

SECURITY MESH™ & BALLISTIC SECURITY PANELS



AMICO[®]
INTERIOR SECURITY

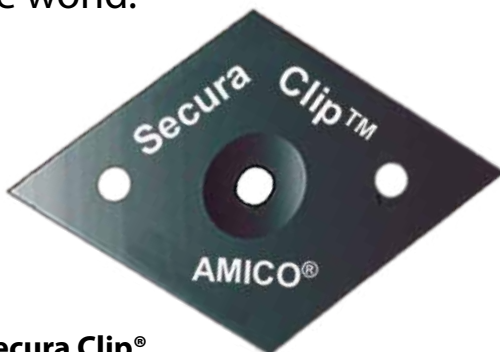
AMICO SECURITY MESH™



ASM .75-9F HM Super Max Security in optional hot dipped galvanized finish installed at Data Center

Security Mesh™ was developed and introduced by AMICO in the late 1980s as a penetration barrier for use behind drywall finishes. In 2002, AMICO patented the Secura Clip®, making a system that designers and security professionals can count on to provide the highest levels of physical security.

AMICO Security Mesh has been installed for decades in government, commercial, and retail buildings all over the world.



AMICO Secura Clip®

AMICO's patented Secura Clips® complete the system. Secura Clip® fasteners have a recessed center hole allowing the Tek screw to seat at the surface of the mesh and not create humps and bumps alerting intruders to the penetration barrier. Secura Clip® fasteners provide over 68% more holding strength than standard screws alone.

Drywall is installed directly over Security Mesh™. No need for other materials for added intrusion protection. AMICO has supplied numerous projects requiring mesh to be attached to both sides of the framing members.



ASM 2322-1003 Corrections



ASM .75-9F HM Super Max Security



ASM .75-9F Maximum Security



ASM .50-13F Maximum Security



ASM 1.5-9F Medium Security



ASM 1.0-16F Minimum Security

Mesh Selection

AMICO offers Minimum, Medium, Maximum and Heavy Modified Super Max Security mesh panels. The style of mesh can be determined by the overall level of security for the facility and other conditions such as response time by security or law enforcement. In general the overall mesh thickness and the size of the diamond opening determine the security level. ASM 2322-1003, the most secure Security Mesh, passes ASTM F2322 Standard Test Methods for Physical Assault on Vertical Fixed Barriers for Detention and Correctional Facilities at Grade 1, the highest level, Grade 2 and Grade 3.

AMICO SECURITY MESH	Weight per sq. ft.	Overall Thickness	Diamond Hole Opening
ASM 2322-1003*	3.23 lbs	.108"	0.19" x .68"
ASM .75-9F HM	2.38 lbs	.140"	0.6" x 1.7"
ASM 2322-4003*	2.17 lbs	.072"	0.19" x .68"
ASM .75-9F	1.57 lbs	.108"	0.6" x 1.7"
ASM .50-13F	1.26 lbs	.072"	0.3" x 1.0"
ASM 1.5-9F	1.05 lbs	.108"	1.0" x 2.7"
ASM .50-16F	.77 lbs	.048"	0.3" x 1.0"
ASM .75-13F	.67 lbs	.072"	0.7" x 1.8"
ASM 1.5-13F	.51 lbs	.072"	1.1" x 2.8"
ASM .75-16F	.47 lbs	.048"	0.8" x 1.8"
ASM 1.0-16F	.38 lbs	.048"	0.8" x 2.2"
ASM 1.5-16F	.35 lbs	.048"	1.1" x 2.8"

* ASM 2322-1003 passes ASTM F2322 Standard Test Methods for Physical Assault on Vertical Fixed Barriers for Detention and Correctional Facilities at Grade 1, the highest level, Grade 2 and Grade 3. ASM 2322-4003 passes ASTM F2322 at Grade 4.

Tolerances: Short Way of Diamond (SWD) & Long Way of Diamond (LWD) 0 + 0.25" per 12" of width. Panel sizes: 4' x 8' standard, other sizes are available upon request.

Mesh Finish

Security Mesh is supplied in a Mill Finish (HR P&O - Hot Rolled Pickled & Oiled) as standard. For special applications such as installation adjacent to shower or kitchen areas, Hot dip galvanized is available upon request.

