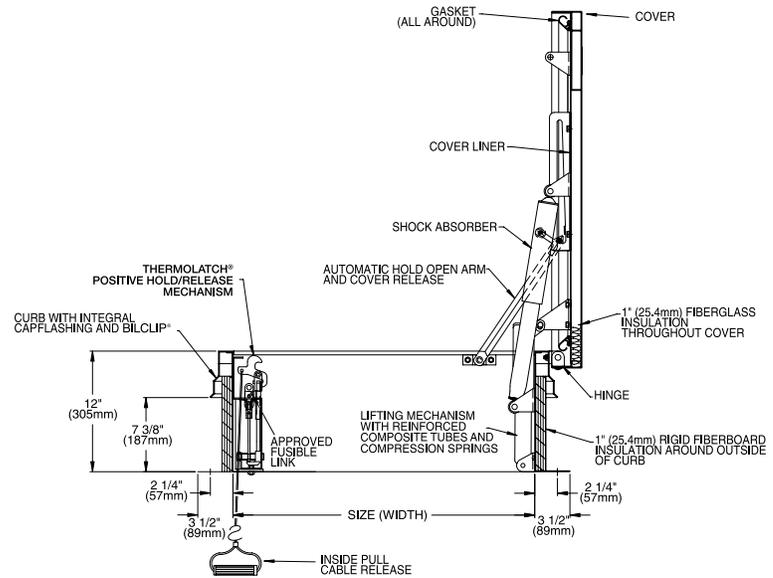
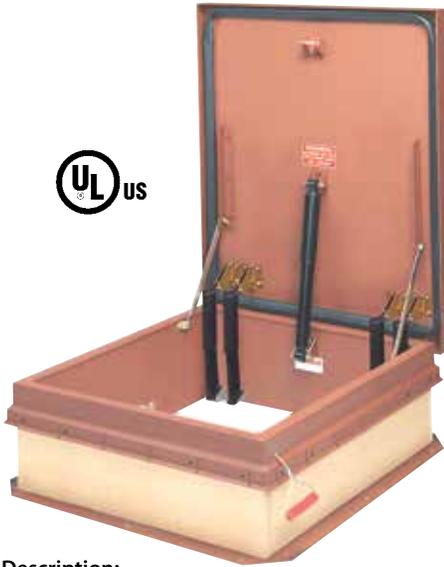




# Type SV Single Leaf



### Description:

For applications requiring smaller vents, single leaf models are available in galvanized steel or aluminum construction and can be provided with polycarbonate domes for added daylight.

### Specifications:

#### Material (select one)

- Steel: Cover and frame are 14 gauge (1.9mm) G-90 paint bond galvanized steel
- Aluminum: Cover and frame are 11 gauge (2.3mm) aluminum

#### Cover

Brakeformed, hollow-metal design with 1" (25.4mm) concealed fiberglass insulation, 3" (76mm) beaded, overlapping flange, fully welded at corners, and internally reinforced for 40 psf (195 kg/m<sup>2</sup>) live load

#### Curb

12" (305mm) in height with integral capflashing, 1" (25.4mm) fiberboard insulation, fully welded at corners, and 3-1/2" (89mm) mounting flange with 7/16" holes (11mm) provided for securing frame to the roof deck

#### Gasket

Extruded EPDM rubber gasket permanently adhered to the cover

#### Hinges

Heavy-duty pintle hinges with 3/8" (9.5mm) Type 316 stainless steel hinge pins

#### Latch

Positive hold/release mechanism controlled by a single UL-listed 165°F (74°C) fusible link. Designed to hold the cover closed against a 90 psf (438 kg/m<sup>2</sup>) uplift force. Provided with interior and exterior pull release cables to manually open vent cover.

#### Operation

Compression springs enclosed in telescopic tubes open covers automatically against a 10 psf (49 kg/m<sup>2</sup>) snow/wind load when released. Automatic hold-open arms lock the cover in the full open position. Cover is supplied with a shock absorber to assure a controlled rate of opening.

#### Performance Rating

UL-listed. Complies with UL 793 and UL 790 Class A (burning brand test).

#### Finish

- Steel: Alkyd base red oxide primer
- Aluminum: Mill finish

#### Hardware

- Steel: Engineered composite compression spring tubes. Steel compression springs. All other hardware is zinc plated/chromate sealed.
- Aluminum: Engineered composite compression spring tubes. Steel compression springs. Type 316 stainless steel hinges. All other hardware is zinc plated/chromate sealed.



\* Not tested or listed in Canada

### Standard Sizes and Weights Contact Bilco for special size requirements

SIZE		STEEL			STEEL CURB & ALUMINUM COVER			ALUMINUM			ALUMINUM WITH POLYCARBONATE DOME		
(width x length)		Model #	Weight		Model #	Weight		Model #	Weight		Model #	Weight	
inches	mm		lbs.	kg.		lbs.	kg.		lbs.	kg.		lbs.	kg.
36 x 30	914 x 762	S-20SV	193	88	S-40SV	160	73	S-50SV	112	51	GS-50SV	170	78
30 x 54	762 x 1372	NB-20SV	260	118	NB-40SV	215	98	NB-50SV	155	70	Consult Factory		
30 x 96	762 x 2438	L-20SV	423	192	L-40SV	315	143	L-50SV	240	109	Consult Factory		

# Roof Access Hatches/Automatic Smoke Vents

## Common Options

### Stainless Steel Hardware

For installation in highly corrosive environments, Bilco smoke vents and roof hatches may be equipped with Type 316 stainless steel hardware, including: slam latch and lifting mechanism assemblies; hold-open arms and guides; and all brackets, hinges, pins, and fasteners.



Stainless Steel Hardware

### Curb Options

All Bilco roofing products may be specified with either a curb liner (metal insulation liner of the same materials as the curb and capflashing) or a fully enclosed curb (full metal insulation liner of the same materials as the curb, which replaces the capflashing). Built-in louvers are available for roof hatches and for automatic smoke vents to meet elevator-shaft code requirements. Base flanges can be supplied with configurations for most brands of metal building roof panels. This option offers simplified installation, and includes a built-in self-drainage feature that eliminates water accumulation on the up-slope side.



Built-in Louvers



Curb Modification for Metal Buildings

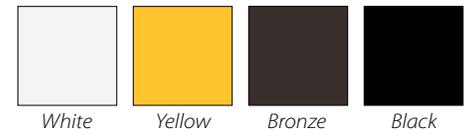
### Insulation

Bilco offers insulation options to enhance the energy efficiency of its roofing products. Standard roof products are supplied with standard 1" (25mm) fiberglass insulation in the covers and 1" (25mm) fiberboard insulation in the curb. When specified, products can be supplied with up to 2" (50mm) of Styrofoam or polyisocyanurate insulation in the cover and curb. Single leaf roof hatches can also be supplied in a thermally broken design that features 3" of polyisocyanurate insulation in the cover and curb (*see page 6 for more information*).

