**3-Part CSI MasterFormat Specification**

**SECTION 08 3483**

**floor doors and frames**

1. GENERAL
	* + 1. SUMMARY
				1. Section includes:

Floor Doors for access between building floors as indicated on drawings and specified herein

* + - 1. references
				1. Aluminum Diamond Tread Plate: ASTM B632-02, 1/4 inch 6061-T6 aluminum with mill finish.
				2. Aluminum Extrusion: 6061-T6 aluminum.
				3. Steel Diamond Tread Plate: ASTM A786.
				4. Steel Angle: ASTM A36-94 steel frame, structural.
				5. Stainless Steel Diamond Tread Plate: ASTM A793 stainless steel, No. 304 finish.
				6. Stainless Steel Angle: ASTM A276 stainless steel, No. 304 finish.
				7. Stainless Steel Smooth Plate: ASTM A240 smooth plate stainless steel, type No. 316.
				8. Fasteners: Type No. 316 stainless steel. ASTM F593 for bolts and ASTM F594 for nuts.
				9. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
			2. SUBMITTALS
				1. Shop Drawings: Indicate configuration and dimensions, show components, adjacent construction, required clearances and tolerance and other affected work.
				2. Product Data: Manufacturer’s technical data for each type of floor door, including setting drawings and finish requirements
				3. Manufacturer's Installation Instructions and Operation & Maintenance: Indicate installation, operation and maintenance requirements and rough-in dimensions.
			3. Quality Assurance
				1. Qualifications:

Manufacturer/Installer: Company specializing in manufacturing and installation of components specified in this Section with minimum of 5 years documented experience.

* + - * 1. Regulatory Requirements:

International Building Code for fire resistance rated construction

IBC Section 712 for Floor Fire Doors- tested in accordance with NFPA 288 and labeled by approved agency; Warnock Hersey or Underwriters Laboratory.

* + - 1. DELIVERY, STORAGE, and HANDLING
				1. Deliver materials to Project site ready to use.
				2. Exercise proper care in handling of Work so as not to disrupt finished surfaces.
				3. Store materials under cover in a dry and clean location off the ground.
			2. WARRANTY
				1. Provide manufacturer's standard warranty. Floor doors shall be free from manufacturing defects in materials and fabrication for a period of 5 years from the date of shipment. Should a product fail to function in normal use within this period, manufacturer shall furnish a replacement or new part at Babcock-Davis’s discretion
1. PRODUCTS
	* + 1. MANUFACTURER
				1. Babcock-Davis

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Brooklyn Park, MN 55428

PH: 888-412-3726

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* + - 1. ALUMINUM FLOOR DOORS
				1. Angle Frame Aluminum Floor Door: Cast-in installation, used where water infiltration and moisture are not a concern. Model BFDN

Clear Unobstructed Opening Size: <**Insert dimensions**>.

Frame: Mill finish aluminum, C channel and angle profile.

Door: [**Single**] [**Double**] leaf; 1/4-inch-thick (6.4-mm-thick), diamond-pattern pattern **[Mill] [Clear Anodized] [Clear Lacquer] [SlipNOT®]** finish aluminum plate.

Manufacturers' offerings for loading capacity vary; confirm availability. See the Evaluations for discussion of AASHTO H20.

Loading Capacity: **[300-lbf/sq. ft. (14.4-kN/sq. m) pedestrian live load and a maximum deflection of L/150; Model BFDNPA] [AASHTO H20 concentrated wheel load; Model BFDNHA].**

Gasket around entire perimeter

Hardware:

Material and Finish: Type 316 stainless steel, including latch, handle, lifting mechanism assemblies, hold-open arms, and brackets, hinges, pins, and fasteners.

Hinges: Heavy-duty butt hinges with stainless-steel pins.

Operating Mechanism: Adjustable enclosed Type 17-7 stainless steel counterbalancing spring, heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure, and recessed lift handle.

Latch: Type 316 Stainless-steel slam latch, with inside lever handle and outside removable 5/16 inch (7.9 mm) square L handle.

Optional Lock**: [Padlock hasp and staple] [Recessed padlock hasp with cover] [Mortise Cam w/6-Pin IC Core and Key] [Mortise Cam w/ Plastic Core] [Mortise Prep slam latch] [Mortise deadbolt with thumb turn access from above] [Mortise deadbolt with thumb turn access from below] [Detention Lock Prep, 7016 Style] [Detention 7016 Installed] [Detention Lock Prep, 1080 Style] <Insert lock type>**

Optional Skirting: 1/8 inch (3.2 mm) sheet aluminum used to form slab concrete opening beneath the frame, <Insert height>.

