

SPECIFICATIONS
BULLET-RESISTING METAL SWINGING DOOR/FRAME SYSTEMS

Part 1 - General

1.1 Description

- A. **Work Included:** Provide Ballistic Resistant Security Metal Swinging Door/Frame Systems where shown on drawings and specified herein.
- B. **Ballistic Protection:** The level of ballistic protection required for this project is [select appropriate level from the following list] as tested to UL 752 Standard for Safety or NIJ Standard 0108.01:

UL Level 1: 9mm Full Metal Copper Jacket with Lead Core (3 shots)
UL Level 2: .357 Magnum Jacketed Lead Soft Point (3 shots)
UL Level 3: .44 Magnum Lead Semi-Wadcutter Gas Checked (3 shots)
UL Level 4: .30 Caliber Rifle Lead Core Soft Point (1 shot)
UL Level 5: 7.62mm Rifle Lead Core Full Metal Jacket, Military Ball (1 shot)
UL Level 6: 9mm Full Metal Copper Jacket with Lead Core (5 shots)
UL Level 7: 5.56mm Rifle Full Metal Copper Jacket with Lead Core (5 shots)
UL Level 8: 7.62mm Rifle Lead Core Full Metal Jacket, Military Ball (5 shots)

NIJ Type I: .22 Long Rifle High Velocity (5 shots)
.38 Special Round Nose Lead (5 shots)

NIJ Type II-A: .357 Magnum Jacketed Soft Point (5 shots)
9mm Full Metal Jacket (5 shots)

NIJ Type II: .357 Magnum Jacketed Soft Point (5 shots)
9mm Full Metal Jacket (5 shots)

NIJ Type III-A: .44 Magnum Lead Semi-Wadcutter Gas Checked (5 shots)
9mm Full Metal Jacket (5 shots)

NIJ Type III: 7.62 308 Winchester Full Metal Jacket (5 shots)

- C. **Related Work:** Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

Except for the items specifically listed in this Section, finish paint and finish hardware such as locksets, panic devices, and door closers are furnished and installed under other sections of these Specifications.

1.2 Quality Assurance

- A. **Experience:** Provide work of this Section designed and furnished by one manufacturer. Use a manufacturer who is ISO9001 certified and has been engaged in the manufacture of Bullet-Resistant Metal Swinging Door systems for at least five (5) years immediately prior to the start of this work, and who has a history of successful production acceptable to the Architect.
- B. **Testing:** The complete door/frame system shall be tested and certified by an independent laboratory to UL 752 Standard for Safety or NIJ Standard 0108.01.
- C. **Labels:** Product shall bear UL Listed label identifying bullet-resistant protection level of the door and frame unit.

1.3 Related Sections

- A. Section 08800 – Glazing
- B. Section 09900 – Paints and Coatings
- C. Section 08710 – Hardware

1.4 References

- A. **ASTM A1008** - Standard Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
- B. **ASTM A1011** - Standard Specification for Steel, Hot-Rolled Sheet and Strip, Commercial.
- C. **ASTM A653** - Standard Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-Iron alloy Coated (Galvannealed) by the Hot Dipped Process.
- D. **ASTM B117** - Standard Method of Salt Spray (Fog) Testing
- E. **ASTM D1735** - Standard Practice for Testing Water Resistance of Coating Using Water Fog Apparatus.
- F. **UL 752** – Bullet-Resisting Equipment
- H. **NIJ 0108.01** – Bullet-Resistant Protective Materials
- I. **UL10B** – Fire Tests of Door Assemblies.
- J. **UL10C** – Positive Pressure Fire Tests of Door Assemblies.
- K. **UBC7-2** – Fire Tests of Door Assemblies.
- L. **NFPA 80** – Standard for Fire Doors and Fire Windows
- M. **HMMA 840** – Installation and Storage of Hollow Metal Doors and Frames.