### Special Finishes

- Factory applied powder coat paint finish is available on all steel and aluminum products. Finish is available in four standard colors and custom colors can be specified.
- Kynar® finish in custom colors (aluminum products only)
- Tnemec® finish in custom colors (steel and aluminum products)
- Clear anodized finish (aluminum products only)
- Custom finishes can also be specified

Powder Coat Standard Colors



White

Yellow

Bronze

Black

### Motorized or Winch Operation

To provide a convenient means of ventilating work areas, automatic smoke vents can be equipped with motor operators for actuation by remote push-button control or other electrical signal. They can also be furnished with rigging for manual winch operation at the floor level. Roof hatches can also be designed for motor or winch operation.



Motorized Operation



Winch Operation

### Other Options

In addition to standard options, Bilco's custom engineering capabilities can provide you with the exact roof product to meet your unique requirements.



# Roof Hatch

## Security

All Bilco roof hatches are supplied with a standard slam lock that includes an interior and exterior padlock hasp to prevent unauthorized access. Bilco also offers the options listed below for enhanced building security.

## Keyed Cylinder Locks

Deadbolt cylinder locks provide keyed exterior access and are available with either keyed or turn knob interior access. Cylinder locks are an ideal security enhancement for many applications. For added security and weathertightness, the lock cylinder is accessed from the exterior through a gasketed, threaded deck plate.



Keyed Cylinder Locks

## Detention Locks

Detention locks provide keyed interior and exterior access and are ideal for correctional facilities and other buildings requiring a maximum level of security. For added security and weathertightness, the lock is accessed from the exterior through a gasketed, threaded deck plate. Bilco roof hatches can be prepared for field installation of many leading lock brands.



Detention Locks

## Emergency Egress Lock

Bilco roof hatches can be supplied with a panic lock for rapid egress in an emergency situation. Panic locks are available with keyed exterior access when specified.

## Indicator Switches

Allow roof hatches to be wired into a building's alarm system. Indicator switches are curb mounted and send a signal to the alarm control panel when the hatch cover is opened.

## Security Glazing

Security glazing allows personnel to visibly scan a secure area before entering or exiting a roof area. Glazing is available in a number of ballistic ratings with varying levels of security.



Security Glazing

# Automatic Smoke Vent

## Electric Activation

Automatic smoke vents can be supplied with an electric Thermolatch® to allow the vents to be operated by a smoke detector or fire alarm control panel. In addition to electric activation, these vents feature fusible link activation and provisions for manual operation. Electric latches can be supplied for 115 VAC, 24 VAC, 220 VAC, and 24V DC power requirements.



Explosion Vents

## Explosion Vents

Bilco Type SV and Type DSH automatic smoke vents may also be equipped to operate as explosion vents or as combination fire/explosion vents. The explosion release mechanism is preset and factory-tested to release at between 25 lb/ft<sup>2</sup> and 30 lb/ft<sup>2</sup> (122 kg/m<sup>2</sup> and 146 kg/m<sup>2</sup>) of pressure on the underside of the covers. Not available on Type ACDSH or Lumivent models.

## Security Grilles

Heavy bars permanently welded in place across the curb opening. Bars are spaced to prevent building access and maximize ventilation area.

## Indicator Switches

Allow vents to be wired into a building's alarm system. Indicator switches are curb mounted and send a signal to the alarm control panel when the vent covers are opened.

## Lockable Enclosure

The exterior manual pull release may be supplied with an enclosure that can be padlocked to prevent unauthorized opening of the covers from the roof level.

Floor access doors provide reliable access to equipment stored underground or below/between building floors. Models include drainage doors, non-drainage doors, doors designed to receive flooring materials, doors for interior building applications, and fire-rated floor doors, as well as a number of special application doors.

## Typical Applications

- Airports
- Correctional Facilities
- Electric Utilities
- Factories
- Hospitals
- Manufacturing Facilities
- Natural Gas Utilities
- Office Buildings
- Processing Plants
- Retail Structures
- Schools
- Telecommunications Vaults
- Transit Systems
- Warehouses
- Water/Waste Treatment Plants

## Features & Benefits

- Constructed with corrosion-resistant materials and hardware for harsh environments
- Lift assistance for smooth, easy, one-hand operation
- Covers available with pedestrian or vehicular load reinforcing
- Rugged welded construction is designed for many years of trouble-free service
- Offered in aluminum or steel construction with custom sizes and options readily available

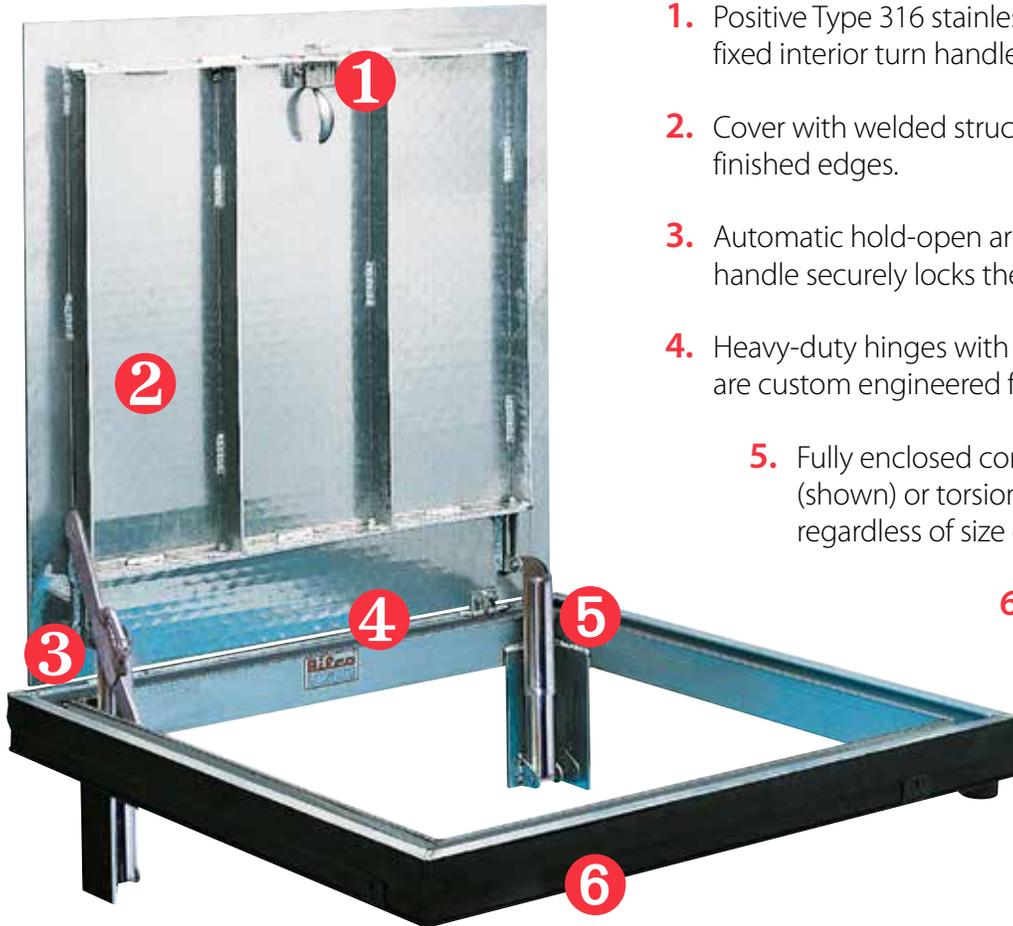
### *Channel Frame – Drainage*

Constructed for use in exterior applications or in those situations where there is concern of water or other liquids entering the access opening. These doors are supplied with a threaded drain coupling fully welded to the channel frame for connection to a dry or wet well in the field.

