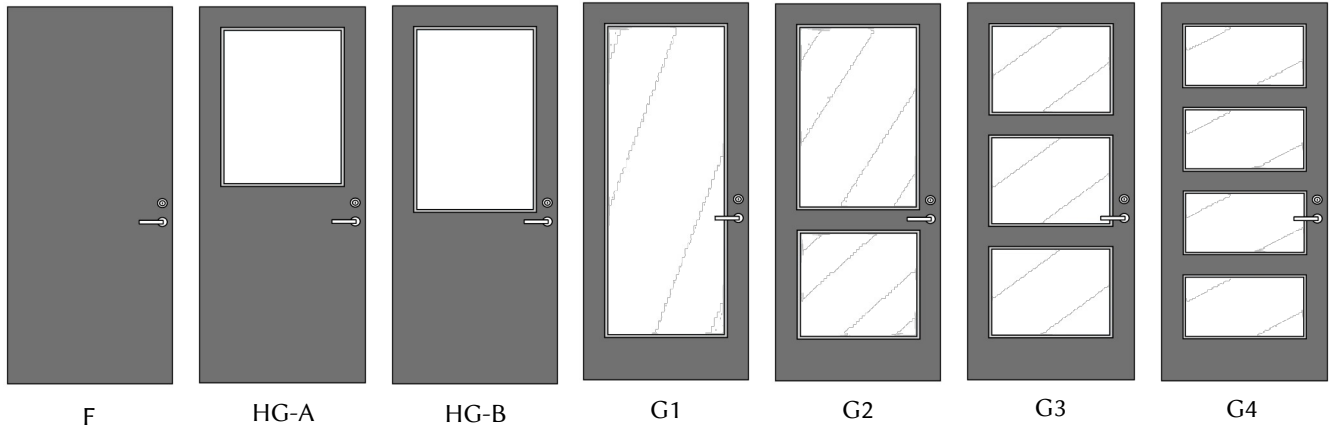
1-3/4" Metal Door
1-7/8" Glass Clad Polycarbonate
1-1/2" Removable Stops












Level 8

1-3/4" Metal Door
2" Glass Clad Polycarbonate
1-1/2" Removable Stops

Sampling of Available Elevations

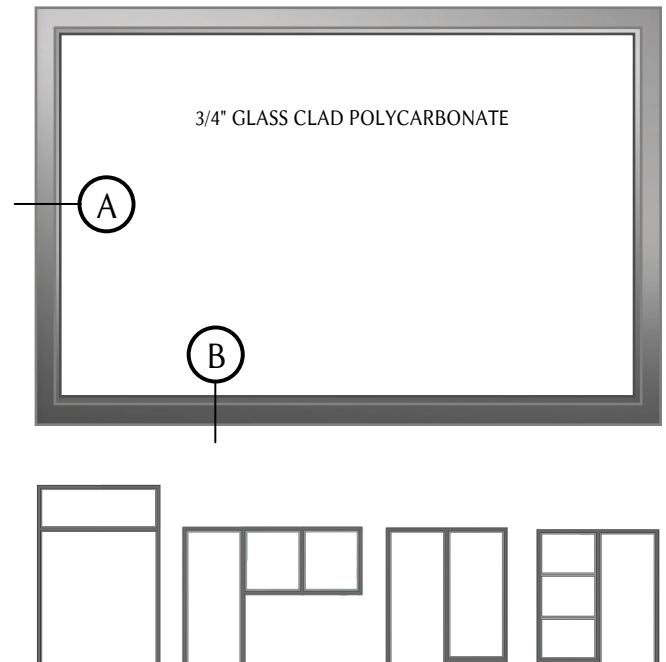


UL Level	Ammunition	Ballistica™ Bullet Resistant Window Models			Elevation Options	Glass Thickness Max. Lite Size	Page
		Steel	Stainless Steel	Bronze			
1	 9mm, 124 grain FMJ	BSW-1	BSSW-1	BBW-1	Fixed Window Transom Sidelite	3/4" GCP (60" X 96")	BR-5.1
2	 .357 Magnum, 158 grain JSP	BSW-2	BSSW-2	BBW-2	Fixed Window Transom Sidelite	15/16" GCP (60" X 96")	BR-5.2
3	 .44 Magnum, 240 grain SWC	BSW-3	BSSW-3	BBW-3	Fixed Window Transom Sidelite	1-1/8" GCP (60" X 96")	BR-5.3
4	 .30 cal, 30-06, 180 grain JSP	BSW-4	BSSW-4	BBW-4	Fixed Window Transom Sidelite	1-1/4" GCP (60" X 96")	BR-5.4
5	 .30 cal, 7.62 NATO, 150 grain FMJ	BSW-5	BSSW-5	BBW-5	Fixed Window Transom Sidelite	1-5/16" GCP (60" X 96")	BR-5.5
6	 9mm, 124 grain FMJ	BSW-6	BSSW-6	BBW-6	Fixed Window Transom Sidelite	1-1/4" GCP (60" X 96")	BR-5.6
7	 .223 cal, 5.56 NATO, 55 grain FMJ	BSW-7	BSSW-7	BBW-7	Fixed Window Transom Sidelite	1-7/8" GCP (60" X 96")	BR-5.7
8	 .30 cal, 7.62 NATO, 150 grain FMJ	BSW-8	BSSW-8	BBW-8	Fixed Window Transom Sidelite	2" GCP (60" X 96")	BR-5.8
SGS		Shotgun Supplement Available All Levels - Contact Factory			Fixed Window Transom Sidelite	Varies	