Framing

Generally, vertical framing members are set 16-inches on center. Horizontal ceiling members are set 16 to 24-inches on center. As the requirements for higher levels of security arise the spacing of vertical framing can be reduced to 12-inches on center. 12-inch stud spacing is frequently specified with the ASM .75-9F Heavy Modified. The ASM 2322-1003 and ASM 2322-4003 Corrections panels have specific requirements to qualify for ASTM F2322 certification.

Secura Clip® Fasteners

For best performance AMICO Secura Clip® fasteners need to be used. Install clips to metal framing using bugle head self-tapping screws penetrating the framing member a minimum of 3/8-inch. With wood framing use 1-5/8-inch drywall screws allowing the fastener to penetrate framing a minimum of 1-1/2-inches. Standard spacing is 12-inches vertically per framing member for both vertical and horizontal surfaces.

AMICO SECURITY MESH™

ASTM F2322 Physical Assault testing

AMICO Security Mesh™ Maximum Security panels pass the ASTM F2322 Standard Test Methods for Physical Assault on Vertical Fixed Barriers for Detention and Correctional Facilities.

These test methods cover requirements for a simulated physical assault on walls designed to incarcerate inmates in detention and correctional institutions. It is the intent of these test methods to help ensure that detention security walls perform at or above minimum acceptable levels to control passage of unauthorized contraband or secure areas, to confine inmates, to delay and frustrate escape attempts, and to resist vandalism.

While the test method is primarily designed for prison walls the performance criteria apply to many other security applications as well.



Grade #	ASM Mesh available*	Number of Impacts**	Representative Barrier Duration Time
1	ASM 2322-1003	600	60 minutes
2	ASM 2322-1003	400	40 minutes
3	ASM 2322-1003	200	20 minutes
4	ASM 2322-4003	100	10 minutes

TABLE Security Grades and Impact Load Requirements

* Results only apply when installed on metal studs using Secura Clip® supplied by AMICO Security

** Number of impacts equally divided between 80lbs blunt impactor and 80lbs sharp impactor, applied in alternating sequences of 50 impacts each



AMICO Security Mesh™ at test termination after 600 impacts achieving Grade 1



Commercial Property

Commercial malls and standalone stores in strip malls are a great application for AMICO Security Mesh™. While storefronts are often secured by shutters, the walls on the side and back of the stores are often simple drywalls. Break-ins frequently occur through those walls since they often border hallways or less secure stores.

- Banks and Credit Unions
- Cellphone, Jewelry and Electronics Stores
- Data Centers & High Value Storage Facilities

Cannabis Industry

The cannabis and recreational drug industry faces many security challenges. Security Mesh™ is ideal to increase the security of walls and to increase security of storage rooms within those facilities.



