

# **BILCO TYPE FR FIRE RATED FLOOR DOOR**

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*INSTALLATION INSTRUCTIONS*

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*OPERATION & MAINTENANCE INSTRUCTIONS*

*Revision Date : February 07, 2007*

**PROPRIETARY**

Bilco Information for Authorized Personnel Only

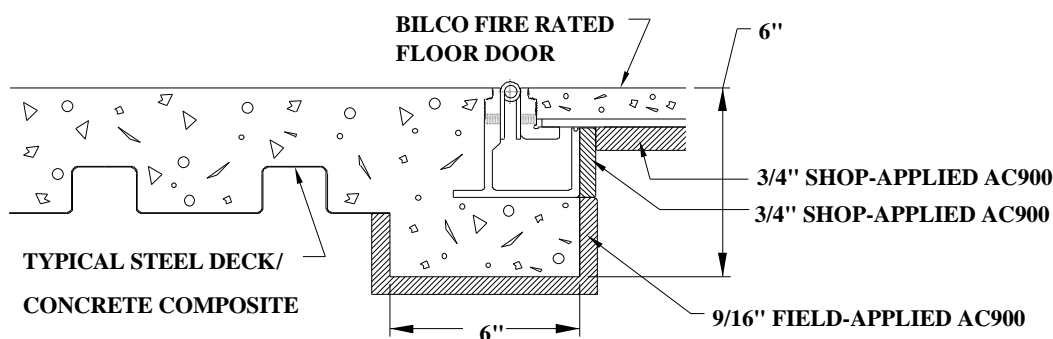
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**BILCO TYPE FR  
FIRE RATED FLOOR DOOR  
INSTALLATION INSTRUCTIONS**

- **CAUTION:** Cover is spring loaded to compensate for weight of filler material to be added later. Do not remove safety shipping bolt or open door until unit is in normal operating position and filler material has been added.
- Place door in opening so that hinge side is in desired position.
- Before pouring concrete or anchoring in place, check to see that door rests on frame all around. If not, shim under frame at proper corner.
- A continuous 6" x 6" concrete collar must be provided all around frame to maintain 2 hour fire rating. (Refer to customer drawing and section detail below). With door in closed position, pour concrete under frame and flush with top of frame. Pour concrete in cover pan to desired depth (minimum 1/2").

**CAUTION:** Support frame to prevent sagging. Frame must be secured to structural members, steel floor deck or rebar before concrete is poured. Do not permit weight of concrete to push frame inward to reduce clearances between frame and cover.

- After concrete is cured, apply 9/16" of AC900 (manufactured by Albi Manufacturing, East Berlin, CT) to all surfaces of concrete collar per manufacturer's instructions. Be sure that no gaps exist between these surfaces and the factory-applied coating on the frame. (Refer to customer drawing and section detail below).
- Apply finish flooring to pan, if specified.



**Typical Installation Detail**

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Rev - 02/07/07

**OPERATION OF BILCO  
TYPE FR  
FIRE-RATED DOOR**

**WARNING: Cover will close automatically in case of fire. When door is open, the opening shall be constantly attended by someone.**

**TO OPEN FROM ABOVE:** With key furnished, remove slotted screw plug and insert square shaft of key through door and into latch. Turn key to retract latch tongue and lift door by it's edge or handle. Do not lift the door using the key. Move door to it's full open position.

**TO OPEN FROM BELOW:** Pull red vinyl release handle to retract latch tongue and raise door to it's full open position.

**TO CLOSE FROM ABOVE:** Push release button and move cover toward the closed position. Close door onto frame.

**TO CLOSE FROM BELOW:** Depending upon door configuration and it's size, location and use, it may be desirable to begin the closing procedure from above and start door closure prior to descending. The procedure used is dependent upon the particular application and surrounding conditions.

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**MAINTENANCE OF BILCO  
TYPE FR  
FIRE-RATED DOOR**

**SELF-CLOSING MECHANISM:** Annual inspection of all components is recommended. Inspect all hoses and fittings for damage. Automatic actuation of self-closing mechanism should be tested annually. From the underside of the unit, melt the fusible link and observe the cover as it closes and latches. (CAUTION: Stand clear of cover as it closes).