Level 1

Model BSW-1 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 3/4" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control



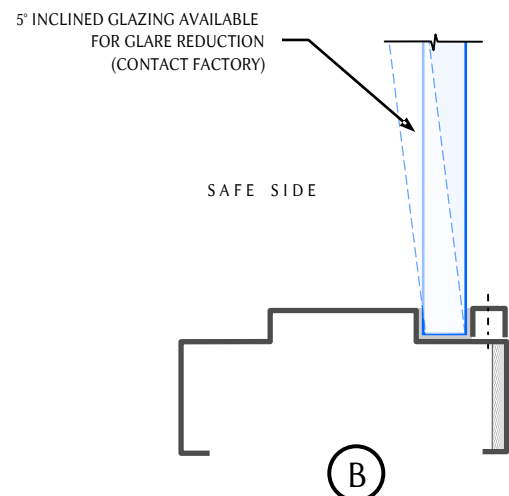
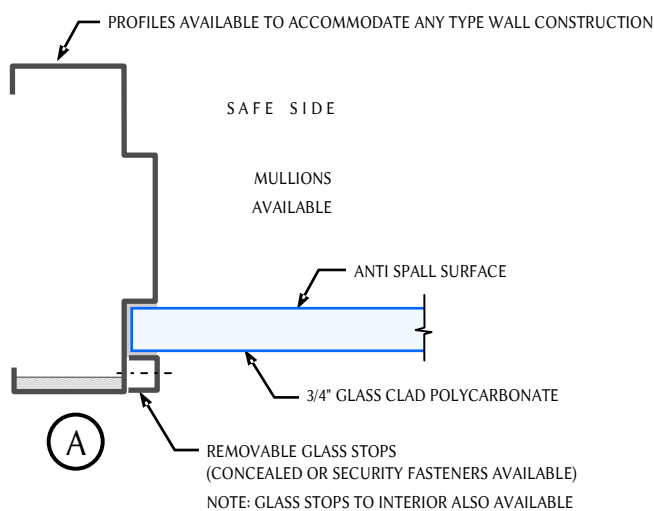
Built to order per customer's requirements

Multiple frame configurations and profile options available

UL752 Level 1 Test Criteria

Independently tested in accordance with UL 752 requirements

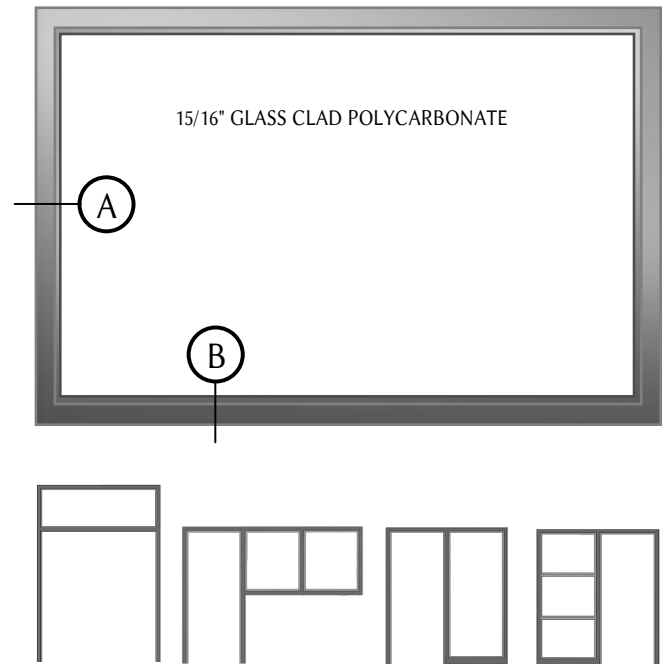
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Baretta 9mm Parabellum	9mm, 124 gr. FMJ	3	1,175 to 1,292	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 2

Model BSW-2 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 15/16" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control



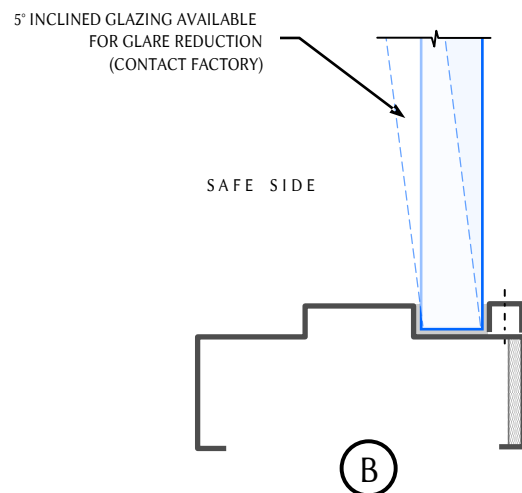
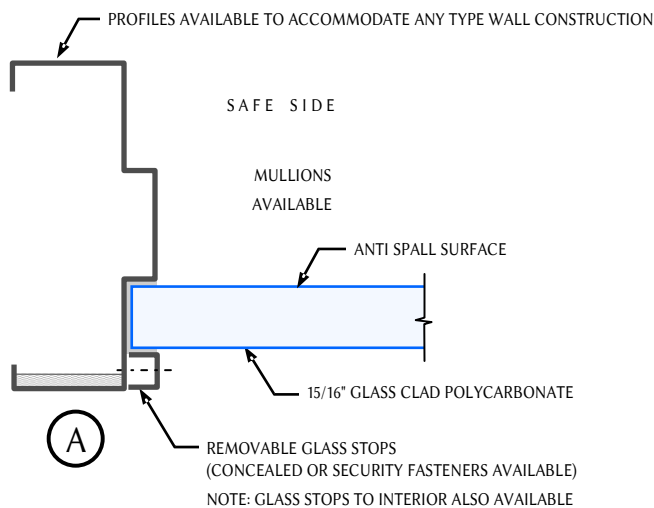
Built to order per customer's requirements