Data Centers



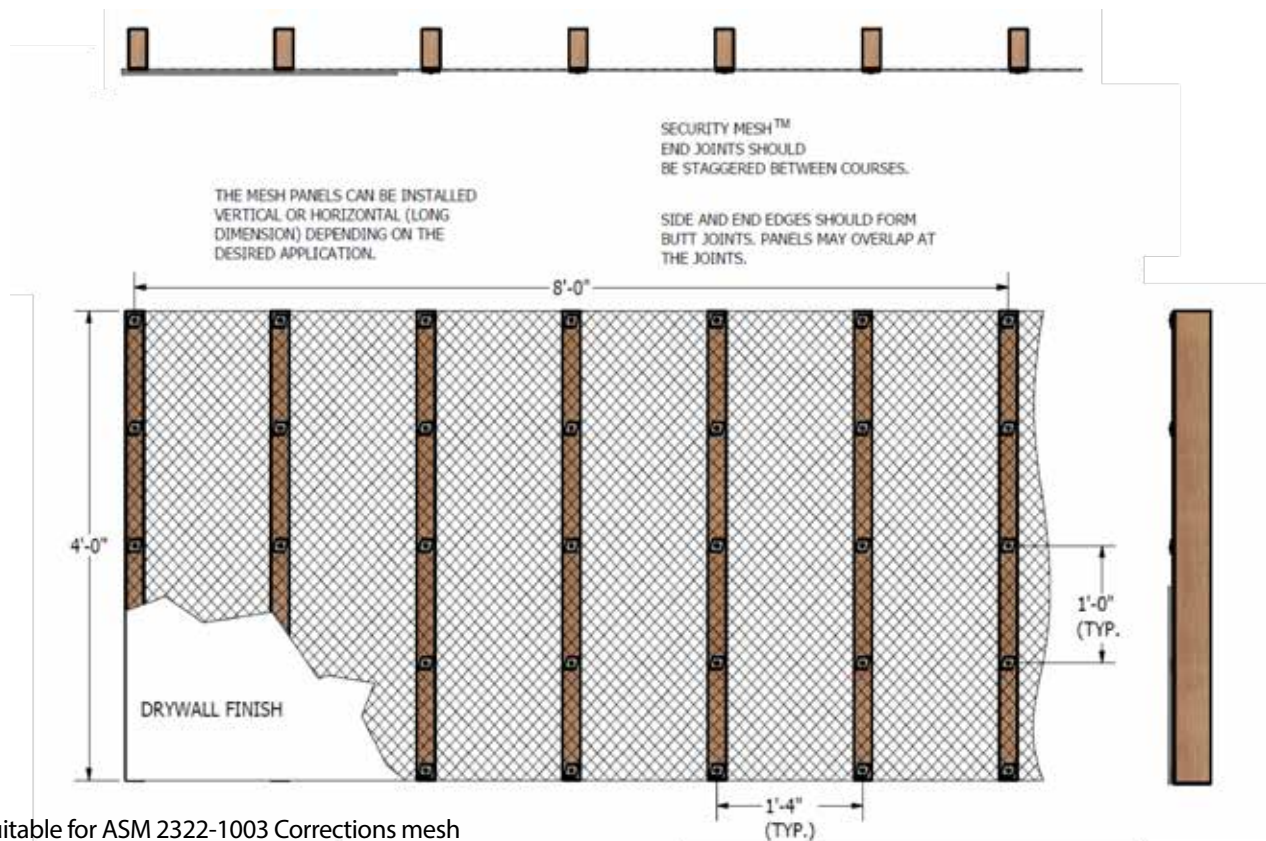
AMICO Security Mesh™ enhances security to Data Centers and high value storage facilities by significantly increasing the breach times compared to traditional walls. Since attackers are not aware of the presence of Security Mesh™, they often give up upon encountering Security Mesh™. Also the additional time required to breach walls fitted with Security Mesh™ increases the time for law enforcement to respond.

Detention and Correctional Facilities

AMICO Security Mesh™ has many applications in Detention and Correctional Facilities and other facilities with high security needs for example metal hospitals. The ASTM F2322 Grade 1 certified ASM 2322-1003 Corrections mesh offers architects a wide range of new design options as it is tested to offer equivalent physical assault protection compared to Concrete Masonry Unit (CMU) walls. With a wide range from the ASM 2322-1003 Corrections mesh to Minimum level meshes, AMICO Security Mesh™ can be specified according to specific security needs. For example a lower security level mesh might be acceptable in public lobbies.



AMICO Security Mesh™ Installation Drawing*



* Not suitable for ASM 2322-1003 Corrections mesh

Before



After





AMICO Secura Clip® Spacing Guidelines

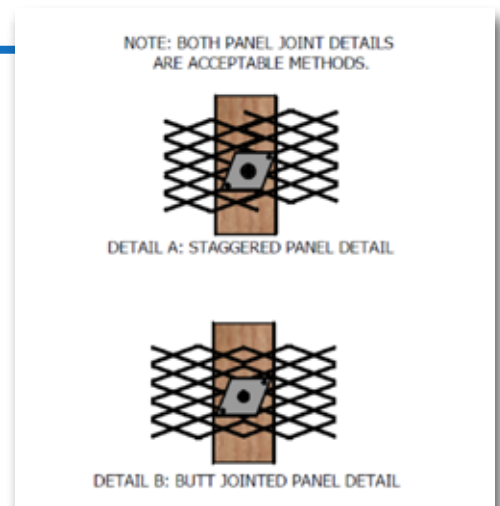
- Stud Spacing 16in (406.40mm) on center
- 24 Secura Clip® fasteners per 4' x 8' (1,219.20mm x 2,438.40mm) panel
- Secura Clip® fasteners spaced 12in (304.80mm) vertically

One box contains 300 Secura Clip® fasteners and weighs 3.5 lbs. per box

- Steel Stud Installations - Use self-tapping bugle head screws
- Wood Stud Installations - Use standard drywall screws
- Screws not included with clips

