



SHOT-TEX

APPLICATION

Shot-Tex brand bullet resistant steel is used in the manufacturing of Chicago Bullet Proof Systems' bullet resistant architectural products. It is also used in sheets to line walls, ceilings, and counter tops in:

Pharmacy transaction areas
Gas stations and convenience stores
Judges benches and chambers
Office building lobbies
Cash counting rooms

Hospital emergency rooms
Reception areas
Residential safe rooms
Guard stations
Walls where you have bullet resistant doors & windows

BENEFITS

Time required to install is minimal.

No cutting or preparation in the field, Shot-Tex bullet resistant steel is delivered cut to specified sizes and shapes with required holes so that it is ready to install upon receipt.

Most cost effective bullet resistant wall armor.

CODE COMPLIANCE

Listed & Labeled by Underwriters Laboratories under *Standard for Safety UL 752*, "Bullet Resisting Metals and Plastics" for:

Shot - Tex #1	UL Level 1	9mm Super Auto x 3 Hits	Approx. 1/8" thick	5.66 lbs. / sq Ft.
Shot - Tex #2	UL Level 2	.357 Mag. X 3 Hits	Approx. 3/16" thick	7.7 lbs. / sq Ft.
Shot - Tex #3	UL Level 3	.44 Mag. X 3 Hits	Approx. 1/4" thick	10.4 lbs. / sq Ft.
Shot - Tex #4	UL Level 4	.30-06 x 1 Hit	Approx. 3/8" thick	15.4 lbs / sq Ft.
Shot - Tex #5	H.P. White 7.62 NATO	M-80 Ball x 3 Hits	Approx. 1/4" thick	20.4 lbs / sq Ft.
Shot - Tex #8	UL Level 8	M-80 Ball x 5 Hits	Approx. 1/4" thick	20.4 lbs / sq Ft.

FINISH

Prime Painted.

Satin Stainless Steel.

SHOT-TEX is a registered trademark of Chicago Bullet Proof Systems.

INSTALLATION INSTRUCTIONS

-Shot-Tex brand bullet resistant steel typically is provided from the factory in precut, predrilled sheets.

ANCHORING: Shot-Tex sections may be "free standing." Panels may rest in a base channel on the floor and anchor to the structural ceiling by means of clip angles and tie rods. Two panels are anchored together by bolting through either angles welded to each section or through angled returns being formed into the sections themselves.

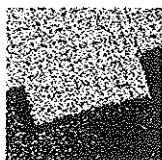
-Shot-Tex sections may be flat, with tightly butted joints, and anchored directly to wood or metal studding. Flat sections may also be anchored to the wall itself with expandable anchors, wood screws, and plug welds.

-In both formed and flat sections, anchorage will normally be 9/32 inch holes at 8" on center maximum. Diameters of anchorage holes may be larger for greater load factors.

WEIGHT CONSIDERATIONS: The use of large sheets of Shot-Tex and higher ballistic levels may require additional reinforcement of the structure to which the Shot-Tex is being attached, especially in stud wall applications. Consult CBPS for assistance.

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BULLET PROOF
BULLET RESISTANT
FIBERGLASS ARMOR

FIBRE-TEX

APPLICATION

Fibre-Tex brand bullet resistant fibre panels are used to line walls, ceilings, and counter tops in:

Pharmacy transaction areas	Hospital emergency rooms
Gas stations and C-stores	Reception areas
Judges benches and chambers	Residential safe rooms
Office building lobbies	Guard stations
Cash counting rooms	Walls where you have bullet resistant doors and windows

CODE COMPLIANCE

Listed and labeled by Underwriters Laboratories, Inc. (UL) under *Standard for Safety UL 752, "Bullet-Resisting Metals and Plastics"* for:

Model	UL Label	Definition	Thickness	Lbs. Per Ft.	Lbs. Per 4x8 Sht.
F-Tex #1F	UL Level 1	9mm Super Auto x 3 Hits	Approx. 3/16" thick	2 lbs./ sq Ft.	77 lbs./sheet
F-Tex #2F	UL Level 2	.357 Mag. X 3 Hits	Approx. 5/16" thick	3.0 lbs./sq Ft.	96 lbs./sheet
F-Tex #3F	UL Level 3	.44 Mag. X 3 Hits	Approx. 7/16" thick	4.0 lbs./sq Ft.	128 lbs./sheet
F-Tex #4F	UL Level 4	.30-06 x 1 Hit	Approx. 1-3/16" thick	12 lbs./sq Ft.	368 lbs./sheet
F-Tex #8F	UL Level 8	7.62mm RIFLE	Approx. 1-5/16" thick	13.4 lbs./sq Ft.	429 lbs./sheet

PRODUCT DESCRIPTION

-Bullet resistant composition of high strength fibre matrix plies suspended in a resilient bonding media.

FINISH:

-Flat and smooth off white color.
-Outer surface readily accepts plastic laminates, paint, wall coverings, and like architectural treatments.