Multiple frame configurations and profile options available

UL752 Level 2 Test Criteria

Independently tested in accordance with UL 752 requirements

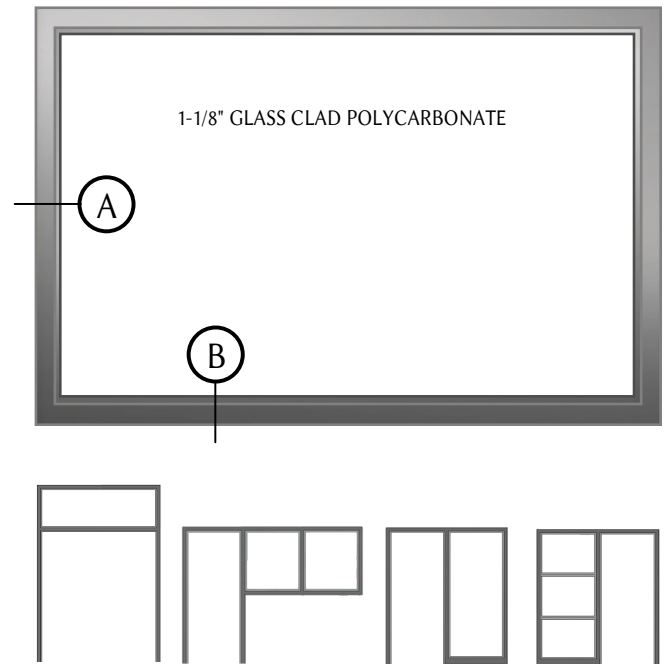
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
S&W .357 Magnum	.357 Mag, 158 gr. JSP	3	1,250 to 1,375	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 3

Model BSW-3 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 1-1/8" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control



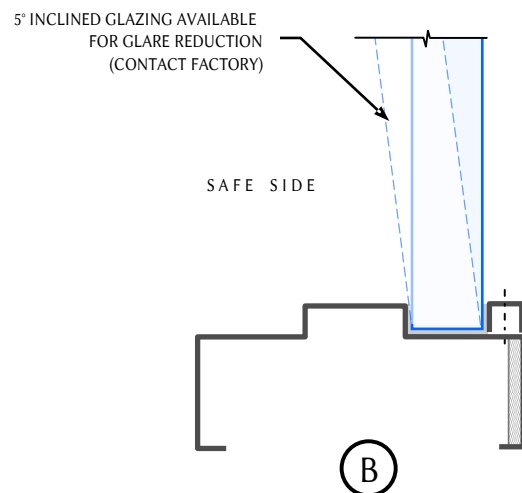
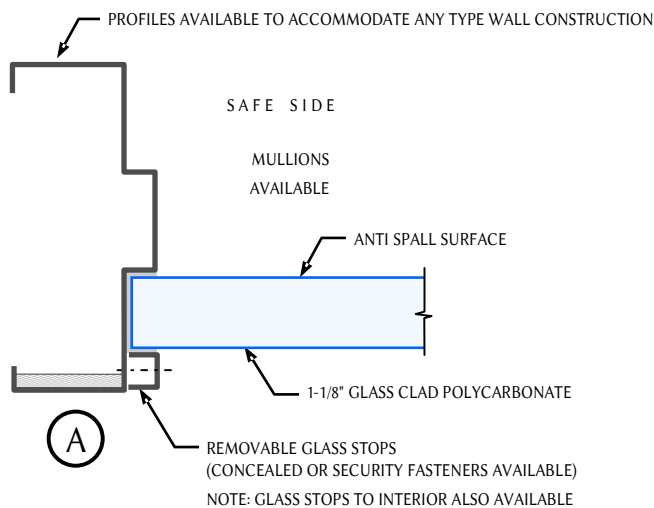
Built to order per customer's requirements

Multiple frame configurations and profile options available

UL752 Level 3 Test Criteria

Independently tested in accordance with UL 752 requirements

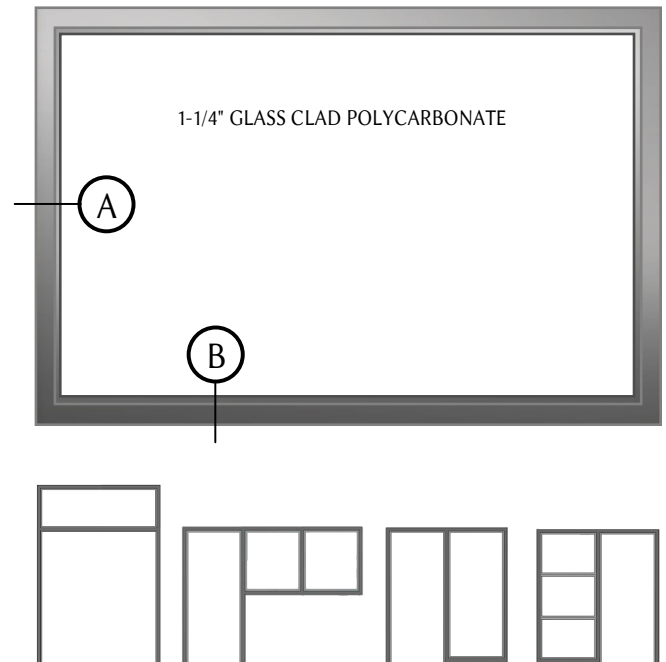
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Colt .44 Magnum	.44 Mag, 240 gr. SWC	3	1,350 to 1,485	3 shots, 4.5" triangle	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 4