AMICO Security Mesh™ Installation notes

1. Framing members should be no less than 20GA
2. Security Mesh™ panels may be installed with diamonds running in either direction
3. It is preferred to have mesh joints either staggered as in detail "A" or butt joined as in detail "B"
4. It is acceptable to overlap mesh joints with owners prior written approval
5. Panels shall join on framing members
6. If panels join in between framing members, in any direction, adjoining panels shall be tied with 18GA tie wire at the same frequency as clips or welding
7. **STEEL FRAMING APPLICATIONS** Secura Clip® fasteners are fastened to steel framing members with fine thread self-tapping bugle head self-tapping screws with a #8 shank long enough to penetrate the steel framing member at least 3/8"
8. **WOOD FRAMING APPLICATIONS** Secura Clip® fasteners are fastened to wood framing members with 1-5/8" fine thread #6 shank drywall screws



Cutting of AMICO Security Mesh™ panels

On site, panels can be cut with a commercial nibbler, hand-held grinding with cutting wheel, circular saw with an abrasive or carbide tip blade, or cutting torch. When using grinding wheel and circular saw, anticipate sparks being emitted. It is not recommended to have panels sheared to size since each sheet will have numerous very sharp open diamonds creating transportation and job-site hazards.

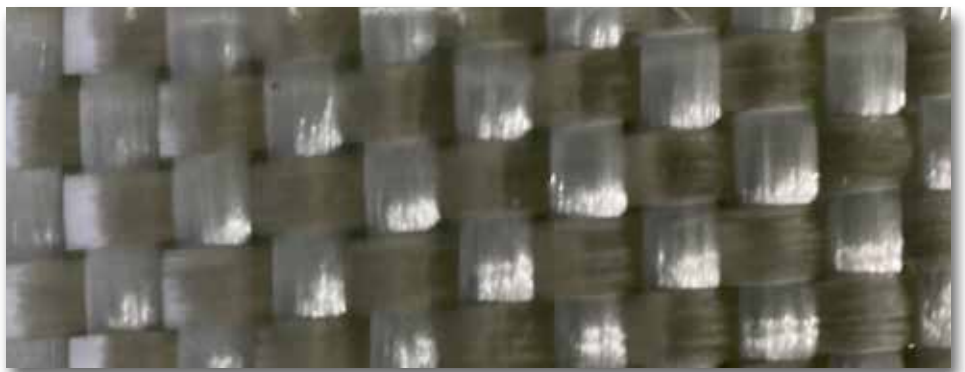
Caution

Cutting of Security Mesh™ panels may be required for installation. When these steel panels are cut, the resulting open diamond is very sharp. Safety precautions are to be taken. Gloves and eye protection should be worn when cutting panels.

Underwriters Laboratories Fire Rating

Underwriters Laboratories Fire Rated Assemblies will not be jeopardized by using AMICO's Security Mesh™ in the fire rated assembly (per U/L subject File #1857).

BALLISTIC SECURITY PANELS





Commercial Property

A wide range of commercial facilities face ballistic threat, most often those dealing with sensitive materials or quantities of cash. AMICO Ballistic Security Panels are highly effective within counter and wall systems to provide personnel protection from ballistic attacks.

- Banks and Credit Unions
- Convenience Stores
- Utilities
- Data Centers

Government Property

Facilities at all levels of government need to consider protection against ballistic attack. From Federal courthouses to county jails and local school board chambers, AMICO Ballistic Security Panels provide affordable security within walls, lecterns and desks.

- Courthouses / Court Rooms
- Embassies & Consulates
- Public Safety Facilities
- Educational Facilities



Health Care

Health Care facilities face unique security threats, and commonly turn to the protection of AMICO Ballistic Security Panels. From armed robbery for drugs, to attack on patients, defense against ballistic threat begins with AMICO Security.