INSTALLATION INSTRUCTIONS

Fibre-Tex can be sized readily in the field using conventional wood and light metal-working tools. Refer to the following guidelines:

CUTTING:

Cut Fibre-Tex using ordinary carpentry tools: circular saw, table saw, panel saw, or saber saw.
Use the following blades:

• CS 70 CI, 7" Circular, • CS 80 CI, 8" Circular, • CS 120 CI, 12" Circular, • SS2-2MH, Sabre Saw.

SAFETY INSTRUCTIONS: If continuous or prolonged cutting is anticipated, CBPS recommends the use of a paper respirator and Tyvek disposable coveralls. Always cut in a well ventilated area.

DRILLING: Fibre-Tex may be drilled using high speed steel twist drills at a slow speed.

ADHESION: Fibre-Tex may be adhered using an industrial adhesive (Mastic) and/or using screws or bolts. It is acceptable to adhere Fibre-Tex to a threat side surface and cover it with a decorative veneer. However, it is generally easier to cut appliques of Fibre-Tex and adhere them to the non-threat side surface.

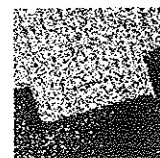
BALLISTIC INTEGRITY: Any butt joints or seams create a ballistic weakness. To ensure ballistic integrity, CBPS recommends that 4" strips (battens) be placed over seams. Conformity to curved surfaces should be handled by placing 12" to 18" vertical strips following the inside curvature of the surface to be protected. The same 4" overlapping strips should be applied at each joint.

VENEERS: Fibre-Tex easily accepts a wood or plastic veneer using contact cement. It may also be upholstered or painted. Painting requires "roughing up" the surface..

WEIGHT CONSIDERATIONS: The use of large sheets of Fibre-Tex and higher ballistic levels may require additional reinforcement of the structure to which the Fibre-Tex is being attached, especially in stud wall applications. Consult CBPS for assistance.

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OPAQUE ARMOR INFORMATION

THE ADVANTAGES AND DISADVANTAGES OF UL LISTED BULLET RESISTANT STEEL AND FIBERGLASS COMPOSITES

Armor Type	Advantages	Disadvantages
SHOT-TEX BR steel	<p>Ease of Installation: Shot-Tex is shipped from the factory cut to size with all mounting holes punched and prime painted. It is easily attached to the existing stud system and finish painted or covered with wall board.</p> <p>Cost: Shot-Tex is 30% to 35% less in cost than the equivalent BR level of Fibre-Tex.</p> <p>UL: Shot-Tex steel is UL listed and labeled for bullet resistancy for levels 1, 2, 3, 4, and 8</p>	<p>Workability in the Field: Difficult to do any field cutting for modification that may occur.</p> <p>Weight: Approximately twice the weight of Fibre-Tex. Depending on the construction of existing structures, the weight of Shot-Tex raises floor loading concerns.</p>
FIBRE-TEX BR Fiberglass Composite	<p>Workability in the Field: 4'w x 8'h sheets can be cut to size with a power saw and the holes for mounting can be cut with standard steel drill bits. This allows for any last minute changes in the field.</p> <p>Weight: Fibre-Tex is approximately 1/2 the weight of Shot-Tex steel. The lighter weight makes Fibre-Tex easier to handle in the field and lessens concerns for floor loading.</p> <p>UL: Fibre-Tex #1F, #2F, #3F, #4F, #5F, #6F, #7F, and #8F, are UL listed and labeled for bullet resistancy for levels 1, 2, 3, and 4.</p>	<p>Cost: Fibre-Tex is 30% to 35% more in cost than Shot-Tex steel.</p> <p>Sizes: Fibre-Tex is available in full sheets of 48"w x 96"h, and 36"w x 96"h.</p> <p>Additional Field Costs: All material must be cut to size in the field adding to the cost of using Fibre-Tex.</p>



OPAQUE ARMOR CHART

Opaque Armor	Ballistic Level	Thickness	Weight/Sq. Ft	Pricing
SHOT-TEX (Steel Armor)	1	1/8"	5.66	Least expensive opaque armor
	2	3/16"	7.70	
	3	1/4"	10.4	
	4	3/8"	15.4	
	7.62 Nato	1/2"	20.4	
	8	1/4"	10.4	
FIBRE-TEX (Fiberglass Composite)	1	1/4"	2	35% more than Shot-tex
	2	5/16"	3	
	3	7/16"	4	
	4	1-3/16"	12	
	5	1-3/16"	12	
	6	5/16"	3	
	7	1-3/16"	12	
	8	1-5/16"	13.4	

Ballistic levels are Underwriters Laboratories, Inc. (UL),
under *Standard for Safety UL 752*, listed and labeled.

Fibre-tex is also available with NIJ test only.

Shot-tex is the registered trademark of Chicago Bullet Proof Systems.