### *Angle Frame – Non-Drainage*

Generally for interior use or exterior applications where water or liquid infiltration is not a concern.



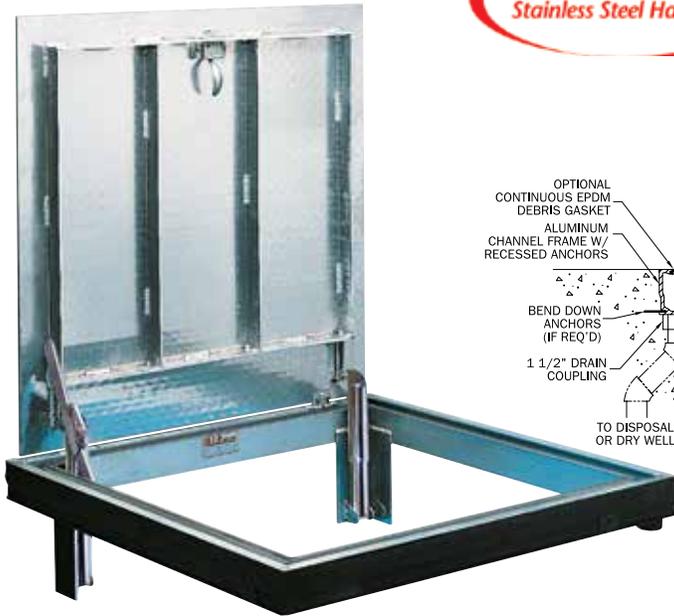


1. Positive Type 316 stainless steel latching mechanism with fixed interior turn handle and removable exterior handle.
2. Cover with welded structural reinforcing and finished edges.
3. Automatic hold-open arm with convenient release handle securely locks the cover in the open position.
4. Heavy-duty hinges with tamper-proof exterior fasteners are custom engineered for horizontal door applications.
5. Fully enclosed compression spring operators (shown) or torsion bars counterbalance covers regardless of size or weight.
6. Bituminous coating applied to the exterior of the frame on all aluminum products.

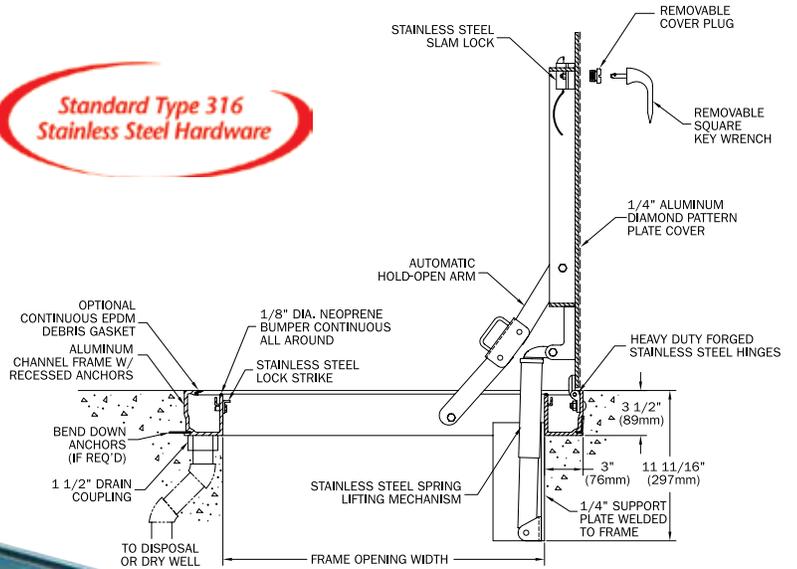
Type J-AL Door shown with channel frame



# Type J-AL, JD-AL Aluminum Channel Frame Door



Standard Type 316  
Stainless Steel Hardware



**Carries Bilco's  
Exclusive  
25 Year J-AL  
Door Warranty**

**Description:**

Ideal for most corrosive environments. Single or double leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for a 300 lb/ft<sup>2</sup> (1464 kg/m<sup>2</sup>) live load. Features standard Type 316 stainless steel hardware and a versatile anchoring system for ease of installation.

**Specifications:**

**Material**

1/4" (6.35mm) cover and extruded aluminum frame

**Cover**

Diamond-pattern tread plate reinforced for 300 psf (1464 kg/m<sup>2</sup>) live load

**Frame**

Extruded aluminum channel frame with bend down anchor tabs around the perimeter. A 1-1/2" (38mm) drain coupling is welded under the frame for a pipe connection to a dry well or disposal system.

**Hinges**

Heavy forged stainless steel hinges with 1/4" (6.3mm) Type 316 stainless steel hinge pins

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug.

**Lift Assistance**

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm locks the cover in the open position.

**Finish**

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

**Hardware**

All hardware is Type 316 stainless steel

**Standard Sizes and Weights**

SIZE		ALUMINUM		
(width x length)		Model #	Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	J-1AL	65	30
30 x 30	762 x 762	J-2AL	88	40
36 x 30	914 x 762	J-3AL	97	44
36 x 36	914 x 914	J-4AL	108	49
42 x 42	1067 x 1067	J-5AL	135	61
48 x 30	1219 x 762	JD-1AL	145	66
48 x 48	1219 x 1219	JD-2AL	173	79
48 x 72	1219 x 1829	JD-3AL	234	106
60 x 60	1524 x 1524	JD-4AL	241	109

Models with "D" in the Model # indicate double leaf configuration

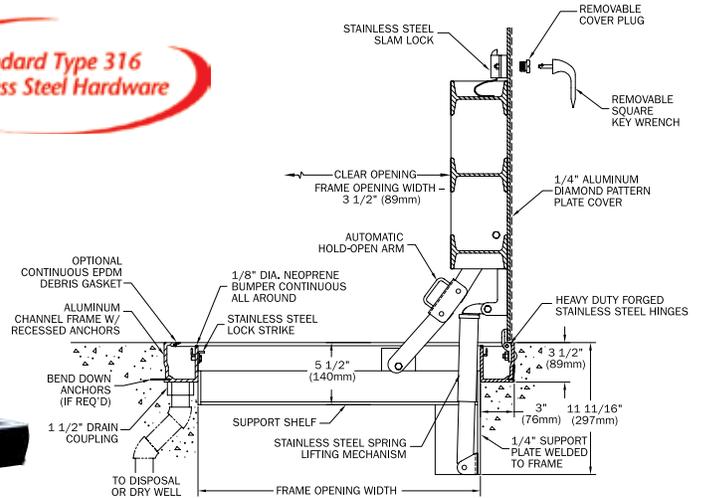




# Type J-AL-H20, JD-AL-H20 Aluminum Channel Frame Door



Standard Type 316  
Stainless Steel Hardware



**Carries Bilco's  
Exclusive  
25 Year J-AL  
Door Warranty**

**Description:**

Designed to withstand vehicular traffic in off-street locations. Single or double leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for AASHTO H-20 wheel loading. With all the same features as the Type J-AL, this door is also ideal for most corrosive environments.