Safety Accessories:

Safety Grating System: 6 inch (152 mm) by 1-1/2 inch (38.1 mm) safety orange, powder coated, serrated, aluminum panels, 6 inch (152 mm) view area on at least one lateral unhinged side for visual observation. Type 316 SST hinges and positive latching in both open and closed positions. Padlock hasp for owner supplied lock capable of locking in both open and closed positions and not impede clear opening. 300-lbf/sq. ft. (14.4-kN/sq. m) load capacity with two aluminum nut rails.

Safety **[chains] [net] [railing] [telescoping safety post] <Insert safety device>.**

* + - * 1. Angle Frame - Existing Opening Aluminum Floor Door, Retrofit applications. Model BFDE

Clear Unobstructed Opening Size: <**Insert dimensions**>.

Frame: Mill finish aluminum, 2 inch (50.8 mm) by 3 inch (76.2 mm) angle profile.

Door: [**Single**] [**Double**] leaf; 1/4-inch-thick (6.4-mm-thick), diamond-pattern mill-finish aluminum plate.

Loading Capacity: 300-lbf/sq. ft. (14.4-kN/sq. m) pedestrian live load and a maximum deflection of L/150; Model BFDEPA.

Hardware:

1. Material and Finish: Type 316 stainless steel, including latch, handle, lifting mechanism assemblies, hold-open arms, and brackets, hinges, pins, and fasteners.
2. Hinges: Heavy-duty butt hinges with stainless-steel pins fastened to door with stainless steel carriage bolts.
3. Operating Mechanism: Adjustable Type 17-7 stainless steel enclosed counterbalancing spring, heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure, and recessed lift handle.
4. Latch: Stainless-steel slam latch, with inside lever handle and outside removable square L handle.
5. Optional Lock: **[Padlock hasp and staple] [Recessed padlock hasp with cover] [Mortise Cam w/6-Pin IC Core and Key] [Mortise Cam w/ Plastic Core] [Mortise Prep slam latch] [Mortise deadbolt with thumb turn access from above] [Mortise deadbolt with thumb turn access from below] [Detention Lock Prep, 7016 Style] [Detention 7016 Installed] [Detention Lock Prep, 1080 Style] <Insert lock type>**

Gasket around entire perimeter

Options:

1. Skirting: 1/8 inch (3.2 mm) sheet aluminum used to form slab concrete opening beneath the frame, <**Insert height**>.

Safety Accessories:

Safety Grating System: 6 inch (152 mm) by 1-1/2 inch (38.1 mm) safety orange, powder coated, serrated, aluminum panels, 6 inch (152 mm) view area on at least one lateral unhinged side for visual observation. 316 SST hinges and positive latching in both open and closed positions. Padlock hasp for owner supplied lock capable of locking in both open and closed positions and not impede clear opening. 300-lbf/sq. ft. (14.4-kN/sq. m) load capacity with two aluminum nut rails.

Safety **[chains] [net] [railing] [telescoping safety post] <Insert safety device>.**

* + - 1. STEEL FLOOR DOORS
				1. Angle Frame Existing Opening Steel Floor Door: Model BFDE

Clear Unobstructed Opening Size: <**Insert dimensions**>.

Frame: Prime-painted steel, angle profile.

Door: [**Single**] [**Double**] leaf; 1/4-inch-thick (6.4-mm-thick), diamond pattern; prime-painted steel plate.

Manufacturers' offerings for loading capacity vary; confirm availability. See the Evaluations for discussion of AASHTO H20.

Loading Capacity: 300-lbf/sq. ft. (14.4-kN/sq. m) pedestrian live load with a maximum span deflection of L/150; Model BFDEPP.

Hardware

Material and Finish: Type 316 stainless steel, including latch, lifting mechanism assemblies, hold-open arms, brackets, hinges, pins, and fasteners.

Hinges: Heavy-duty butt hinges with stainless-steel pins fastened to door with stainless steel carriage bolts

Operating Mechanism: Adjustable Type 17-7 Stainless steel enclosed counterbalancing spring, heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure and recessed lift handle.