- Hospitals
- Clinics
- Pharmacies

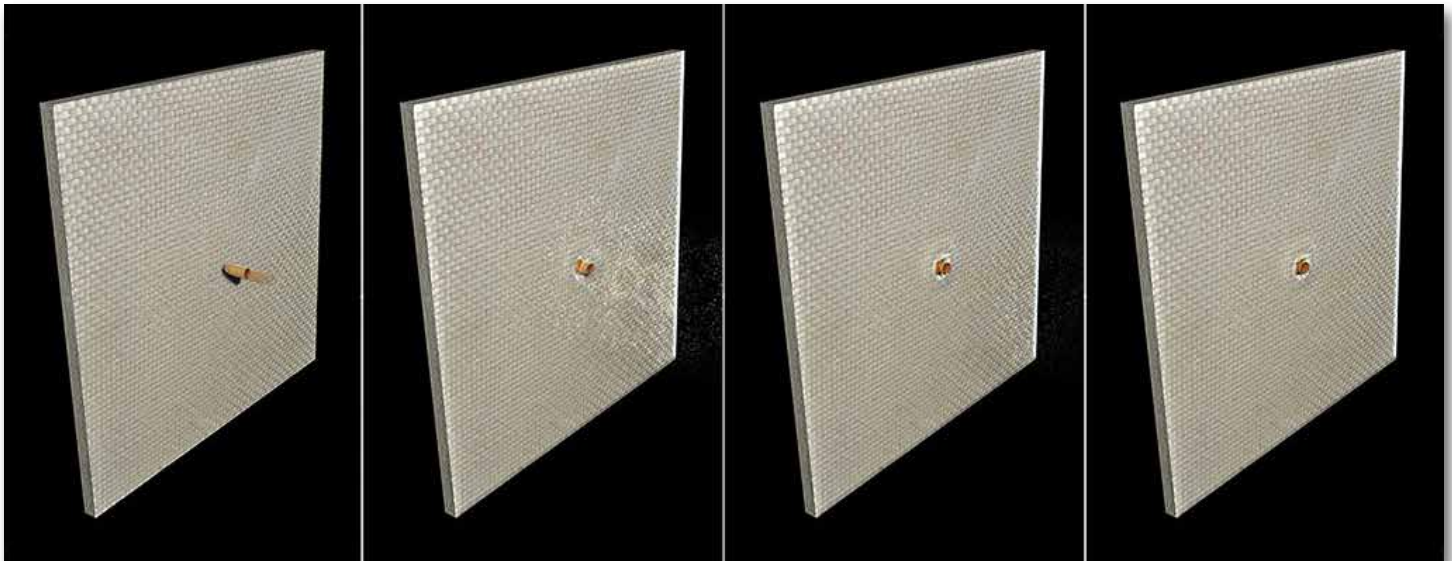
Residential Security

Manufactured to meet the stringent ASTM Forced Entry Protection" standards, AMICO Ballistic Security Panels are an ideal choice for residential Safe Rooms defending against room entry from bullets, as well as sledgehammers, cutting tools and even propane torches!

Texas Tech University's Wind Engineering Research Center performed tests on AMICO's Level 3 Ballistic Security Panels. The results of the tests show that these panels can withstand a 15 Lb. 2 x 4 wood board cannon-fired at a force consistent with a "large missile" typical of an EF-5 tornado, for effective storm shelter construction.



BALLISTIC SECURITY PANELS



AMICO Ballistic Security Panels for ballistic protection behind drywalls are being manufactured by a world leading manufacturer of bullet resistant fiberglass. The composite laminate consists of fiberglass reinforced thermoset resin designed to defeat a projectile through a process of energy absorption through controlled delamination and energy dissipation.

The fiberglass reinforcement transfers the energy of the bullet across the width of the panel. In addition, the resin is designed to separate into individual plies through a process of controlled delamination to eventually absorb all the energy and stop the bullet within the laminate. Once the plies have begun to delaminate, additional shots become progressively

easier to defeat because the energy is more readily absorbed by the laminate. In contrast to metal barriers, the fiberglass laminate is designed to prevent ricochet of the projectile as well as spalling on the non-threat side of the bullet resistant panel.

Bullet resistant fiberglass panels are used to protect the employees, buildings, and other critical assets for many types of commercial and industrial organizations including: electric utilities, military and government facilities, law enforcement locations, and more.

Through our custom design for bullet-resistant panels, we've developed the highest quality and reliable product for defensive architecture.

Unique Benefits of Ballistic Security Panels

- Lighter Weight Than Steel
- Easy To Install With Standard Tools
- Effective Delay Against Forced Entry
- Low Wicking – No Build-Up Of Mold
- Non-Toxic Materials
- 1-Hour Fire Rating (ASTM E119-00)
- Available In Sizes Up To 5' x 10'
- Available In The Full Range Of UL 752
- 4'x8' Size Level 1-3 Stocked for Quicker Lead Times

