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SPECIFICATION
SECTION 08 3950: BULLET RESISTANT DOORS AND FRAMES
Titan Ballistic Rated Doors and Frames

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Ballistic rated door and framing system
1. Titan Ballistic Rated Doors and Frames meeting UL 752 Levels 1, 2 and 3
 2. Applications of ballistic rated framing includes:
 - a. Ballistic rated doors, sidelites, borrowed lites, windows, transoms and walls with ballistic rating requirement as specified.
 - b. Fire ratings for doors, frames and glazing available.
 - c. Detention ratings for doors, frames and glazing available.
- B. Related Sections:
1. Section 01 3323: Shop Drawings, Product Data and Samples.
 2. Section 08 1110: Steel Doors & Frames.
 3. Section 08 3453: Security Doors & Frames
 4. Section 08 5130: Steel Windows.
 5. Section 08 7100: Finish Hardware.
 6. Section 08 8000: Glazing.
 7. Section 08 8856: Ballistic Resistant Glazing.

1.02 REFERENCES

- A. Underwriters Laboratories, Inc. (UL):
1. UL 752: Standard for Bullet-Resisting Equipment
If fire ratings are required, add:
 2. UL 9: *Standard for Safety of Fire Tests of Window Assemblies.*
 3. UL 10B: *Standard for Safety of Fire Tests of Door Assemblies.*
 4. UL 10C: *Standard for Safety of Positive Pressure Fire Tests of Door Assemblies.*
 5. UL 263: *Fire Tests of Building Construction and Materials.*

If fire ratings are required, add:

- B. American Society for Testing and Materials (ASTM):
1. ASTM E119 *Methods for Fire Tests of Building Construction and Materials.*
 2. ASTM F 1592: *Standard Test Methods for Detention Hollow Metal Vision Systems.*
If detention and security ratings are required, add:
 3. ASTM F1450: *Standard Test Methods for Hollow Metal Swinging Door Assemblies for Detention and Correctional Facilities.*
 4. ASTM F1915: *Standard Test Methods for Glazing for Detention Facilities.*

- C. National Fire Protection Association (NFPA):
1. NFPA 80: *Fire Doors and Windows.*

2. *NFPA 251: Fire Tests of Building Construction and Materials.*
3. *NFPA 252: Fire Tests of Door Assemblies.*
4. *NFPA 257: Fire Tests of Window Assemblies.*

D. *Standard Council of Canada (ULC):*

1. *ULC Standard CAN4-S101: Fire Tests of Building Construction and Materials.*
2. *ULC Standard CAN4-S104: Fire Tests of Door Assemblies.*
3. *ULC Standard CAN4-S106: Fire Tests of Window Assemblies.*

E. *Consumer Product Safety Commission (CPSC):*

1. *CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.*

F. *American National Standards Institute (ANSI):*

1. *ANSI Z97.1: Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.*

G. *Glass Association of North America (GANA)*

1. *GANA – Glazing Manual.*
2. *FGMA – Sealant Manual.*

H. *[American Recovery and Reinvestment Act*

1. *Section 1605, Title XVI Buy American Provision]*

I. *[Insert building code used by Authority Having Jurisdiction]*

1.03 SYSTEM DESCRIPTION

A. *Performance Requirements:*

1. *Ballistic Rating: Must meet UL 752 Level 1, 2 or 3 as specified.*
If fire ratings are required:
2. *Fire Rating: must meet 45, 60, 90 or 120 minutes as specified.*
3. *Fire Resistive Wall Assembly Certifications: must meet 60-120 minute fire resistive wall assemblies tested in accordance with ASTM E119, NFPA 251, UL 263 and ULC-S101.*
4. *Fire Resistive, Temperature Rise Door Assembly Certifications: must meet 60-90 minute fire resistive temperature rise door assemblies tested in accordance with NFPA 252, UL 10B, UL 10C and CAN4 S104. Must meet 250 degrees F/450 degrees F temperature rise door requirements.*
5. *Fire Protective Door Assembly Certifications: must meet 20-45 minute fire protective door assemblies shall be tested in accordance with NFPA 80, NFPA 252, UL 10B, UL 10C and CAN4-S104.*
6. *Fire Protective Window Assembly Certifications: must meet 20-45 minute fire protective window assemblies shall be tested in accordance with NFPA 80, NFPA 257, UL 9 and CAN4-S106.*
If detention ratings are required:
7. *Detention Rating and Certifications: Meets ASTM F1450 and ASTM F1915 Grades 1-4 as specified.*
8. *Testing Laboratory: Test must be conducted by a nationally recognized independent testing laboratory.*

If fire ratings are required:

9. *Max. Door Opening Sizes: must meet up to 54" wide x 120" high for single doors and 108" wide by 120" high in pair doors. No intermediate rails required. Continuous hinges required for max. door sizes.*

B. Listings and Labels:

1. Ballistic rated doors and framing system shall be under current follow-up service by a nationally recognized independent laboratory approved by OSHA and maintain a current listing or certification. Assemblies shall be labeled in accordance with limits of listings.

C. Appearance:

1. Ballistic rated opening/wall/door assembly shall have a neat finished appearance with minimum joints at decorative cover intersections.

1.04 SUBMITTALS

A. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedure Section.

1. Shop Drawings: Submit shop drawings showing layout, profiles and product components.
2. Samples: Submit samples for finishes, colors and textures.
3. Technical Information: Submit latest edition of manufacturer's product data providing product descriptions, technical data and installation instructions.

