



SECTION 08 34 53 - ALUMINUM SECURITY DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.
 - 2. Product Data: Manufacturer's descriptive data and product attributes.
 - 3. Samples: [Selection samples. Verification samples.]
- B. Informational Submittals:
 - 1. Certificate of Compliance: Certification that installed products meet specified design and performance requirements.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications: Firm specializing in work of this Section with minimum [2] [] years' experience.

1.3 WARRANTY

- A. Manufacturer's one year warranty against defects in materials and workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products by U.S. Bullet Proofing, Upper Marlboro MD 20774 Tel: 301-218-7920 Fax: 301-218-7925, www.usbp.com, email: info@usbp.com .
- B. Substitutions: [Refer to Division 01.] [Not permitted.]

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: System design to be performed by qualified professional engineer licensed in State of [].
- B. Structural Performance: Design and size components to withstand the following load requirements without damage or permanent set:
 - 1. Design Wind Loads: [As indicated on Drawings.] [].
 - 2. Movement: Ambient temperature range of [120] [] degrees F and a surface temperature range of [160] [] degrees F.
 - 3. Uniform structural loading: No glass breakage or permanent damage to fasteners or system components, tested to ASTM E330/E330M at [1.5] [] times design pressure.
- C. Ballistics Resistance: Installed bullet-resistant glazing shall withstand ballistic impact loads and forces without damage to the glazing beyond that allowed by referenced standards.

1. Ballistic Level: Pass UL 752 Level [1] [2] [3] [4] [5] [6] [7] [8].

**** OR ****

D. Blast Resistance:

Design Parameters vary for Project and should be determined by a qualified blast consultant based on the Owner's and tenant's requirements.

Retain appropriate "Hazard Rating" below if blast resistance is required. Obtain peak pressure, impulse or duration, and hazard and protection criteria conformance from the building team's engineers and blast consultant's calculations.

1. Hazard Rating: [None] [Very low] [Low] [Medium] [High] according to ASTM F 1642.
2. Peak Pressure: [].
3. Positive Phase Impulse: [].

**** OR ****

E. Storm Resistance: Pass FEMA 361-15 and ICC 500-14 testing.

2.3 SECURITY DOORS AND FRAMES

- A. Type: Flush-glazed, thermally broken, extruded aluminum framed [detention security] [storm-resistant] [forced-entry-resistant] [blast-resistant] [ballistic-resistant] doors and frames.

1. Product: Model USAW-1000.

Doors will accommodate glazing from 1 inch to 2-3/16 inch thickness.

2. Door: Designed to receive [1] [] inch glazing retained mechanically with gaskets on four sides.
 - a. Size (w x h): [36 x 84 inch] [As scheduled] [].

Contact Manufacturer for Custom Sizing

- b. Thickness: 2-3/4 inch.
- c. Stiles: [Wide 5-7/16 inch width] [Narrow 3 inch width].

6-5/16 inch bottom rail is standard. 10 inch bottom rail required to comply with ADA standards.

- d. Rails: 6-5/16 inch top rail; [10] [6-5/16] inch bottom rail.
- e. Design: [Full vision] [Half-lite] [Two-lite with horizontal mullion] [Flush (opaque non-glazed)].

Framing will accommodate glazing from 1/4 inch to 2-1/4 inch thickness.

3. Frame: 2-1/2 x 4-1/2 inch size, designed to receive [1] [] inch ballistics-resistant glazing retained mechanically with gaskets on four sides.

2.4 HARDWARE

Delete option in paragraph below if specifying door hardware in this Section.

- A. Entrance Door Hardware: As [specified in Division 08 Section "Door Hardware" and as] follows.

Delete hardware items below that are not needed or that are specified in Division 08 Section "Door Hardware." Hardware below is specified according to BHMA standards. Modify if desired to indicate proprietary products and model numbers.

- B. Continuous-Gear Hinges: BHMA A156.26, [gear-] [pin-and-barrel-]type.
- C. Pivot Hinges: BHMA A156.4, Grade 1.
 - 1. Offset-Pivot Hinges: Provide top, bottom, and intermediate offset pivots at each door leaf.
- D. Butt Hinges: BHMA A156.1, Grade 1, radius corner.
 - 1. Nonremovable Pins: Provide setscrew in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while entrance door is closed.
 - 2. Exterior Hinges: [Stainless steel, with stainless-steel pin] [Nonferrous].
 - 3. Quantities: One hinge for every 30 inches of door height, unless otherwise indicated.
- E. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.
 - 1. Cylinders: [BHMA A156.5, Grade 1; keyed as directed.] [As specified in Division 08 Section "Door Hardware."]
- F. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- G. Removable Mullions: BHMA A156.3 extruded aluminum, [keyed] removable type.
 - 1. When used with panic exit devices, provide units tested with exit devices to be used; listed and labeled per UL 305.
- H. Manual Flush Bolts: BHMA A156.16, Grade 1.
- I. Automatic and Self-Latching Flush Bolts: BHMA A156.3, Grade 1.
- J. Strikes: Provide for each latch or lock bolt with dust box fabricated for aluminum framing.

Paragraph below include pulls and push plates.

- K. Operating Trim: BHMA A156.6.
- L. Closers: BHMA A156.4, Grade 1, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force, with accessories required for a complete installation.
- M. Overhead Holders and Stops: BHMA A156.8, Grade 1.
- N. Door Stops: BHMA A156.16, Grade 1, [floor] [wall] mounted, with integral rubber bumper.
- O. Weather Stripping: Manufacturer's standard replaceable components.
 - 1. Sliding Type: AAMA 701, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.
- P. Bottom Sweeps: Manufacturer's standard with concealed fasteners on mounting strip.
- Q. Thresholds: BHMA A156.21 raised thresholds; 1:2 maximum beveled slope; 1/2 inch maximum height.