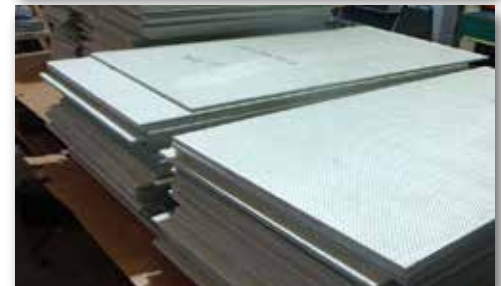
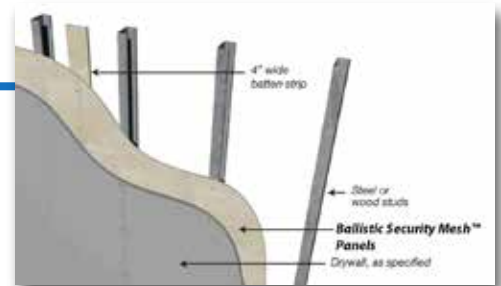




Ballistic Security Panels Manufacturing Process

High-quality materials, skilled craftsmanship and the best manufacturing processes are utilized in the fabrication of each and every AMIGUARD® Ballistic Panel. Continuous product testing ensures that our panels meet the highest criteria of ballistic resistive integrity.

AMICO Security's bullet-resistant panels are manufactured by combining woven-roving fiberglass with resin, precision-assembled and cured in a press with heat and pressure while maintaining quality and consistency. With our unique capabilities including hydraulic presses, water jet cutting, industrial sanders and testing facilities, AMICO Ballistic Security Panels are offered in a variety of standard size sheets ranging from 3', 4' & 5' widths by 8', 9' & 10' lengths of any combination. We also offer custom cutting to fit your unique design with the ability to cut to any 2-dimensional size, pre-drill holes, bevel cut, etc. Our intensive Quality Assurance Program in conjunction with our ISO 9001:2015 registration will ensure every panel we manufacture meets and/or exceeds our customers' requirements.



Ballistic Security Panels Installation

AMICO Ballistic Security Panels may be attached using self-tapping drywall screws. When attaching a panel to a stud wall on which drywall will be the exterior surface, simply use enough screws to hold the panel to the studs, then come back with a complete screw pattern to the studs when hanging the drywall on top. If a different applique is to be used over the ballistic panels and a flush surface is required, a counter-sink hole may be used before adding the screws.

In the field, Ballistic Security Panels can be cut with a diamond-grit blade. TSD 180D, manufactured by Tenryu, a quality 7" circular blade available through AMICO Security. For electrical boxes and other small openings, a diamond grit blade (available through most builder's supply in the ceramic tile section) on a reciprocating saw should be sufficient.

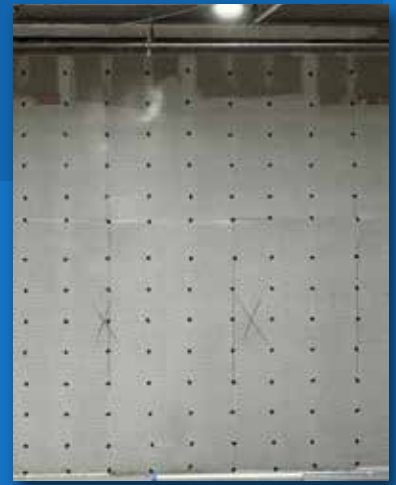


Ballistic Security Panels Door Panel with Lockset

UL 752 Protection Levels

UL Rating	Nominal Thickness	Nominal Weight lbs/sq. ft	Ammunition	Grain	(g)	Min fps	Velocity (m/s)	# of Shots
Level 1	1/4"	2.6	9mm Full Metal Copper Jacket with Lead Core	124	8.0	1175	358	3
Level 2	5/16"	3.6	.357 Magnum Jacketed Lead Soft Point	158	10.2	1250	381	3
Level 3	7/16"	4.8	.44 Magnum Lead Semi-Wadcutter Gas Checked	240	15.6	1350	411	3
Level 4	1-3/8"	13.9	.30 Caliber Rifle Lead Core	180	11.7	2450	774	1
Level 5	1-7/16"	14.8	7.62mm Rifle Lead Core Full Metal Copper Jacket Military Ball	150	9.7	2750	838	1
Level 6	3/8"	3.9	9mm Full Metal Copper Jacket with Lead Core	124	8.0	1400	427	5
Level 7	1-1/8"	11.7	5.56mm Rifle Full Metal Copper Jacket with Lead Core	55	3.56	3080	939	5
Level 8	1-7/16"	15.2	7.62mm Rifle Lead Core Full Metal Copper Jacket Military Ball	150	9.7	2750	838	5

Target Range 15 ft. - Level 3 panels carry a Class IV Forced Entry Protection rating, per ASTM F1233



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