**Specifications:**

**Material**

1/4" (6.35mm) cover and extruded aluminum frame

**Cover**

Diamond-pattern tread plate reinforced for H-20 wheel loading. Designed for installation in off-street locations where the door is not subjected to high-density, fast-moving traffic. Structural calculations available upon request.

**Frame**

Extruded aluminum channel frame with bend down anchor tabs around the perimeter. A 1-1/2" (38mm) drain coupling is welded under the frame for a pipe connection to a dry well or disposal system.

**Hinges**

Heavy forged stainless steel hinges with 1/4" (6.3mm) Type 316 stainless steel hinge pins

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug.

**Lift Assistance**

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm locks the cover in the open position.

**Finish**

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

**Hardware**

All hardware is Type 316 stainless steel

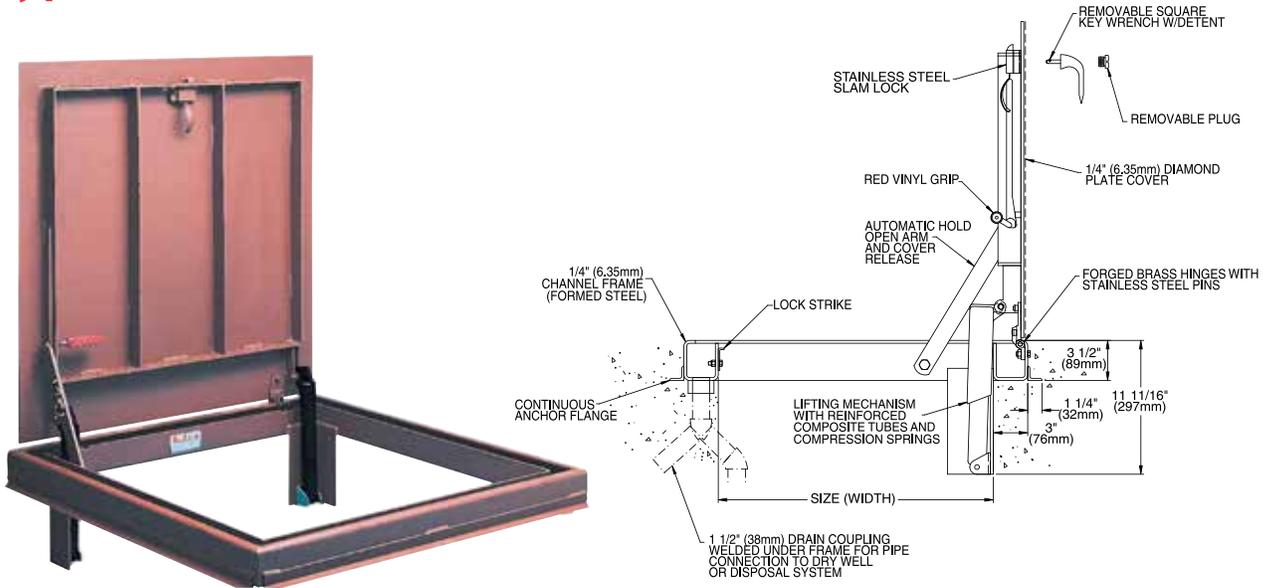
**Standard Sizes and Weights**

SIZE		ALUMINUM		
(width x length)		Model #	Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	J-1AL H20	110	50
30 x 30	762 x 762	J-2AL H20	124	56
36 x 30	914 x 762	J-3AL H20	165	75
36 x 36	914 x 914	J-4AL H20	174	79
42 x 42	1067 x 1067	J-5AL H20	235	107
48 x 30	1219 x 762	JD-1AL H20	201	91
48 x 48	1219 x 1219	JD-2AL H20	293	133
48 x 72	1219 x 1829	JD-3AL H20	485	220
60 x 60	1524 x 1524	JD-4AL H20	500	227

Models with "D" in the Model # indicate double leaf configuration



## Type J, JD Steel Channel Frame Door



**Description:**

Single or double leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for a 300 lb/ft<sup>2</sup> (1464 kg/m<sup>2</sup>) live load. Features reinforced composite spring tubes, heavy forged brass hinges, and zinc plated/chromate sealed hardware.

**Specifications:**

**Material**

Cover and frame are 1/4" (6.35mm) steel

**Cover**

Diamond-pattern tread plate reinforced for 300 psf (1464 kg/m<sup>2</sup>) live load

**Frame**

Formed channel frame with full anchor angle welded around the perimeter. A 1-1/2" (38mm) drain coupling is welded under the frame for a pipe connection to a dry well or disposal system.

**Hinges**

Heavy forged brass hinges with 3/8" (9.5mm) Type 316 stainless steel hinge pins

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug.

**Lift Assistance**

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm with grip handle release.

**Finish**

Alkyd base red oxide primer

**Hardware**

Engineered composite compression spring tubes. Steel compression springs. Slam lock and all fasteners are Type 316 stainless steel. All other hardware is zinc plated/chromate sealed.



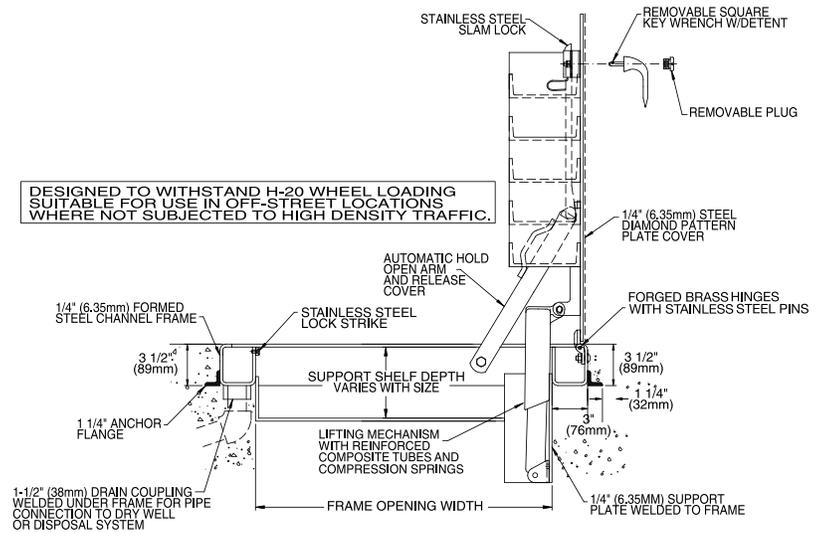
**Standard Sizes and Weights**

SIZE		Model #	STEEL	
(width x length)			Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	J-1	179	81
30 x 30	762 x 762	J-2	231	105
36 x 30	914 x 762	J-3	274	124
36 x 36	914 x 914	J-4	300	136
42 x 42	1067 x 1067	J-5	402	182
48 x 30	1219 x 762	JD-1	365	166
48 x 48	1219 x 1219	JD-2	498	226
48 x 72	1219 x 1829	JD-3	652	296
60 x 60	1524 x 1524	JD-4	663	301

Models with "D" in the Model # indicate double leaf configuration



# Type J-H20, JD-H20 Steel Channel Frame Door



### Description:

Designed to withstand vehicular traffic in off-street locations. Single or double leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for AASHTO H-20 wheel loading. Features reinforced composite spring tubes, heavy forged brass hinges and zinc plated/chromate sealed hardware.