Model BSW-4 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 1-1/4" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control



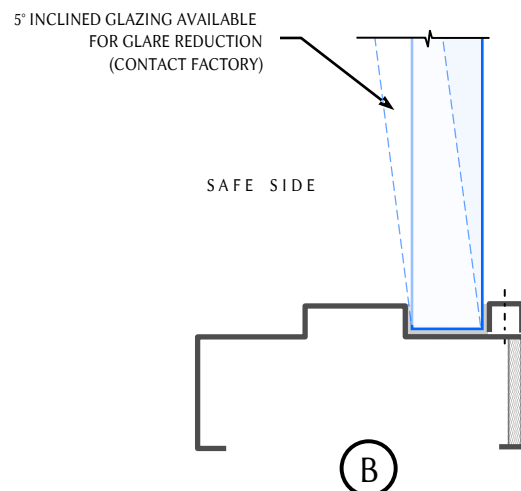
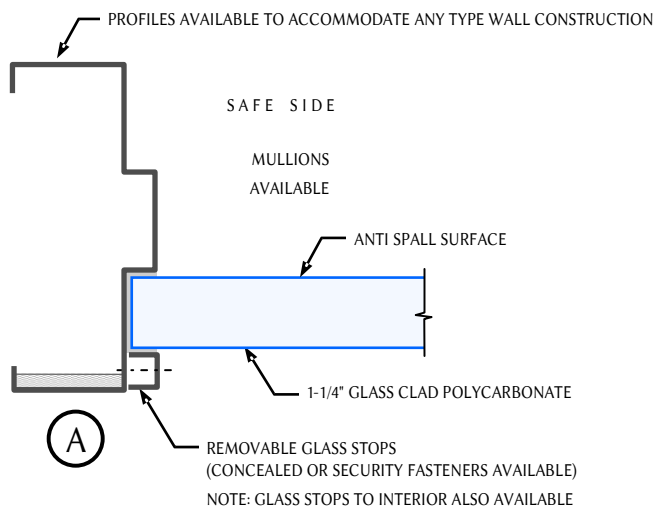
Built to order per customer's requirements

Multiple frame configurations and profile options available

UL752 Level 4 Test Criteria

Independently tested in accordance with UL 752 requirements

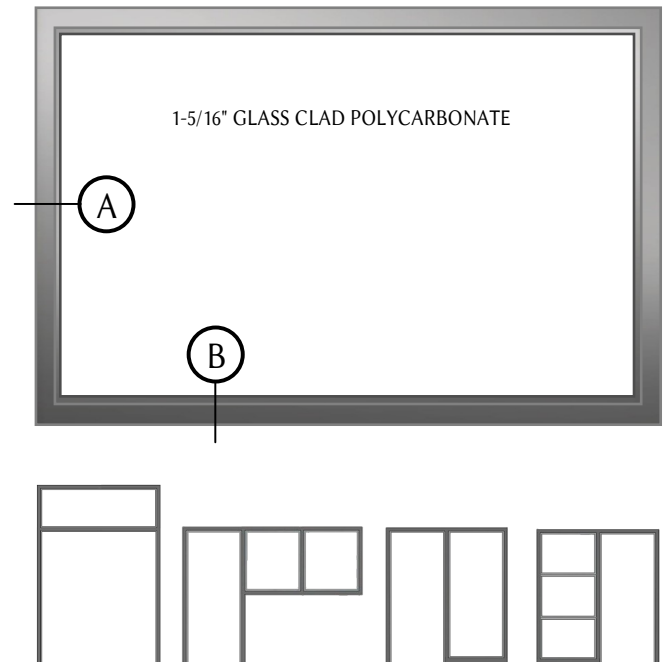
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
M-1 Garand, 30-06, .30 cal	.30 cal, 30-06, 180 gr. JSP	1	2,540 to 3,025	1 shot, centered	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 5

Model BSW-5 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 1-5/16" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control

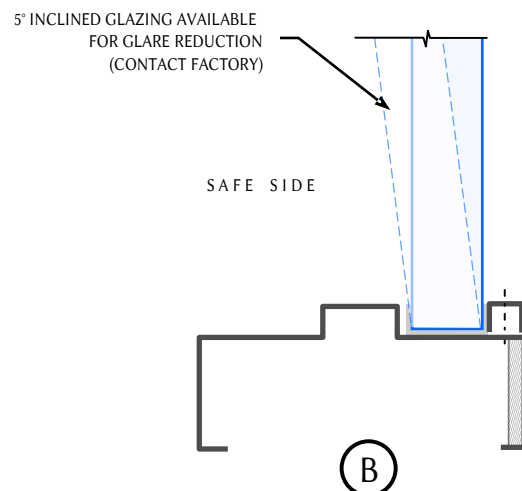
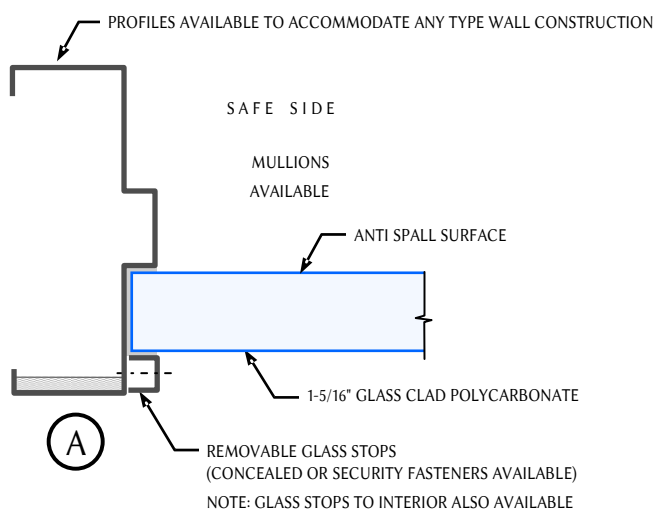