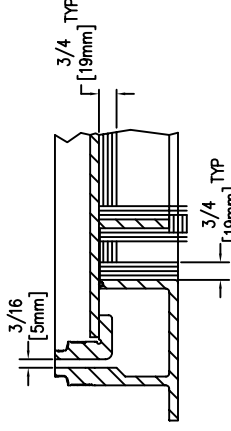
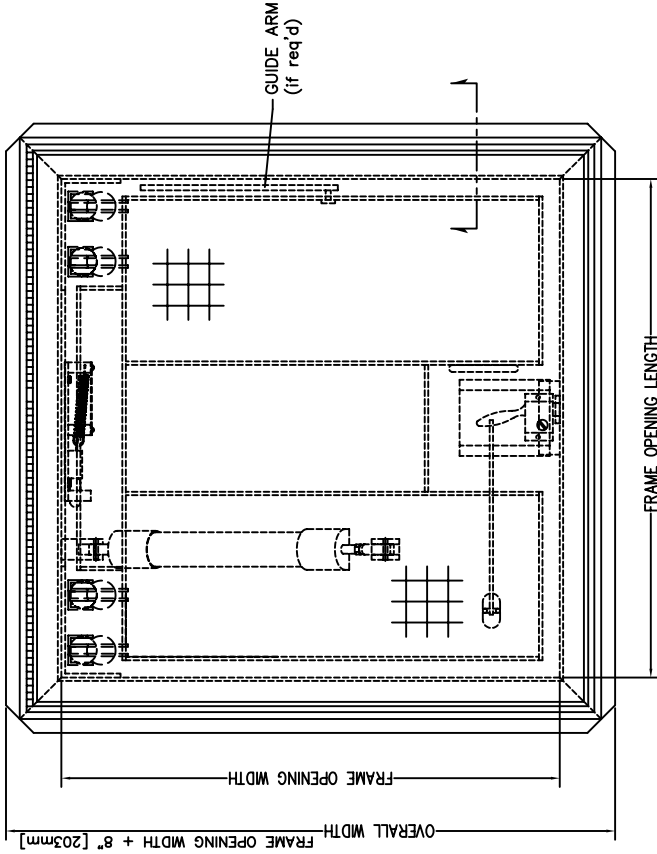
To reset mechanism, rotate valve lever to closed position and attach fusible link. Replace CO<sub>2</sub> cartridge.

**FIREPROOFING:** Inspect coating for damage. Gouges and other voids should be repaired using Albi-Clad 900 intumescent coating, applied according to manufacturer's instructions.