2.5 SECURITY GLAZING

NOTE: The project forced entry and/or bullet resistance threat must be identified before selection of test standard. The designer should then select the forced entry testing standard that most represents the threat. Contact manufacturer for assistance.

- A. Thicknesses indicated are minimums. Provide ballistics-resistant glazing in thicknesses as necessary to comply with requirements indicated.
- B. Ballistic-Resistant Glazing: Pass UL 752 Level [1] [2] [3] [4] [5] [6] [7] [8].

Retain desired subparagraph below. Abrasion resistant surface coating below is optional for Levels 1 and 2; standard for Level 3.

- 1. Level 1 Form: [Laminated polycarbonate/acrylic/polycarbonate] [Acrylic sheet] [Glass-clad polycarbonate per ASTM C1349] [All-Glass]
- 2. Level 2 Form: [Laminated polycarbonate/acrylic/polycarbonate] [Acrylic sheet] [Glass-clad polycarbonate per ASTM C1349] [All-Glass]
- 3. Level 3 Form: [Laminated multi-ply polycarbonate] [Acrylic sheet] [Glass-clad polycarbonate per ASTM C1349] [All-Glass].
- 4. Level [] Form: [Laminated glass per ASTM C1172] [Glass-clad polycarbonate per ASTM C1349] [Polycarbonate sheet] [Laminated polycarbonate] [].

**** OR ****

- C. Blast-Resistant Glazing: Pass ASTM F 1642 Hazard Rating specified in Performance Requirements Article above.
 - 1. Form: [Laminated glass per ASTM C1172] [Glass-clad polycarbonate per ASTM C1349] [Polycarbonate sheet] [Laminated polycarbonate] [].

2.6 ACCESSORIES

- A. Glazing Accessories: Specified in Section [08 80 00 - Glazing] [08 88 39 Pressure-Resistant Glazing] [08 88 53 - Security Glazing] [08 88 56 Ballistics-Resistant Glazing].
- B. Anchors: Series 316 stainless steel.
- C. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.
- D. Exposed Flashing: Aluminum sheet finished to match framing members.
- E. Concealed Flashing: Dead-soft, 0.018-inch-thick stainless steel, ASTM A 240 of type recommended by manufacturer.
- F. Concealed Framing Sealants: Manufacturer's standard.
- G. Joint Sealants: For installation at perimeter of framing, as specified in Section 07 92 00.

2.7 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Extrusions: ASTM B 221.
 - 2. Sheet: ASTM B209.

Level 1 – 3 is all aluminum, requiring no steel inserts. Level 4 – 8 require steel inserts.

- B. Steel Reinforcement: Manufacturer's standard; galvanized or zinc-rich primed finish.
 - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.

2.8 FINISHES

Anodized finish is standard. Retain below for anodized finish. Consult manufacturer for available tints.

- A. Anodized Aluminum Finish: AAMA 611, Architectural Class I anodized, [clear.] [dark bronze.]

**** OR ****

PVDF (Kynar) Finish below is optional. Consult manufacturer for available colors. Superior-Performance finish contains 70% PVDF resin. High-Performance finish contains 50% PVDF resin.

- B. [Superior] [High]-Performance Organic Finish: 2-coat PVDF fluoropolymer finish complying with [AAMA 2605] [AAMA 2604] and containing not less than [70] [50] percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
1. Color: [Stock color to be selected from manufacturer's full color range.] [Custom color as directed.]

**** OR ****

Powder coat finish is optional. Retain below for a baked enamel coating system. Consult manufacturer for available colors.

- C. Pigmented Organic Aluminum Finish: AAMA 2603 thermosetting polyester, [stock color to be selected from manufacturer's full color range.] [custom color as directed.]

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install doors, framing, and glazing in accordance with manufacturer's instructions and approved Shop Drawings and Section [08 80 00 - Glazing] [08 88 39 Pressure-Resistant Glazing] [08 88 53 - Security Glazing] [08 88 56 Ballistics-Resistant Glazing].
- B. Installation Tolerances: Comply with the following non-accumulating maximum tolerances:
1. Maximum Variation in Diagonal Framing Measurements: 1/8 inch.
 2. Offset Between Adjacent Framing Members: 1/16 inch.
 3. Maximum Variation from Plumb: 1/8 inch per 12 feet.
 4. Alignment: Plus or minus 1/16 inch from door face to face of framing.
 5. Door Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 6. Sealant space between system and adjacent construction: As indicated but not greater than [1/2] [] inch or less than [1/4] [] inch.
- C. Design Clearances:
1. Between Door and Frame: Maximum 1/8 inch.
 2. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.

Confirm values in two paragraphs below meet requirements of specified standards. Consult manufacturer if required.

3. Between Bottom of Door and Top of Threshold: Maximum [3/8] [] inch.
4. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum [3/4] [] inch.

3.2 DOOR HARDWARE SCHEDULE

If multiple doors require different hardware sets create a schedule indicating hardware required for each door. BELOW IS MERELY A SAMPLE FORMAT - EDIT TO SUIT PROJECT.

HW SET: 01

1	EA	CONTINUOUS HINGE	[MODEL #]	689	[MFG]
1	EA	PANIC HARDWARE	[MODEL #]	626	[MFG]
1	EA	OFFSET DOOR PULL	[MODEL #]	630	[MFG]
1	EA	SURFACE CLOSER	[MODEL #]	689	[MFG]
1	SET	WEATHER SEALS	BY FRAME MANUFACTURER		
1	EA	DOOR SWEEP	[MODEL #]	689	[MFG]
1	EA	THRESHOLD	[MODEL #]	718	[MFG]

END OF SECTION