TRANSPARENT ARMOR INFORMATION

THE ADVANTAGES AND DISADVANTAGES OF UL LISTED TRANSPARENT ARMORS

Armor Type	Advantages	Disadvantages
GLASS CLAD POLYCARBONATE	<p>Weight: weighs 40 % less than Glass.</p> <p>Attack resistance: offers resistance to attack.</p> <p>Self Extinguishing: does not support combustion</p> <p>UL rating: UL listed for levels 1, 2, 3, 4,5,6,7, & 8.</p>	<p>Scratches: although one side is glass, the other is not and may be scratched.</p> <p>Cost: costs is 1.25 times that of laminated glass.</p> <p>Delamination: could be a problem, since it is a lamination of polycarbonate and glass which have different rates of expansion and contraction.</p>
GLASS CLAD POLYCARBONATE WITH AIR GAPS	<p>Weight: weighs 40 % less than glass.</p> <p>Attack resistance: offers resistance to attack.</p> <p>Minimal delamination: air separates the glass and polycarbonate layers which have different expansion rates.</p> <p>Scratch resistant on customer side only: There is glass on the customer side which is most scratch resistant which is also replaceable if broken.</p> <p>Self Extinguishing: does not support combustion.</p> <p>UL rating: UL listed for levels 1, 2, 3, 4 & 8.</p>	<p>Scratches: although one side is glass, the other is not and may be scratched</p> <p>Cost: costs is 1.5 times that of laminated glass.</p> <p>Polycarbonate delamination: heat trap caused by air gaps may cause delamination in the polycarbonate.</p>



TRANSPARENT ARMOR INFORMATION

THE ADVANTAGES AND DISADVANTAGES OF UL LISTED TRANSPARENT ARMORS

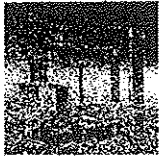
Armor Type	Advantages	Disadvantages
LAMINATED POLYCARBONATE	<p>Weight: 1/2 the weight of glass clad polycarbonate.</p> <p>Attack resistance: offers resistance to attack.</p> <p>Minimal delamination: expansion rates are similar among polycarbonate layers.</p> <p>Self Extinguishing: does not support combustion.</p> <p>UL rating: UL listed for levels 1, 2, 3, and 5.</p>	<p>Scratches: polycarbonate scratches and must be cleaned properly.</p> <p>Cost: costs is 2 times that of laminated glass.</p>



TRANSPARENT ARMOR INFORMATION

THE ADVANTAGES AND DISADVANTAGES OF UL LISTED TRANSPARENT ARMORS

Armor Type	Advantages	Disadvantages
LAMINATED GLASS	<p>Cost: least expensive of all transparent armors</p> <p>Size: available in large sizes (some up to 80"w x 120"h)</p> <p>Scratch resistant: glass is still the hardest transparent product in the industry and offers the most resistance to scratching.</p> <p>Minimal delamination: because the expansion rates are similar among glass, the probability of delamination is less than mixed material laminates</p> <p>UL rating: Available in UL level 1, 2, 3, and 4.</p>	<p>Weight: Glass can be 56% heavier than the glass clad polycarbonate products and 3 times the weight of an all polycarbonate product. Floor loading and labor considerations need to be made.</p> <p>Cutting: It is difficult to find a manufacturer who will cut notches and miters.</p> <p>Breakage: Glass breaks; therefore, while being bullet resistant, it does not offer any prolonged attack resistance.</p>
ACRYLIC	<p>Monolithic: when the edges are flame polished, they become as clear as the face of glass with no seams. Acrylic is used for bandit barriers when the edges are visible to the public.</p> <p>No delamination</p> <p>Weight: 1/2 the weight of glass.</p> <p>Light transmission: up to 92% light transmission</p> <p>Attack resistance: some attack resistance</p> <p>UL rating: listed for UL level 1 only</p> <p>Price: 4 x more than glass.</p> <p>UL rating: Only available in UL level 1.</p>	<p>Scratches: Although some manufacturers will say that their acrylic is scratch resistant, acrylic is softer than glass and requires special cleaning instructions. <i>(A scratch resistant coating, SAR, is available, but it would add an additional 15-20% to the cost)</i></p>



TRANSPARENT ARMOR CHART

Armor	Ballistic Level	Thickness <small>May vary depending on manufacturer</small>	Weight/Sq. Ft	Pricing
Laminated Glass	1 2 3 4	1-3/16" 1-1/2" 1-3/4" 2"	16 21 25 28	Least expensive transparent armor available
Monolithic B.R. Acrylic	1	1-1/4"	7.8	4 times the price of glass
Glass Clad Polycarbonate	1 2 3 4 5 6 8	3/4" 15/16" 1-3/16" 1-1/4" 2-1/4" 1-1/5" 2-1/4"	8.4 11.2 13.2 13.6 27 13.4 27	1.25 times the price of glass
Glass Clad Polycarbonate with air gap	1 2 3 4 5 8	.92" 1.11" 1.25" 1.84" 1.84" 2.51"	6.4 8.8 9.8 15.3 15.3 24.9	1.5 times the price of glass or more
Laminated Polycarbonate	1 2 3 5	.775" 1.06" 1.33" 1.25"	5.1 6.6 8.1 8.02	2 times the price of glass or more

UL listed levels and H.P. White 7.62 NATO

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