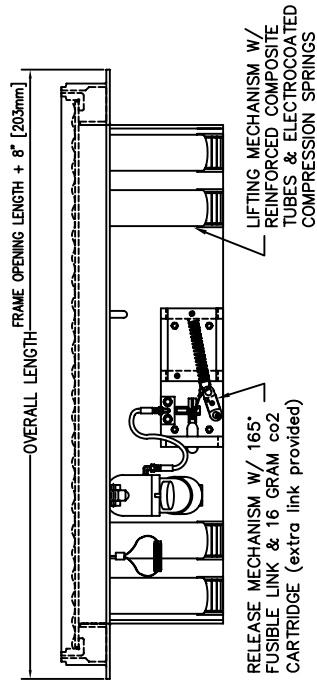
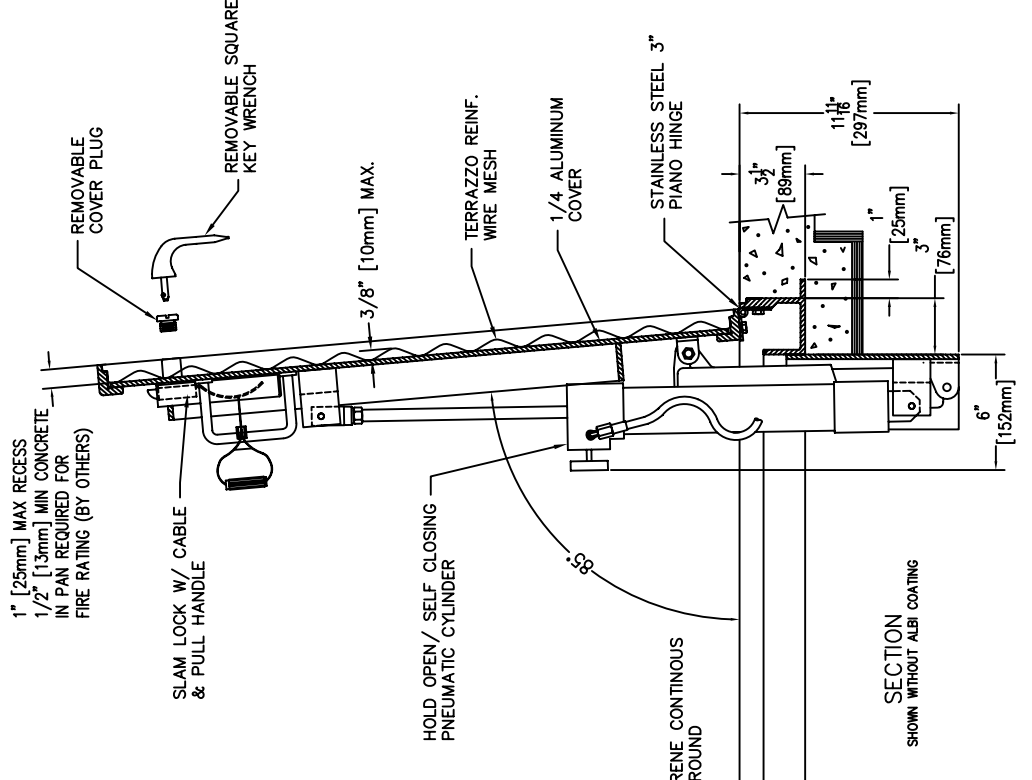
**LUBRICATION:** Annual cleaning and oiling of the hinge will assure smooth operation.

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# BILCO TYPE FR FIRE RATED DOOR

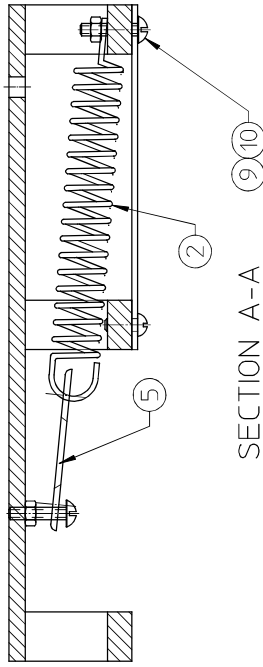


TYPICAL SECTION OF ALBI CLAD 900 INTUMESCENT MASTIC FIRE PROOF COATING



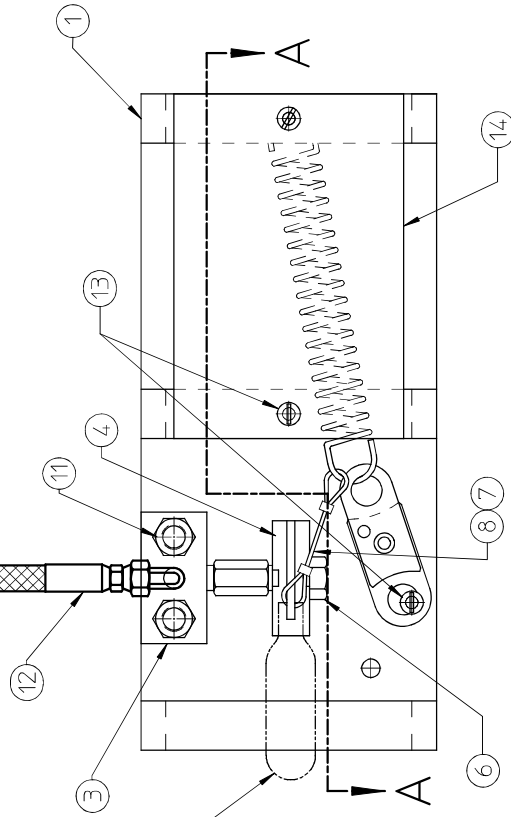
1/8 DIA. NEOPRENE CONTINUOUS BUMPER ALL AROUND  
 2 HR RATED FLOOR / CEILING ASSY  
 6" x 6" CONCRETE COLLAR (BY OTHERS)  
 9/16" [14mm] INTUMESCENT COATING ALL AROUND  
 BILCO 1/4" ALUMINUM CHANNEL W/ EXTRUDED 1" ANCHOR FLANGE