### Specifications:

#### Material

Cover and frame are 1/4" (6.35mm) steel

#### Cover

Diamond-pattern tread plate reinforced for H-20 wheel loading. Designed for installation in off-street locations where the door is not subjected to high-density, fast-moving traffic. Structural calculations available upon request.

#### Frame

Formed channel frame with full anchor angle welded around the perimeter. A 1-1/2" (38mm) drain coupling is welded under the frame for a pipe connection to a dry well or disposal system.

#### Hinges

Heavy forged brass hinges with 3/8" (9.5mm) Type 316 stainless steel hinge pins

#### Latch

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug.

#### Lift Assistance

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm with grip handle release.

#### Finish

Alkyd base red oxide primer

#### Hardware

Engineered composite compression spring tubes. Steel compression springs. Slam lock and all fasteners are Type 316 stainless steel. All other hardware is zinc plated/chromate sealed.

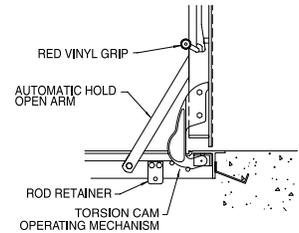
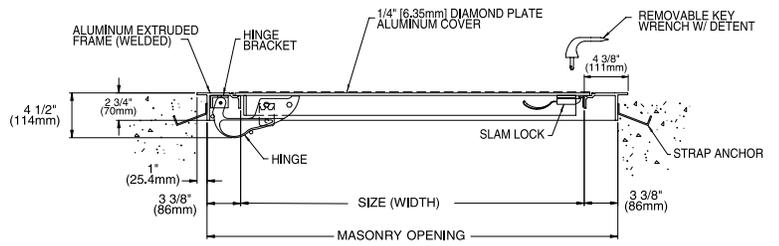


### Standard Sizes and Weights

SIZE		STEEL		
(width x length)		Model #	Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	J-1 H20	250	113
30 x 30	762 x 762	J-2 H20	350	159
36 x 30	914 x 762	J-3 H20	425	193
36 x 36	914 x 914	J-4 H20	490	222
42 x 42	1067 x 1067	J-5 H20	635	288
48 x 30	1219 x 762	JD-1 H20	532	241
48 x 48	1219 x 1219	JD-2 H20	815	370
48 x 72	1219 x 1829	JD-3 H20	1235	560
60 x 60	1524 x 1524	JD-4 H20	1180	535

Models with "D" in the Model # indicate double leaf configuration

## Type K, KD Aluminum Angle Frame Door



### Description:

Single or double leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for a 150 lb/ft<sup>2</sup> (732 kg/m<sup>2</sup>) live load. Features zinc plated and chromate sealed hardware, concealed hinges and the torsion cam lifting system for ease of operation.

### Specifications:

#### Material

1/4" (6.35mm) cover and extruded aluminum frame

#### Cover

Diamond-pattern tread plate reinforced for 150 psf (732 kg/m<sup>2</sup>) live load

#### Frame

Extruded aluminum angle frame with strap anchors bolted around the perimeter

#### Hinges

Cast steel cam-action hinges that are concealed from the exterior of the door

#### Latch

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle

#### Lift Assistance

Torsion bars that pivot on cam-action hinges. Automatic hold-open arm with grip handle release.

#### Finish

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

#### Hardware

Zinc plated/chromate sealed

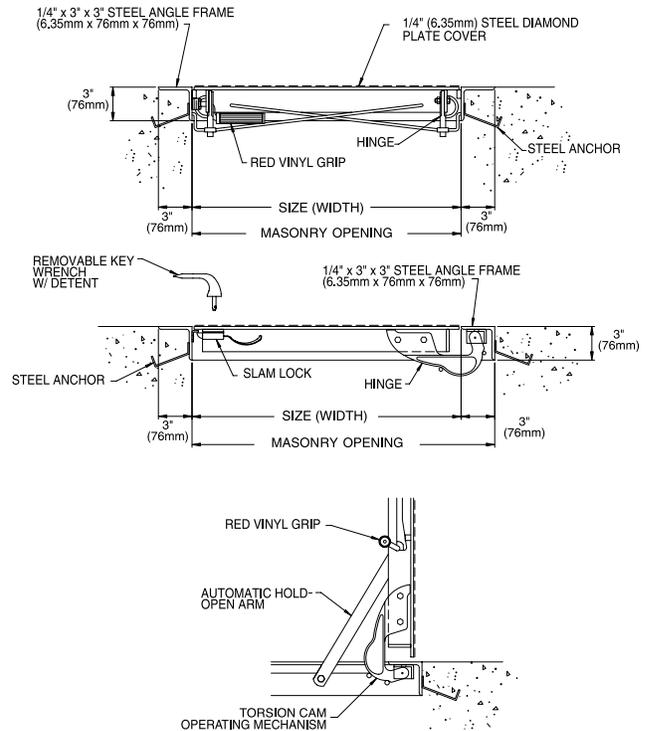
### Standard Sizes and Weights

SIZE		ALUMINUM		
(width x length)		Model #	Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	K-1	50	23
30 x 30	762 x 762	K-2	65	30
36 x 30	914 x 762	K-3	77	35
36 x 36	914 x 914	K-4	86	39
42 x 42	1067 x 1067	K-5	109	50
48 x 48	1219 x 1219	KD-2	152	69
48 x 72	1219 x 1829	KD-3	214	97
60 x 60	1524 x 1524	KD-4	222	101

Models with "D" in the Model # indicate double leaf configuration



# Type Q Steel Angle Frame Door



**Description:**

Single leaf covers are constructed of 1/4" (6.35mm) diamond pattern plate and reinforced for a 150 lb/ft<sup>2</sup> (732 kg/m<sup>2</sup>) live load. Features zinc plated and chromate sealed hardware, concealed hinges and the torsion cam lifting system for ease of operation.

**Specifications:**

**Material**

Cover and frame are 1/4" (6.35mm) steel

**Cover**

Diamond-pattern tread plate reinforced for 150 psf (732 kg/m<sup>2</sup>) live load

**Frame**

Steel angle frame with strap anchors welded around the perimeter

**Hinges**

Cast steel cam-action hinges that are concealed from the exterior of the door

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle

**Lift Assistance**

Torsion bars that pivot on cam-action hinges. Automatic hold-open arm with grip handle release.