Built to order per customer's requirements
Multiple frame configurations and profile options available

UL752 Level 5 Test Criteria

Independently tested in accordance with UL 752 requirements

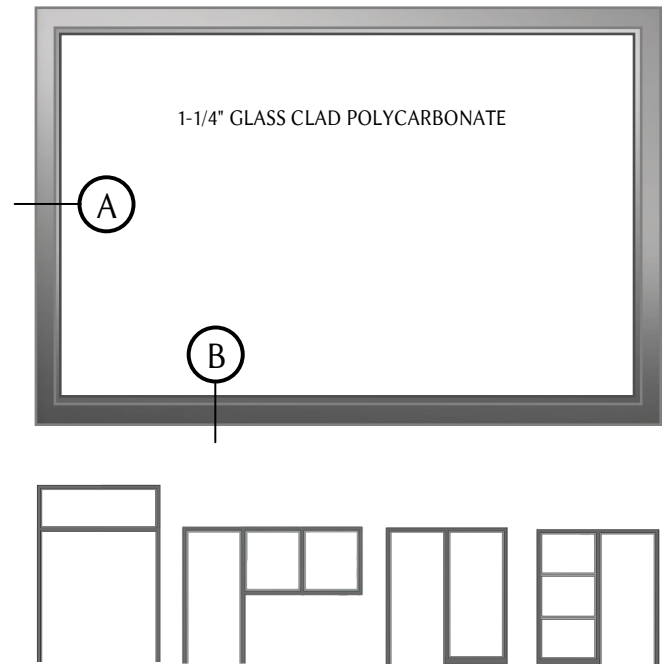
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
H&K G3, 7.62 X 51 NATO	.30 cal, 7.62 NATO, 150 gr. FMJ	1	2,750 to 3,025	1 shot, centered	.125 cardboard @ 18"	(-26/72) 55, 72, 95, 120F



Level 6

Model BSW-6 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 1-1/4" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control

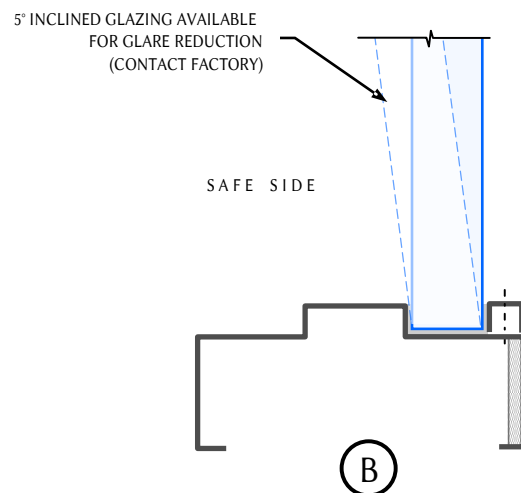
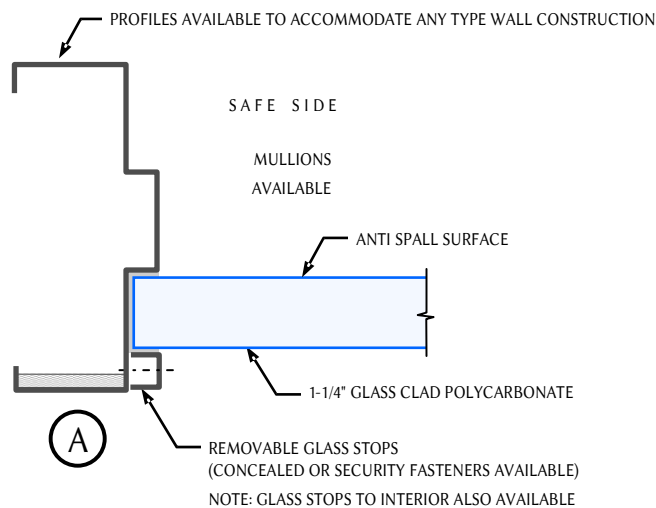


Built to order per customer's requirements
Multiple frame configurations and profile options available

UL752 Level 6 Test Criteria

Independently tested in accordance with UL 752 requirements

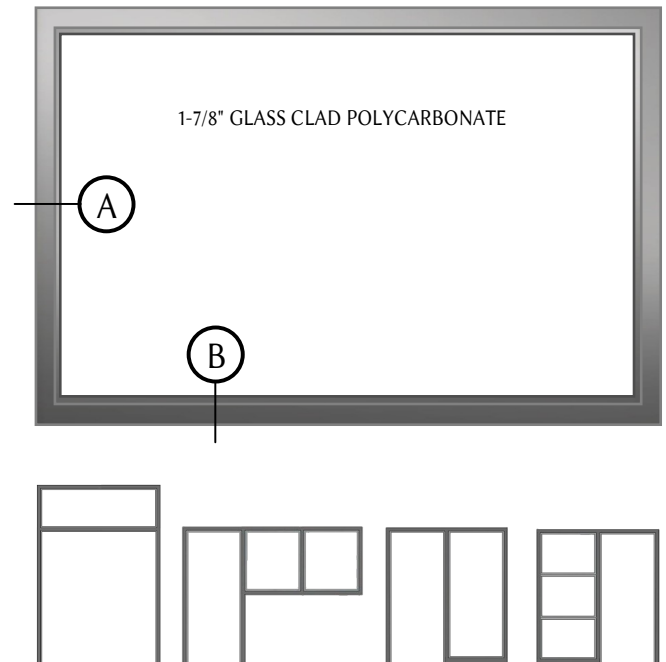
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Baretta 9mm Parabellum	9mm, 124 grain FMJ	5	1,400 to 1,2540	5 shots, 4.5" square	.125 cardboard @ 18"	72F