Latch: Stainless-steel slam latch with inside lever handle and outside removable square L handle

Optional Lock: **[Padlock hasp and staple] [Recessed padlock hasp with cover] [Mortise Cam w/6-Pin IC Core and Key] [Mortise Cam w/ Plastic Core] [Mortise Prep slam latch] [Mortise deadbolt with thumb turn access from above] [Mortise deadbolt with thumb turn access from below] [Detention Lock Prep, 7016 Style] [Detention 7016 Installed] [Detention Lock Prep, 1080 Style] <Insert lock type>**

Safety Accessories:

1. Safety Grating System: 6 inch (152 mm) by 1-1/2 inch (38.1 mm) safety orange, powder coated, serrated, aluminum panels, 6 inch (152 mm) view area on at least one lateral unhinged side for visual observation. 316 SST hinges and positive latching in both open and closed positions. Padlock hasp for owner supplied lock capable of locking in both open and closed positions and not impede clear opening. 300-lbf/sq. ft. (14.4-kN/sq. m) load capacity with two steel nut rails.
2. Safety **[grate] [chains] [net] [railing] [telescoping safety post] <Insert safety device>.**
	* + 1. STAINLESS-STEEL FLOOR DOORS
				1. Angle Frame Existing Opening Stainless-Steel Floor Door: Model **[BFDEPV - Pedestrian Load]**

Clear Unobstructed Opening Size: <**Insert dimensions**>.

Frame: [**Type 304**] [**Type 316**] stainless steel, angle profile.

Generally, retain same material for door in "Door" Subparagraph below as retained in "Frame" Subparagraph above. Some manufacturers offer different materials for doors and frames. Verify availability of thicknesses with manufacturers. Retain "Type 316" option in "Frame" and "Door" subparagraphs below for more corrosion resistance.

Door: **[Single] [Double]** leaf; 3/16-inch-thick (4.8-mm-thick), diamond pattern, **[Type 304] [Type 316**] stainless-steel plate.

Manufacturers' offerings for loading capacity vary; confirm availability. See the Evaluations for discussion of AASHTO H20.

Loading Capacity**: [300-lbf/sq. ft. (14.4-kN/sq. m) pedestrian live load with a maximum deflection of L/150].**

Gasket around perimeter.

Hardware:

* 1. Material and Finish: Type 316 stainless steel, including latch, lifting mechanism assemblies, hold-open arms, and brackets, hinges, pins, and fasteners.
	2. Hinges: Heavy-duty butt hinges with stainless-steel pins fastened to door with stainless steel carriage bolts.
	3. Operating Mechanism: Adjustable Type 17-7 stainless steel enclosed counterbalancing spring heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure, and recessed lift handle.
	4. Latch: Stainless-steel slam latch with inside lever handle and outside removable square L handle.
	5. Optional Lock: **[Padlock hasp and staple] [Recessed padlock hasp with cover] [Mortise Cam w/6-Pin IC Core and Key] [Mortise Cam w/ Plastic Core] [Mortise Prep slam latch] [Mortise deadbolt with thumb turn access from above] [Mortise deadbolt with thumb turn access from below] [Detention Lock Prep, 7016 Style] [Detention 7016 Installed] [Detention Lock Prep, 1080 Style] <Insert lock type>.**

Safety Accessories:

Safety Grating System: 6 inch (152 mm) by 1-1/2 inch (38.1 mm) safety orange, powder coated, serrated, aluminum panels, 6 inch (152 mm) view area on at least one lateral unhinged side for visual observation. 316 SST hinges and positive latching in both open and closed positions. Padlock hasp for owner supplied lock capable of locking in both open and closed positions and not impede clear opening. 300-lbf/sq. ft. (14.4-kN/sq. m) load capacity with two stainless steel nut rails.

Safety **[grate] [chains] [net] [railing] [telescoping safety post] <Insert safety device>.**

1. EXECUTION
	* + 1. EXAMINATION
				1. Verify that preparation and affected dimensions are acceptable.
				2. Verify tolerances and correct improper conditions.
			2. PREPARATION
				1. Advise installers of details relating to floor hatch installation, including rough opening dimensions, locations of supports, and anchoring methods.
			3. INSTALLATION
				1. Follow manufacturer’s instructions for installing floor doors and hatches.
				2. Install frames plumb and level in opening, in proper alignment with floor surface for flush installation. Secure rigidly in place.
				3. Position units to provide convenient access to concealed Work requiring access.
			4. ADJUSTING
				1. Operational Units: Test-operate units with operable components.
				2. Clean and lubricate joints and hardware.
				3. Adjust for proper operation.
			5. CLEANing
				1. Clean adjacent surfaces and remove unused product and debris from site.
				2. Adjust doors for smooth operation.

END OF SECTION

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