1.05 DELIVERY, STORAGE AND HANDLING

A. General: Comply with Division 1 Product Requirements Sections.

B. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Delivery: Deliver materials to specified destinations in manufacturer's or distributor's packaging undamaged, complete with installation instructions.

D. Storage and Protection: Store off ground, under cover, protected from weather and construction activities and at temperature conditions recommended by manufacturer.

1.06 FABRICATION DIMENSIONS

A. Field Measurements: Verify actual measurements for openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.07 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is not intended to limit other rights that the Owner may have under the Contract Documents.
1. Warranty Period: 5 years from date of shipping.

PART 2 PRODUCTS

2.01 MANUFACTURERS – BALLISTIC RATED DOORS AND FRAMES

- A. Manufacturer: Titan Ballistic Rated Doors and Frames as manufactured and distributed by Titan Metal Products, Inc.
1. Contact: 1891 Wardrobe Avenue Merced, CA 95341-6406; Telephone 209.386.1613; Fax 209.626.3285; email info@titanmetalinc.com; Web site www.titanmetalinc.com
- B. Ballistic rated doors and framing must be provided by a single-source, US manufacturer. Distributors of fire rated glass and framing are not to be considered as manufacturers. Materials for the project should be shipped together in the same shipment on the same truck.
- C. Substitutions: No substitutions allowed.

2.02 MATERIALS – DOORS AND FRAMING

- A. Ballistic doors and framing system meeting UL 752 Levels 1, 2 and 3.

Properties:

1. Door profile: 5" rail and 2" frame standard. [Custom narrow profile with 3-3/4" rail and 1-1/8" frame]10" ADA compliant bottom rail (can be modified with AHJ approval).
2. Door thickness: Minimum 1-3/4".
3. Internal framing: Internal tube steel framing shall conform to ASTM A501. Formed steel retainers shall be galvanized conforming to ASTM A527.
4. Fasteners: Type recommended by manufacturer.
5. Door constructed in accordance with the individual manufacturer's listings or in accordance with HMMA 861-06 and HMMA 850.
If supplied with glazing:
6. *Ballistic Glazing: Must meet UL 752 Levels 1, 2 and 3*
7. *Safety Glazing: Glazing material installed in "Hazardous Locations" (subject to human impact) shall be certified to meet the applicable requirements for fire rated assemblies referenced in ANSI Z97.1 Standard for Safety Glazing Materials Used In Buildings and/or CPSC 16 CFR 1201 Safety Standard for Architectural Glazing Materials.*
8. *Individual Lites shall be permanently identified with a listing mark.*
If fire ratings are required:
9. *Insulation: The framing system shall insulate against the effects of fire, smoke and heat transfer from either side. The perimeter of the framing system to the rough opening shall be firmly packed with mineral wool fire stop insulation or appropriately rated intumescent sealant.*
10. *Fire Rated Glazing: Must be supplied by SAFTI FIRST Fire Rated Glazing Solutions.*

11. *Glazing accessories: The glazing material perimeter shall be separated from the perimeter framing system with approved flame retardant glazing tape. The SuperLite™ glazing panel shall be caulked continuously around the edge to the tube steel frame utilizing neutral cure silicone. Silicone setting blocks recommended.*
12. *60-90 minute doors meet 250 degrees F/450 degrees F at 30 minutes.*
13. *Maximum door opening sizes are 54 in. x 120 in. for single doors and 108 in. x 120 in. for pair doors. No intermediate rails required. For max. door sizes, continuous hinges may be required.*

If detention ratings are required:

14. *Detention ratings: Must meet ASTM F1450 and ASTM F1915 Grades 1-4 as specified.*

2.03 FABRICATION

- A. Assemblies shall be furnished [knocked down for field assembly and will be glazed in the field] [assembled (should configurations and job site conditions allow)]
- B. Door assemblies shall be factory prepared for field mounting of hardware.
- C. Fabrication Dimensions: Fabricate to approved dimensions. The general contractor shall guarantee dimensions within required tolerance. Obtain approved shop drawings prior to fabrication.

2.04 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.
- B. Covers shall be chemically cleaned and pretreated; then, finished with (choose one):
 1. High Performance Corafon Fluoropolymer Finish by PPG. Solid color to be selected from Titan's Standard Color Chart. Mica, XL, Gloss & Exotics are available at an additional charge.
 2. Stainless steel or aluminum clad.
 3. Clear, Bronze or Black Anodized.
 4. Acrylic urethane custom color.
 5. Other
- C. Protect finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.
- D. Variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in the same piece are not acceptable.

2.05 DOOR HARDWARE FOR SINGLE AND PAIR DOORS

- A. Hardware shall be supplied with the fire door. Hardware selection shall be from door manufacturer's standard and custom recommended hardware groups as specified below. Please call manufacturer a list of hardware options.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data including product technical bulletins and installation instructions.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, have been previously installed under other sections, and are acceptable for product installation in accordance with manufacturer's instructions. Openings shall be plumb, square and within allowable tolerances. The Architect/Engineer shall be notified of any conditions that jeopardize the integrity of the proposed fire wall/door framing system. Do not proceed until such conditions are corrected.

3.03 INSTALLATION

- A. Installation shall be by a licensed contractor and in strict accordance with the approved shop drawings.

3.04 CLEANING AND PROTECTION

- A. Protect glass from contact with contaminating substances resulting from construction operations. Remove such substances by method approved by manufacturer.
- B. Wash glass on both faces not more than four days prior to date schedule for inspections intended to establish date of Substantial Completion. Wash glass by method recommended by glass manufacturer.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

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