Level 7

Model BSW-7 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 1-7/8" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control

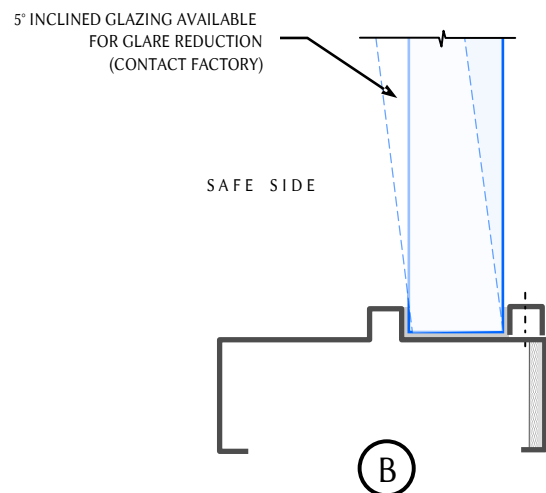
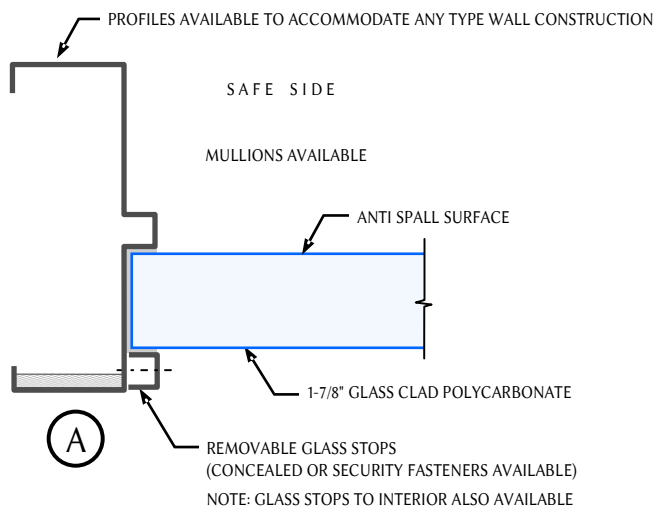


Built to order per customer's requirements
Multiple frame configurations and profile options available

UL752 Level 7 Test Criteria

Independently tested in accordance with UL 752 requirements

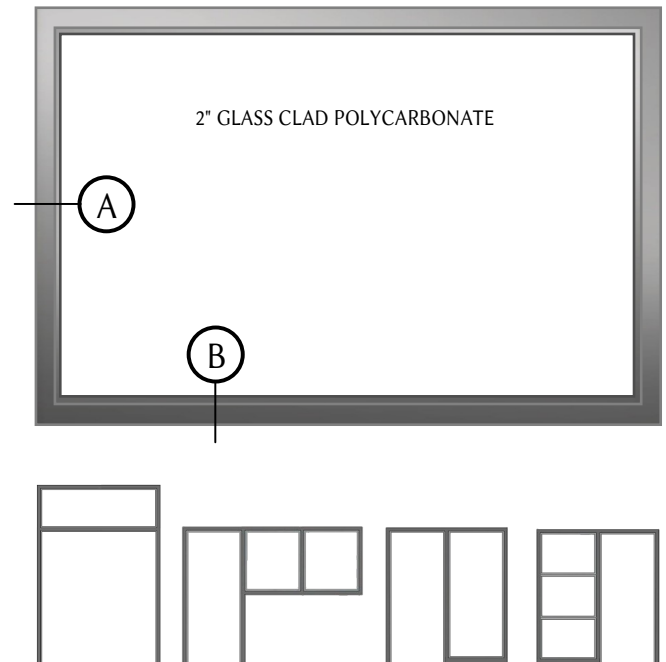
Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
Colt M16, 5.56 X 45 NATO	.223 cal, 5.56 NATO, 55 gr. FMJ	5	3,080 to 3,388	5 shots, 4.5" square	.125 cardboard @ 18"	72F



Level 8

Model BSW-8 / Bullet & Ricochet Resistant Windows

Description	Ballistica™ built-to-order bullet resistant steel windows come complete with frame, removable glass stops and stop fasteners.
Materials	1. A60 Galvanized 2. Stainless Steel 3. Bronze
Frames	Fully welded frame is manufactured to accommodate any type of wall construction. Various designs available including single and multiple lites, transoms, sidelites, etc. See Frame Profiles and Frame Elevations
Glazing	1. 2" Glass Clad Polycarbonate required See Glass 2. Glass and glazing not included (standard) 3. Optional 5° Inclined glazing for glare reduction 4. Optional Concealed glass stop fasteners
Primer	PPG Primer - Gray
Fire Rating	Per UL10C / NFPA 257 Positive Pressure Up to 1-1/2 Hour Rating See Fire Rated
Sound	See Sound Control