**Finish**

Alkyd base red oxide primer

**Hardware**

Zinc plated/chromate sealed

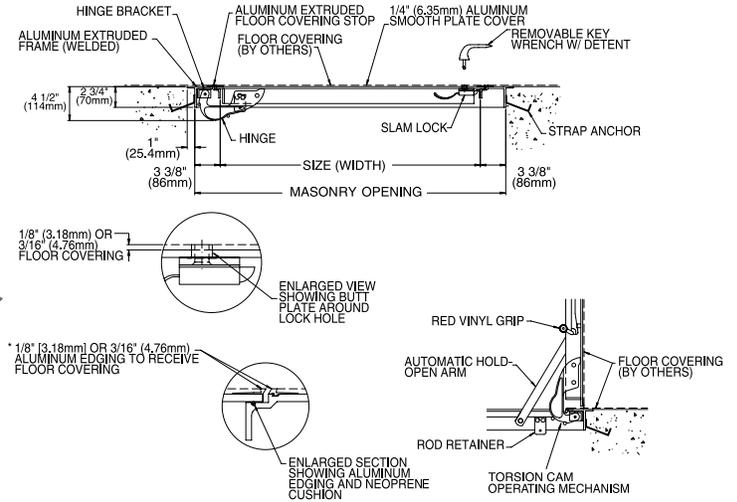
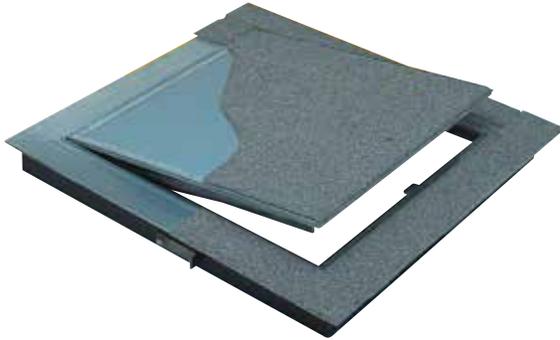
**Standard Sizes and Weights**

SIZE		STEEL	STEEL		
(width x length)			Model #	Weight	
inches	mm			lbs.	kg.
24 x 24	610 x 610	Q-1	122	55	
30 x 30	762 x 762	Q-2	166	75	
30 x 36	762 x 914	Q-3	190	86	
36 x 36	914 x 914	Q-4	219	100	



# Type T, TD Aluminum for Finished Flooring Materials

Accepts Carpet and Composition Flooring



\*Note: For direct glue down carpet (no pad), specify 3/16"

**Description:**

Single or double leaf doors are virtually hidden in interior applications. Will accept carpet or composition flooring material 1/8" (3.18mm) or 3/16" (4.76mm) in thickness. Features cover and frame mounted molding strips to accept floor covering and Type K hardware and construction.

**Specifications:**

**Material**

1/4" (6.35mm) cover and extruded aluminum frame

**Cover**

Smooth plate reinforced for 150 psf (732 kg/m<sup>2</sup>) live load. Extruded aluminum molding adhered to the perimeter to accept floor-covering material [specify either 1/8" (3.2mm) or 3/16" (4.8mm) molding height].

**Frame**

Extruded aluminum angle frame with strap anchors bolted around the perimeter. Extruded aluminum molding fastened to the perimeter to accept floor-covering material [specify either 1/8" (3.2mm) or 3/16" (4.8mm) molding height].

**Hinges**

Cast steel cam-action hinges that are concealed from the exterior of the door

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle

**Lift Assistance**

Torsion bars that pivot on cam-action hinges. Automatic hold-open arm with grip handle release.

**Finish**

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

**Hardware**

Zinc plated/chromate sealed

**Standard Sizes and Weights**

SIZE		ALUMINUM	Weight	
(width x length)			Model #	lbs.
inches	mm			
24 x 24	610 x 610	T-1	53	24
30 x 30	762 x 762	T-2	68	31
36 x 30	914 x 762	T-3	82	37
36 x 36	914 x 914	T-4	91	41
42 x 42	1067 x 1067	T-5	114	52
48 x 48	1219 x 1219	TD-2	172	78
48 x 72	1219 x 1829	TD-3	224	102
60 x 60	1524 x 1524	TD-4	230	104

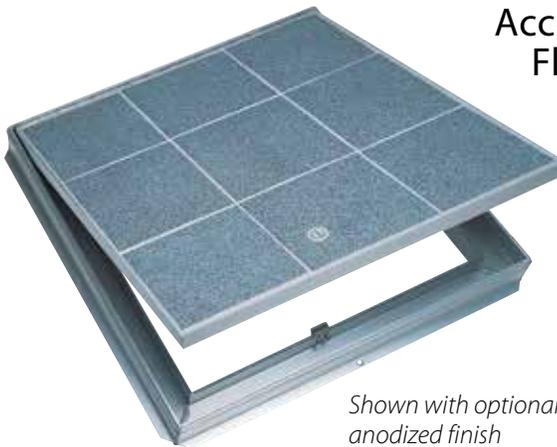
Models with "D" in the Model # indicate double leaf configuration



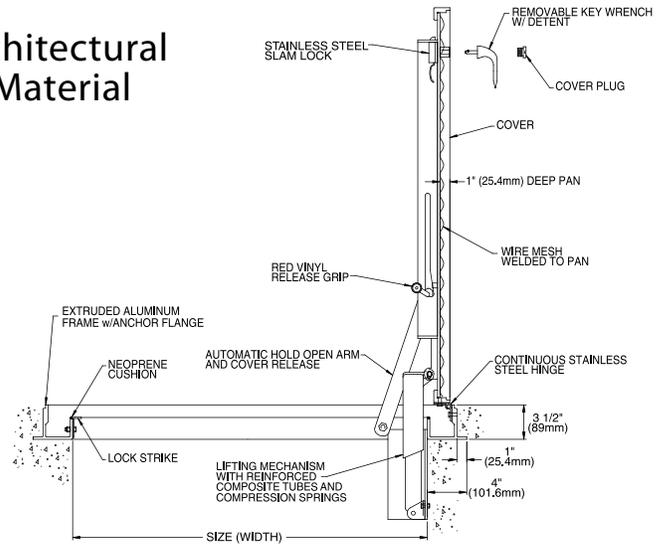


# Type TER, TRD Aluminum for Finished Flooring Materials

Accepts Architectural Flooring Material



Shown with optional anodized finish



**Description:**

Similar to the Type T in function, these single and double leaf doors are designed with a pan cover to accept a variety of flooring materials up to 1" (25.4mm) in thickness. Each door is spring balanced at the factory to ensure smooth, easy operation upon installation of the specified flooring material in the field. Note: Available with drain coupling for drainage applications.

**Specifications:**

**Material**

1/4" (6.35mm) cover and extruded aluminum frame

**Cover**

Smooth plate reinforced for 150 psf (732 kg/m<sup>2</sup>) live load. Cover designed with 1" (25.4mm) fillable pan for field installation of architectural flooring material (specify flooring material including type, thickness and weight).

**Frame**

Extruded aluminum frame with built in anchor flange around the perimeter

**Hinges**

Continuous heavy-duty Type 316 stainless steel hinge

**Latch**

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug.

**Lift Assistance**

Compression spring operators enclosed in telescopic tubes. Automatic hold-open arm with grip handle release.

**Finish**

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

**Hardware**

Engineered composite compression spring tubes. Steel compression springs. Type 316 stainless steel hinges. All other hardware is zinc plated/chromate sealed.