1.5 Submittals

- A. **Shop Drawings:** Submit a schedule of items to be provided under this Section along with shop drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this section with the work of adjacent trades.
- B. **Certification:** Provide certification that the door/frame construction utilized has been tested at an independent laboratory in accordance with UL 752 Standard for Safety or NIJ Standard 0108.01 and meet the bullet-resistant level requirements of this section.
- C. **Secondary Requirements**
 - 1. **Fire Resistance-** If required, certify that assemblies have been tested in accordance with Standard for Safety UL 10b for neutral pressure requirements or Standard for Safety UL10C/UBC7-2 for positive pressure requirements of labeled fire doors and frames, and meet the applicable requirements of NFPA 80.
 - 2. **Seismic Stability-** If required, submit calculations showing ability of door system to withstand pertinent seismic forces.

3. **Sound Control** – If required, certify that assemblies have been tested in accordance with ASTM E90 and E413 for the specified STC.
 4. **Blast/Pressure Resistance** – If required, certify by test reports or design calculations that assemblies meet the seating and/or unseating pressure requirements for the project.
- D. **Installation Instructions:** Provide recommended installation procedures which, upon approval by the architect, will become the basis for acceptance or rejection of the actual procedures used for installation.
- E. **Warranty:** Upon completion of the work of this Section, provide the Architect with two (2) copies of the manufacturer's standard written one (1) year warranty.

Part 2 - Products

2.1 Design

- A. **Design Basis and Type:** Bullet-Resistant Metal Swinging Door System designs are based on those manufactured by Overly Door Company, Greensburg, PA 15601. Tel 800-979-7300, Fax 724-830-2871
- B. **Performance:** Bullet-Resistant Metal Swinging Door System to be [UL Level 1,2,3,4,5,6,7,8] when tested in accordance with UL 752 [NIJ Type I, IIA, II, III-A, III] when tested in accordance with NIJ 0108.01.
- C. **Components:** Assemblies to be complete with metal frame and door(s). If vision lights are specified for doors, metal loose stops (type based on model specified), glass and glazing material shipped loose to be field installed.

2.2 Fabrication

- A. **General:** Assemble work using all welded construction conforming to the applicable requirements of AWS D1.1 and D1.3.
- B. **Materials:** Construct from formed sheet conforming to ASTM A1008 or ASTM1011. Steel plates and shapes for reinforcing and/or framing members shall conform to ASTM A36 and bars shall conform to ASTM A108 Grade 1018. Hardware shall be corrosion resistant steel of the appropriate design for the function intended.
- C. **Frame Design:** Bullet-Resistant Metal Frames shall be constructed in accordance with the manufacturer's UL approved designs of the BR level specified. Knock-down frames are not acceptable, unless sizes of frames exceed shipping limitations. After installation, field splices required because of shipping limitations must be field welded by certified welders per manufacturer's instructions and in accordance with AWS D1.1/D1.3.
- D. **Door Design:** Bullet-Resistant Metal Doors shall be constructed in accordance with the manufacturer's UL approved designs of the BR level specified.
- E. **Anchors:** Provide suitable anchors to properly install frames in partition types shown on Architects drawings.
- F. **Painting and Cleaning:** After fabrication of frames, all tool marks and surface imperfections shall be removed and exposed faces of all welded joints dressed smooth. Chemically treat all surfaces to insure maximum paint adhesion and coat with a water-based rust-inhibitive primer

Part 3 - Execution

3.1 Site Storage and Protection of Materials

- A. **Receipt:** Upon receipt of product, all materials shall be thoroughly inspected and all discrepancies, deficiencies and/or damages shall be immediately reported to the supplier in writing.
- B. **Storage:** Store all materials on planks or dunnage in a dry location in a vertical position, spaced by blocking to permit air circulation between units. Cover all material or store in a controlled area to protect from damage.

3.2 Installation

- A. Prior to installation, secure the services of a qualified representative of the manufacturer to visit the job site and instruct the contractor's personnel in proper installation and adjustment of the assemblies or secure services of manufacturer's factory trained and authorized installer to perform installation of assemblies.
- B. Install work of this Section in strict accordance with approved shop drawings and manufacturer's recommended installation instructions. Where installations require field welding, all work must be performed by certified welders in accordance with AWS D1.1/D1.3.
- C. Upon installation, secure the services of a qualified representative of the manufacturer to visit the jobsite and inspect the complete installation of the door and frame assemblies, test all components thru a minimum of ten (10) cycles of operation and direct installer in correcting any non-conforming items found.