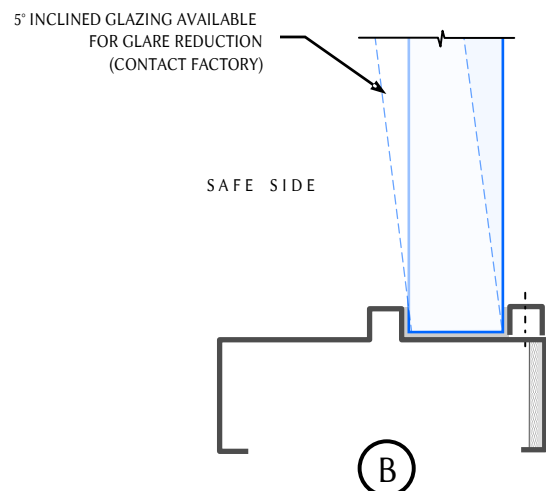
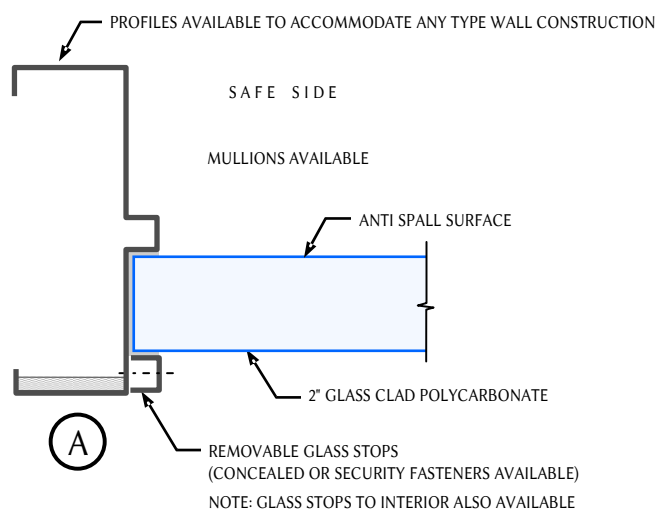


Built to order per customer's requirements
Multiple frame configurations and profile options available

UL752 Level 8 Test Criteria

Independently tested in accordance with UL 752 requirements.

Weapon	Ammunition	Shots	Velocity (ft/sec)	Shot Spacing	Witness Plate	Test Temperature
H&K G3, 7.62 X 51 NATO	.30 cal, 7.62 NATO, 150 gr. FMJ	5	2,750 to 3,025	5 shots, 4.5" square	.125 cardboard @ 18"	72F





Bullet Resistant Glass Glass Clad Polycarbonate

UL752 Level	Item No.	Description	Thickness In.	Weight lb/ft ²	Max. Lite Size
1	GLO-SP175	Clear Glass Clad Polycarbonate	3/4"	7.14	60" X 96"
2	GLO-SP293	Clear Glass Clad Polycarbonate	15/16"	10.34	60" X 96"
3	GLO-SP311	Clear Glass Clad Polycarbonate	1-1/8"	12.19	60" X 96"
4	GLO-SP412-A	Clear Glass Clad Polycarbonate	1-1/4"	14.04	60" X 96"
5	GLO-SP513	Clear Glass Clad Polycarbonate	1-5/16"	15.89	60" X 96"
6	GLO-SP412-B	Clear Glass Clad Polycarbonate	1-1/4"	14.05	60" X 96"
7	OLD-227100	Clear Glass Clad Polycarbonate	1-5/8"	18.50	60" X 96"
8	GLO-SP820	Clear Glass Clad Polycarbonate	2"	21.21	60" X 96"

NOTES:

1. Glass thickness varies by manufacturer
2. Glass clad polycarbonate is a proprietary lamination of successive layers of glass and an interior (non-threat side) layer of clear scratch-resistant polycarbonate.
3. Polycarbonate is one of the toughest clear plastics, having 250 times the impact strength of glass and is designed to flex and absorb the energy of the bullet. Furthermore, the polycarbonate will not break into shards (spalling) that may cause bodily harm to the building's occupants.

PART I GENERAL

1.01 SUMMARY

- A. Description: This section includes Bullet and Ricochet Resistant Steel Door, Frame and Window systems and Wood Doors that have been tested in accordance with UL 752, ASTM F1450, Section 7.1, "Bullet Penetration", Level ____.
- B. Related work not included in this section:
 - 1. Steel doors and frames.
 - 2. Wood Doors.
 - 3. Finish hardware including lock cylinders and thresholds.
 - 4. Glass and glazing.
 - 5. Caulking between frames and masonry.
 - 6. Structural members.

1.02 QUALITY ASSURANCE

- A. Applicable standards of the following as referenced herein:
 - 1. AAMA, American Architectural Manufacturers Association.
 - 2. ASTM, American Society for Testing and Materials.
 - 3. ADA, Americans with Disabilities Act.
 - 4. NAAMM/HMMA, National Association of Architectural Metals Manufacturers.
 - 5. TM5-855-1 Fundamentals of Design for Conventional Weapons; Department of Army.
 - 6. UL 752 Bullet Resistant Equipment.
 - 7. WDMA, Wood Door Manufacturers Association
- B. Quality is based on the Ballistica™ products manufactured by Stiles Custom Metal, Inc.
www.stilesdoor.com
- C. Manufacturer shall have been regularly engaged in manufacturing bullet resistant doors and frames for a period of ten years. Door and frame shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual and WDMA.

1.03 SUBMITTALS: Shop drawings: Indicate in elevation with sections and details to scale. Include UL Protection Level with independent test report, glass and metal thicknesses, joining details, field connections, anchorage, concealed and exposed fastening methods, door and framing reinforcement, and metal finishes. Indicate compliance with specified design criteria.