**Standard Sizes and Weights**

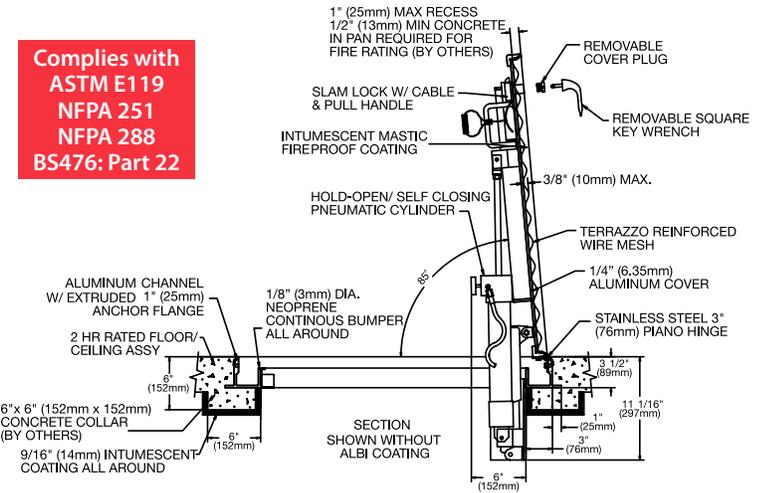
SIZE		ALUMINUM		
(width x length)		Model #	Weight	
inches	mm		lbs.	kg.
24 x 24	610 x 610	TER-1	100	45
30 x 30	762 x 762	TER-2	110	50
36 x 30	914 x 762	TER-3	120	54
36 x 36	914 x 914	TER-4	130	59
42 x 42	1067 x 1067	TER-5	165	75
48 x 48	1219 x 1219	TRD-2	200	91
48 x 72	1219 x 1829	TRD-3	275	125
60 x 60	1524 x 1524	TRD-4	285	129

Models with "D" in the Model # indicate double leaf configuration

# Type FR Fire-Rated Floor Door



**Complies with**  
**ASTM E119**  
**NFPA 251**  
**NFPA 288**  
**BS476: Part 22**



**Description:**

Maintains the fire rating of a 2-hour floor/ceiling assembly where access is required between building floors. Features include an optional automatic closing system, intumescent fire resistant coating and a pan cover designed to accept architectural flooring materials.

**Specifications:**

**Material**

1/4" (6.35mm) cover and extruded aluminum frame

**Cover**

Aluminum plate reinforced for 150 psf (732 kg/m<sup>2</sup>) live load. Intumescent fire coating applied to the underside of the cover. Designed with 1" (25.4mm) fillable pan for field installation of architectural flooring material up to 1/2" (12.7mm) thickness (specify flooring material including type, thickness and weight). The remaining depth must be filled with concrete to maintain the fire rating of the door assembly (if finish flooring is not desired, the pan must be filled with 1" (25.4mm) of concrete).

**Frame**

Extruded aluminum frame with built-in anchor flange around the perimeter Intumescent fire coating applied on the interior surfaces of the frame

**Hinges**

Continuous heavy-duty Type 316 stainless steel hinge

**Latch**

Pneumatic self closing system that automatically closes the door in the event of a fire when heat parts a UL-listed 165°F (74°C) fusible link

**Lift Assistance**

Compression spring operators enclosed in telescopic tubes. Mechanical hold-open system with release button automatically holds the cover in the open position.

**Performance Ratings**

Tested in accordance with ASTM E119, NFPA 251, NFPA 288 and UL-listed (File R15197) as having a 2-hour fire rating when exposed to fire from the underside

**Finish**

Mill finish aluminum with a bituminous coating applied to the exterior of the frame

**Hardware**

Engineered composite compression spring tubes. Steel compression springs. Type 316 stainless steel hinges. All other hardware is zinc plated/chromate sealed.



Self-closing mechanism Automatically closes the door in the event of a fire. Door remains firmly closed to prevent the spread of fire between building floors.

**Standard Sizes and Weights**

SIZE		ALUMINUM	ALUMINUM			
(width x length)			Model #	Clear Opening		Weight
inches	mm			inches	mm	lbs.
30 x 30	762 x 762	FR-2	23.5 x 28	597 x 711	271	123
36 x 30	914 x 762	FR-3	29.5 x 28	749 x 711	277	126
36 x 36	914 x 914	FR-4	29.5 x 34	749 x 864	326	148
42 x 42	1067 x 1067	FR-5	35.5 x 40	902 x 1016	368	167
30 x 48	762 x 1219	FR-6	23.5 x 46	597 x 1168	328	149

Specify Type FR-LC if closing mechanism is not required by local fire authorities having jurisdiction

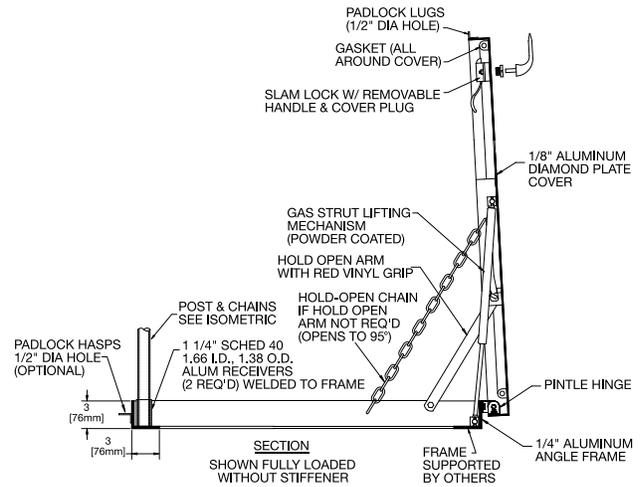




# Type SM Surface Mount Access Door



Shown with optional safety post & chains and padlock hasp



### Description:

Provides a cost effective solution for access to underground vaults that do not require the use of a flush-mounted door. Features a concealed internal mounting flange that makes installation easy and secure. Simply position the door over the vault opening and bolt it into place. Ideal for applications where the infiltration of contaminants is a concern. Its gasketed, over-lapping cover design sheds water and prevents debris and other pollutants from entering the opening.

### Specifications:

#### Material

1/8" (3mm) aluminum diamond plate cover and 1/4" (6mm) aluminum angle frame

#### Cover

Diamond-pattern tread plate reinforced for 105 psf (5 kpa) live load

#### Frame

1/4" x 3" x 3" (6.4mm x 76mm x 76mm) angle frame with internal mounting flange and 7/16" (11mm) diameter anchor holes

#### Gasket

Extruded EPDM rubber gasket permanently adhered to cover

#### Hinges

Heavy-duty, stainless steel pintle hinges with 3/8" (9.5mm) type 316 stainless steel hinge pins

#### Latch

Type 316 stainless steel slam lock with fixed interior handle and removable exterior turn/lift handle. Latch release is protected by a flush, gasketed, removable screw plug. (For added security, specify: full welded exterior padlock hasp.)

#### Lift Assistance

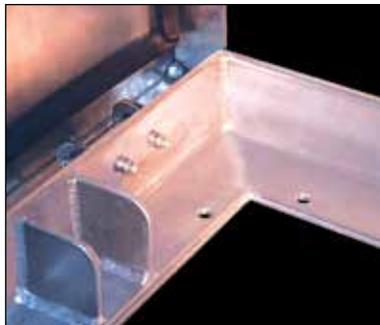
Gas strut lifting mechanism. Automatic hold-open arm with grip handle release.

#### Finish

Mill Finish aluminum

#### Hardware

Gas strut has a powder coat finish. All other hardware is type 316 stainless steel unless otherwise specified.