SECTION WITHOUT ALBI COATING



SECTION A-A

SEE  
FR-504



INSTALL CO2 CARTRIDGE  
AT FINAL ASSEMBLY

| ITEM | DESCRIPTION                           | PART NO   | QTY |
|------|---------------------------------------|-----------|-----|
| 1    | PLATE-MANIFOLD WELDMENT               | FR-501    | 1   |
| 2    | SPRING-EXTENSION 3"                   | FR-402    | 1   |
| 3    | CLAMP-MANIFOLD C02                    | FR-403    | 1   |
| 4    | INFLATOR-MANUAL 3/8"                  | FR-262    | 1   |
| 5    | LINK-FUSIBLE, 165 DEGREES, TYPE A, 97 | SD145     | 1   |
| 6    | NUT-CAP PLATED                        | FR-263    | 1   |
| 7    | CABLE-AIRCRAFT 1/16" S.S.             | SHL28     | 4"  |
| 8    | CONNECTOR-CABLE 1/16"                 | SHL31     | 2   |
| 9    | SCREW-RHMS #10-24 X 7/8"              | SD1976    | 2   |
| 10   | NUT-KEP #10-24 ZINC PLATED            | SD1978    | 2   |
| 11   | SCREW-RHMS 1/4"-20 X 1 1/4" 316SS     | SD2021/16 | 2   |
| 12   | #4JCM x 1/8" NPT FLARE O-FITTING      |           | 1   |
| 13   | SCREW-RHMS #10-24 X 1/2"              | SD1975    | 2   |
| 14   | PLATE-COVER FR                        | FR-411    | 1   |
| 15   | RESTRICTOR                            | FR-260    | 1   |

\*NOT SHOWN IN ASSEMBLY

NOTE:

SPRING (FR-402) MUST EXTEND TO 5 3/4" OVERALL'

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**Bilco**  
Manufacturers of Doors for Special Services  
**THE BILCO COMPANY**  
New Haven, Connecticut 06505

|                                  |                   |
|----------------------------------|-------------------|
| Title: MECHANISM-RELEASE FR DOOR |                   |
| Material: Finish:                |                   |
| Weight                           | Scale: 1/2        |
| Drawn By: ATR                    | Date: 06/03/04    |
| Approved: [Signature]            | Date: [Signature] |
| Drawing No. FR-500               | Rev. D            |
| Drawing Size: B                  |                   |

| REV | DESCRIPTION              | ECN   | BY  | APP | DATE     |
|-----|--------------------------|-------|-----|-----|----------|
| D   | ADDED FR-260 TO B.O.M.   | 19578 | ATR |     | 06/06/05 |
| C   | ITEM 11 WAS SD2025/16    | 18744 | ATR |     | 01/17/05 |
| B   | REMOVED PART # F2404-4-2 | 17615 | ATR |     | 08/23/04 |
| A   | NEW RELEASE              | 17287 | ATR |     | 07/19/04 |

UNLESS OTHERWISE SPECIFIED REMOVE ALL BURRS & SHARP EDGES  
DIMENSION TOLERANCES  
xxx .1" .010  
xxx .1" .030  
xxx .1" .050  
ANGLES .1" .2"  
FRACTIONS 1/16

DO NOT SCALE DRAWING