1.04 WARRANTY: Warrant Doors, Frames and Window assemblies against defect in materials and workmanship for three (3) years from date of shipment when handled, stored, and installed in accordance with manufactures instruction and NAAMM/HMMA Technical Manual.

PART 2 - PRODUCTS

2.01 DOORS

- A. Steel Doors shall be Ballistica™ Bullet and Ricochet Resistant Doors, Level ____ as manufactured by Stiles Custom Metal, Inc. www.stilesdoor.com
 - 1. Construction: Face sheets shall be minimum 16 gage steel. All doors shall be of the types and sizes shown on the approved submittal drawings and shall be constructed in accordance with the specifications.
 - 2. Door Core: The door shall be stiffened by continuous, vertical, formed steel sections supporting the bullet resistant core. Spaces between stiffeners shall be filled with sound deadening material.
 - 3. Door thickness shall be 1 ¾". Doors shall be neat in appearance and free from warp-age or buckle. Edge bends shall be true and straight.

Ballistica™ BULLET RESISTANT DOOR AND WINDOW SYSTEMS (continued)

4. Vertical Edges: Door face sheets shall be joined at center of vertical edges and continuously welded full height of door with no visible seams on faces or vertical edges. Welds shall be finished smooth. Single acting doors - beveled 1/8" in 2" profile.
 5. The top and bottom edges shall be closed with a continuous channel. Openings shall be provided in the bottom channel of exterior doors to permit the escape of entrapped moisture. Top of exterior doors shall be fitted with an additional flush closing channel and sealed water-tight.
 6. Glazed Lite Kits (if applicable) shall be furnished complete with removable glass stops and glazing gasket seals designed and tested to meet required level.
 7. Finish: After fabrication, all tool marks & surface imperfections shall be removed and faces of all weld joints shall be dressed smooth. Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.
- B. Wood Doors shall be based on Ballistica™ Bullet and Ricochet Resistant Doors, Level ____ as manufactured by Stiles Custom Metal, Inc. www.stilesdoor.com
1. Construction: All doors shall be of the types and sizes shown on approved shop drawings.
 2. Visible seams or joints on door faces are NOT permitted.
 3. Veneer thickness, internal bullet resistant core and perimeter door edge construction to be manufacturers standard for the specified model.
 4. Face veneer species, cut and color shall match that specified in "Wood Door" section.
 5. Glazed Lite Kits (if applicable) shall be furnished complete with removable glass stops and glazing gasket seals designed and tested to meet required level.
 6. Factory finishing of doors shall comply with AWI standards and the Wood Door Section.

2.02 FRAMES: Construction: Frames shall be a protection level equal to the door. Frames shall be constructed of minimum 16 ga. steel. Finish work shall be neat and free of defects. Corners shall be mitered and continuously welded full length of intersection. Knocked down, mechanical joints are not acceptable. All exposed welds shall be ground flush, finished smooth and free of defects.

2.03 BULLET / RICOCHET RESISTANT FIXED WINDOWS

- A. Acceptable products shall be Ballistica™ Bullet and Ricochet Resistant Protection Level ____ as manufactured by Stiles Custom Metal, Inc. www.stilesdoor.com
- B. Window Frame Constructed: minimum 16 ga. steel. Finish work shall be neat and free of defects. Corners shall be mitered & continuously welded full length of intersection. Knocked down, mechanical joints are not acceptable. All exposed welds shall be ground flush, finished smooth and free of defects.
- C. Glass molding shall be furnished complete with fixed and loose glass stop system designed and tested to meet required bullet resistant level.

2.04 BULLET RESISTANT GLASS

2.04 BULLET RESISTANT GLASS

- A. Glass for Door Lites: (choose)

[\[Glass shall be furnished and installation by the sound door / window manufacturer in type and thickness required to meet the STC rating.\]](#)

[\[Glass shall be furnished by the sound door / window manufacturer in type and thickness required to meet the STC rating. Glass installations shall taking place in the field by glazing contractor in accordance with the manufacturers instructions.\]](#)

[\[Glass shall be furnished and installed in the field by glazing contractor. Glass type, thickness and installation method in accordance with the sound door / window manufacturers instructions.\]](#)

Ballistica™ BULLET RESISTANT DOOR AND WINDOW SYSTEMS (continued)

B. Fixed Windows: (choose)

[Glass shall be furnished by the sound door / window manufacturer in type and thickness required to meet the STC rating. Glass installations shall taking place in the field by glazing contractor in accordance with the manufacturers instructions.]

[Glass shall be furnished and installed in the field by glazing contractor. Glass type, thickness and installation method in accordance with the sound door / window manufacturers instructions.]

2.05 FINISH HARDWARE: Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mor-tise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

PART 3 - EXECUTION

3.01 CLEARANCES AND TOLERANCES shall be in compliance with NAAMM / HMMA standards.

3.02 SITE STORAGE AND PROTECTION OF MATERIALS

- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

3.03 INSTALLATION:

- A. Framing systems shall be installed per Stiles instructions and NAAMM / HMMA 840. Install frames without use of exposed fasteners, except where indicated on shop drawings.

Door Installation: Install doors and hardware in accordance with manufacturer's product data. Adjust hardware for proper operation. Adjust door closers for smooth operation throughout swing.

3.04 CLEANING: Clean doors and frames in accordance with manufacturer's special instructions.

3.05 MAINTENANCE: Instruct the Owner's Maintenance Personnel regarding the operation and maintenance of these doors.

End of Section