Internal Surface Mounting Flange



Concealed Stainless Steel Hinges

### Standard Sizes and Weights

SIZE		ALUMINUM		
(width x length)		Model #	Weight	
inches	mm		inches	mm
24 x 24	610 x 610	SM-1	61	28
30 x 30	762 x 762	SM-2	71	32
36 x 30	914 x 762	SM-3	78	35
36 x 36	914 x 914	SM-4	86	39
42 x 42	1067 x 1067	SM-5	99	45

Along with its complete line of floor, vault, and sidewalk doors, Bilco's extensive custom-design capabilities can provide you with the exact door you need for your unique applications. Contact The Bilco Company for more information on any of these products.

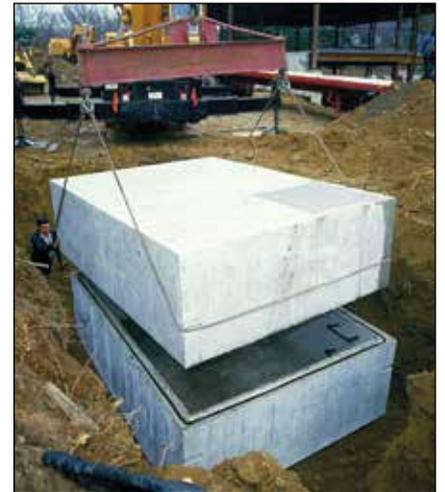


### Doors for Extreme Loading Conditions

The **Type HLC** is specially designed for extreme loading conditions generated by vehicles such as large aircraft, heavy equipment and forklift trucks. Doors will withstand a live load of 200 lb/in<sup>2</sup> (14 kg/cm<sup>2</sup>) plus 30% impact.

### Precast Vault Access Doors

**Type PCM & PDCM** doors incorporate several innovative features which reduce the amount of labor required to cast the door into a concrete vault.



### Special Sizes

**Type JD & JD-AL** doors can be manufactured to virtually any size to meet your unique access requirements. Even extremely large doors, such as the one shown, are designed for easy operation by one person.

### Emergency Evacuation Doors for Transit Systems

**Type JD & JD-AL** doors can be designed to provide egress from underground, rapid transit system platforms and tunnels in emergency situations. Door is designed with stainless steel panic hardware and compression spring operators for ease of operations. Other important features include H-20 reinforcing, handrails, custom signage and a slip-resistant cover finish.



### Odor Control Access Doors *(not shown)*

Type J-AL single leaf doors can be supplied with provisions for odor control by specifying Type J-AL-R. Doors are designed to contain odors and reduce the air leakage rate in odor emitting environments. Tested under a 1" (25.4mm) column of water, this door option provides an air infiltration rate of less than 1 ft.<sup>3</sup>/min (0.28m<sup>3</sup>/min) per lineal foot of cover perimeter.

## Options Floor Access Doors

Bilco floor access doors can include any of the modifications shown below. In addition, Bilco's engineering department will custom design doors for your unique applications.

### Locking and Latching Devices

The following lock options are available to add security and prevent unauthorized access:



Cylinder lock with a keyway protected by a threaded cover plug



Recessed padlock hasp covered by a flush hinged lid



Security cover plugs

Additional lock options include padlock lugs welded to the exterior door surface, high security detention locks, and panic hardware for emergency egress. In addition to the options shown, Bilco's engineering department can custom design products to meet your security needs.

### Special Finishes

- Factory applied powder coat paint finish is available on all steel and aluminum products. Finish is available in four standard colors and custom colors can be specified.
- Hot dipped galvanized finish (steel products only)
- Kynar® finish in custom colors (aluminum products only)
- Tnemec® finish in custom colors (steel and aluminum products)
- Clear anodized finish (aluminum products only)
- Custom finishes can also be specified.



### Other Options

- Steel or aluminum grating
- Submersible pump guide rail brackets
- Metal enclosed insulation
- Slip-resistant coatings
- Drop-in installation modifications
- Handrails
- Panic hardware
- Snow and ice melting cables
- Electric motor operation
- Fall protection grating (see page 38 for more information)
- Wireless security system for intrusion detection (see page 39 for more information)

### Stainless Steel Hardware

For installation in highly corrosive environments or when prolonged exposure to hot water or steam is anticipated, Bilco recommends stainless steel hardware. Standard Type 316 stainless steel hardware is featured on Type J-AL, JD-AL, J-AL H20 and JD-AL H20 doors. Other products can be supplied with stainless steel hardware upon request.



Stainless Steel Hardware



Special Finishes



Grating Panel Covers

## Fall Protection Grating System

Fall Protection Grating System allows workers to safely inspect pumps and monitor underground areas. System permanently mounts under access door covers and is available as a factory installed option on the following Bilco models:



- Type J, JD, J-AL, J-DAL 300 PSF (1464 kg/m<sup>2</sup>) and H-20 reinforced doors
- Available on all standard sizes
- Also available for special sizes — contact Bilco for more information
- Retrofit kits are also available for field installation (for door models noted above)

### Standard Features and Benefits

- Provides a permanent means of fall protection under access doors
- Exceeds OSHA fall protection requirements
- Features an aluminum grating with a safety-yellow powder coat paint finish for added durability
- Equipped with a stainless steel automatic hold-open device that securely locks the panel in the full open position
- Features stainless steel hardware for corrosion resistance
- Supplied with a padlock hasp for added security
- Backed by a 25-year manufacturer's warranty



*The unique pintle hinge design allows the fall protection grating panel to open to the full 90° position to maximize the area available for access*



### Specifications

Grating panel(s) shall be aluminum with a powder coat paint finish that is safety-yellow in color. Panel shall be designed to meet the requirements of OSHA standard 29 CFR 1910.23 and be equipped with a hold-open device to lock the grating panel(s) in the open position. Hold-open device and all hardware shall be Type 316 stainless steel. Manufacturer shall provide a 25-year warranty against defects in material and workmanship.



## Other Bilco Products

### Colt Products



#### Natural Ventilators

Colt natural ventilation systems harness wind and heat to create a comfortable and healthy internal environment with optimal temperature and humidity levels and good air quality. The systems rely on automatically opening and closing ventilators, and can range from a simple open/close switch to a fully integrated energy management system with carbon dioxide, temperature and weather sensors, as well as controls to interface with the building climate control system.



#### Smoke and Fire Curtains

Colt automatic smoke and fire curtains from Bilco stay hidden until they're needed. In the event of a fire, curtains automatically lower to aid emergency egress by protecting exit routes from smoke and heat. Products are equipped with an electric motor that holds the retracted curtain at ceiling level and unrolls the fabric automatically upon receiving a signal from a fire detection system.

### Residential Products



#### Bilco Basement Doors

Basement doors are ideal for access to basement storage areas and for moving large items into finished basement areas. The wide opening allows storage items such as deck and patio furniture, and large items such as pool tables and large furniture, to be easily moved in and out of a basement. Doors meet building code requirements for emergency egress and are available in prime painted steel and high-density polyethylene construction.



#### Window Well Systems

Add natural daylight and ventilation to basement rooms, making them as warm and comfortable as any area in the home. Window Well Systems meet building code requirements for emergency egress and are constructed from non-corrosive materials for many years of maintenance-free service. Systems simply snap or slide together on site for easy installation and dome covers are available to protect the well opening.



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sales representative near you.