



The clear choice
for bullet resistance

Plexiglas® SB Plexiglas® SBAR

CELL CAST ACRYLIC SHEET

The world can be a dangerous place. That's why so many glazing and security professionals make the safe choice with Plexiglas® SB acrylic sheet bullet-resistant glazing material. Its patented protection serves every day in high security environments — wherever weapons, violence, or vandalism are a risk.

Plexiglas® SB acrylic sheet offers a lightweight, crystal-clear, non-laminated alternative for your protective barrier designs and it's half the weight of bullet-resistant glass of the same UL class rating. When clarity and security are important, no material outshines it.

Plexiglas® SB acrylic sheet meets UL 752-Level I and II requirements for use in bullet-resistant applications involving small firearms. It is also available with an abrasion resistant coating. Plexiglas® SBAR acrylic sheet offers 40 times the abrasion resistance of uncoated acrylic.

PLEXIGLAS®

BY ARKEMA

APPLICATIONS

- For banks, government buildings, convenience stores.
- Kiosks, ATMs, drive-up windows, bus shelters.
- Prisons, jails, detention centers, psychiatric hospitals.
- Front/back seat dividers in police vehicles, taxicabs.
- Counter barrier windows, under counters, access doors.
- Patented technology within the scope of one or more claims of US patent 8,119, 231.

Plexiglas® SB Plexiglas® SBAR

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KEY FEATURES

Lightweight without Laminating

Plexiglas® SB acrylic sheet provides the same level of protection without lamination and is half the weight of glass laminates with the same UL ratings.

Radiant Clarity & Aesthetics

Plexiglas® SB acrylic sheet looks great. Its clear edges, which shine when polished, provide a frameless, clean and continuous look creating an aesthetically pleasing yet unyielding barrier. Plexiglas® SB acrylic sheet resists yellowing, hazing and degradation while allowing excellent light transmittance.

Design Flexibility & Application Versatility

Plexiglas® SB acrylic sheet can be custom cut to any size and is prepared and installed with conventional tools. Plexiglas® SB acrylic sheet is easier and less expensive to ship and provides a cost-saving benefit to installers.

Abrasion Resistant

Plexiglas® SB acrylic sheet meets the ASTM 4802 abrasion resistant requirement. Our coated acrylic sheet, Plexiglas® SBAR, offers 40 times the abrasion resistance of uncoated acrylic for applications where greater wear protection is required.

Exceptional Value

Plexiglas® SB acrylic sheet is a monolithic, lightweight and crystal clear protective-barrier material that offers performance benefits and cost savings versus polymer or glass laminates with the same UL class rating.

Ballistic Protection Ratings of Bullet Resistant Material per UL-752 Standards

	Level 1	Level 2
Weapon	9mm	.357 Magnum
Ammunition Full Metal Copper Jacket, Lead Core	Full Metal Copper Jacket, Lead Core	Jacketed Lead Soft Point
Weight (Grains / Grams)	124 / 8.0	158 / 10.2
Muzzle Energy	380 to 460 ft-lb.	548 to 663 ft-lb.
Min. Bullet Velocity	1,175 ft/sec.	1,250 ft/sec.
Max. Bullet Velocity	1,293 ft/sec.	1,375 ft/sec.
Area of use	Indoor/Outdoor	Indoor

SB/SBAR	Thickness	Max. Size Availability	Weight
Level 1	1.25" (32mm)	6' x 8'	7.7 lbs/sf
Level 2	1.375" (35mm)	6' x 8'	8.8 lbs/sf

TYPICAL PROPERTIES

Plexiglas® SB and SBAR Level I and II

Property	Method	Unit	Value
Physical			
Nominal Thickness for data unless otherwise noted		in	1.250"
Specific Gravity	ASTM D-792	—	1.19
Optical			
Refractive Index (ND @ 73°F)	ASTM D-542	—	1.49
Luminous Transmittance ¹	ASTM D-1003	%	90 min
Haze ¹	ASTM D-1003	%	< 1.0
Yellowness Index ¹	ASTM E-313	Y _i	< 0.7
Mechanical			
Tensile Strength, Maximum	ASTM D-638	psi	9,600
Tensile Modulus of Elasticity	ASTM D-638	psi	450,000
Flexural Modulus of Elasticity	ASTM D-790	psi	400,000
Thermal			
Coefficient of Thermal Expansion at 60°F	ASTM E-831	in / in / °F x 10 ⁻⁵	3.9
U-value (summer gain)	N/A	BTU / (hr) (ft ²)(°F/in)	0.73
Indoor Use Temperature Rating	UL 752	°F	55° – 95°
Outdoor Use Temperature Rating	UL 752	°F	-26° – 120°
Abrasion Resistance			
Haze Change after Taber Abrasion on Plexiglas® SBAR (100 cycles, 500g load, CS10F wheel)	ASTM D-1044	%	< 2.0
Flammability² & Specification Compliance			
Self Ignition Temperature	ASTM D 1929	°F	992
Bullet Resistant Glazing	UL 752 File BP8815	—	Level I – 1.25" (Indoor/Outdoor) Level II – 1.375" (Indoor only)
American National Standard for Safety Glazing	ANSI Z97.1	—	PASS

- Data given are average values and should not be used for specification purposes.
- Conditioned for 24 hours at 122°F
 - This property will change with thickness. The value given is for the thickness indicated in the column heading unless otherwise noted.
 - Flammability tests are small scale tests and may not be indicative of how materials will perform in an actual situation.

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Plexiglas® acrylic plastic is a combustible thermoplastic. Observe fire precautions appropriate for comparable forms of wood and paper. For building uses, check code approvals. Impact resistance is a factor of thickness. Avoid exposure to heat or aromatic solvents. Clean with soap and water. Avoid abrasives.

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