

# Reliable®

## Model MBEC-14 Extended Coverage Ordinary & Extra Hazard Horizontal Sidewall Sprinklers for Metal Building Applications

### Model MBEC-14

(SIN R6932)

#### Features

1. Designed to be installed on piping that is supported by the primary structure, not the purlins.
2. Provides Extended Coverage Ordinary & Extra Hazard protection to 175 ft<sup>2</sup> (16.3m<sup>2</sup>) per sprinkler.
3. Very extra large orifice of nominal K =14 (200) permits low pressures.
4. Density/Area Demand based upon hazard to be protected.
5. 165°F (74°C) & 212°F (100°C) temperature ratings.
6. Standard finishes in brass and chrome.
7. Can be used for all editions of NFPA 13 that permit extended coverage sprinklers.

#### Listings & Approvals

1. Listed by Underwriters Laboratories, Inc. and UL Certified for Canada (cULus).
2. Certified by FM Approvals  
FM Global considers this sprinkler as a "Quick Response" extended coverage sprinkler.
3. NYC MEA 258-93-E

#### UL Listing Category

Sprinklers for Storage Protection (Specific Application)

#### UL Guide Number

VNIV

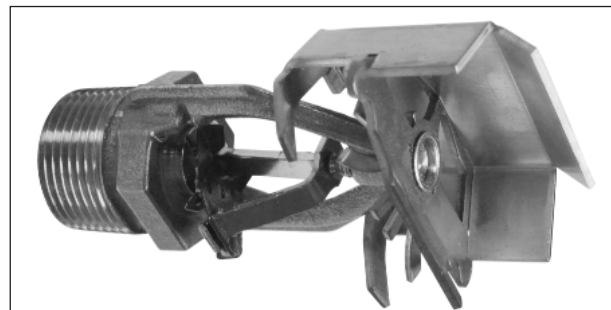
#### Patents: US Patent No. 6,889,774 B2

#### Product Description

The Reliable MBEC-14 Extended Coverage Sprinkler is a special application sprinkler for the protection of metal buildings with purlin roof support. The sprinkler has a very extra large orifice, Nominal K=14 (200).

When the system is designed to NFPA 13 requirements, MBEC-14 sprinklers provide protection in Ordinary Hazard (Groups 1 and 2) and Extra Hazard (Groups 1 and 2) Occupancies to 175 ft<sup>2</sup> (16.3 m<sup>2</sup>) per sprinkler.

For FM Global, use Table 2 of FM Global Data Sheet 3-26 for nonstorage occupancies. FM does not permit the use of these sprinklers in areas with flammable liquids or shielded discharge. FM Global representatives must be contacted for exact requirements. Reliable MBEC-14 sprinklers are to be installed according to the design criteria shown in this bulletin. Figure 3 shows a suggested method of installing the line piping.



Reliable MBEC-14 sprinklers use a levered fusible alloy solder link.

#### Design Criteria

Reliable Model MBEC-14 sprinklers are to be used in systems designed and installed in accordance with NFPA 13, FM Global requirements and all other local codes and ordinances. The following design criteria also apply:

- Design Density/Area method sprinkler. Minimum End-head Pressure: 7.0 psi (0.5 bar) Minimum density: 0.21 GPM/ft<sup>2</sup> (8.56 Lpm/m<sup>2</sup>).
- Maximum building height at peak is 32' (9.8 m). Maximum protected bay width is 25' (7.6 m). See Figures 1. & 2.
- Sprinklers may be installed on pipe lines attached to the top flange of primary roof beams. Sprinklers are to be installed with deflectors parallel to the floor. See Figure 2.
- Maximum sprinkler spacing along the pipe is 14' (4.3 m) and maximum water discharge length from the pipe is 12.5' (3.8 m). 175 ft<sup>2</sup> is the maximum coverage area. See Figures 2 & 3.
- Minimum sprinkler spacing is 7' (2.1 m) for NFPA and 8' for FM Global. (This does not apply to back-to-back sprinklers separated by the I-beams.) See Figures 2, 3 & 4.
- Deflector to commodity clearance shall be a minimum of 10' (3.1m). See Figures 2 & 3.
- Miscellaneous and in-process storage of 12' (3.7 m) for NFPA applications and 10' for FM Global is permitted.
- Deflector distance below roof/ceiling is 12" (305 mm) to 16" (406 mm). If there is an interior liner panel installed on the bottom side of the roof purlins, the acceptable deflector distance is 4" - 6" below the liner panel. See Figure 3.
- Follow NFPA 13 requirements for obstructions to sprinkler's discharge (Extended Coverage Sidewall Spray Sprinklers).
- Sprinklers can be installed under a sloping ceiling not exceeding 2" (50.8 mm) of rise in 12" (305 mm) of run.
- Maximum working pressure is 175 psi (12 bar) at the sprinkler.
- Available for use in wet, dry, or preaction systems.

**The Reliable Automatic Sprinkler Co., Inc.**, 103 Fairview Park Drive, Elmsford, New York 10523

## Technical Data

Sprinkler Model	Thread Size	Orifice Size	Temperature Rating		Max. Ambient Temp.		Maximum Sprinkler Spacing	Maximum Bay Spacing	Maximum Coverage Area	Approvals	Sprinkler Identification Number (SIN)
			°F	°C	°F	°C					
MBEC-14 HSW	¾" NPT (R¾)	0.70" (18mm)	165	74	100	38	14ft (4.3m) 14' - 0 x 12' - 6	25ft. (7.6m)	175ft. <sup>2</sup> (16.3m <sup>2</sup> )	cULus FM NYC	R6932
			212	100	150	66					

## Maintenance

Model MBEC-14 Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler that has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

## Model MBEC-14 Sprinkler Specification

Sprinklers shall be a control-mode, standard response, extended coverage horizontal sidewall sprinkler specifically listed/approved for installation on primary structural members (I-beams) of pre-engineered metal buildings, up to 32 ft (9.8 m) in height and having 25 ft. (7.6 m) wide bays. Sprinklers shall be [(cULus Listed) (New York City MEA Approved, 258-93-E) to protect ordinary and extra hazard] [FM Approved to protect ordinary hazard] occupancies as well as for miscellaneous and in-process storage as permitted by [NFPA 13] [FM Global Data Sheet 3-26]. Sprinklers shall be capable of covering an area of 175 ft<sup>2</sup> and being installed below the ceiling between 12" (305 mm) and 16" (406 mm). If there is an interior liner panel installed on the bottom side of the roof purlins, the acceptable deflector distance is 4" - 6" below the liner panel. Roof/ceilings shall have slopes not exceeding a pitch of 2/12 (a roof /ceiling slope of 16.7%). Sprinkler frame and deflector to be of bronze construction. Fusible solder link assembly shall utilize the strut and lever principle of operation with a [black-painted, 165°F (74°C)] [gray-painted 212°F (100°C)] beryllium-nickel thermal element. Water seal assembly shall consist of a Teflon™-coated Bellville spring washer and brass cap assembly containing no plastic parts. Extended coverage horizontal sidewall sprinklers shall have a nominal K-factor of 14.0 (202) and ¾" NPT threaded end connections. Sprinkler temperature rating shall be [Ordinary 165°F (74°C)] [Intermediate 212°F (100°C)]. Extended coverage horizontal sidewall sprinklers shall be Reliable Model MBEC-14, SIN R6932 (Bulletin 169).

## Ordering Information

### Specify:

1. Sprinkler Model
2. Temperature Rating
3. Sprinkler Finish

### Finishes<sup>(1)</sup>

Standard Finishes
Bronze Chrome Plated

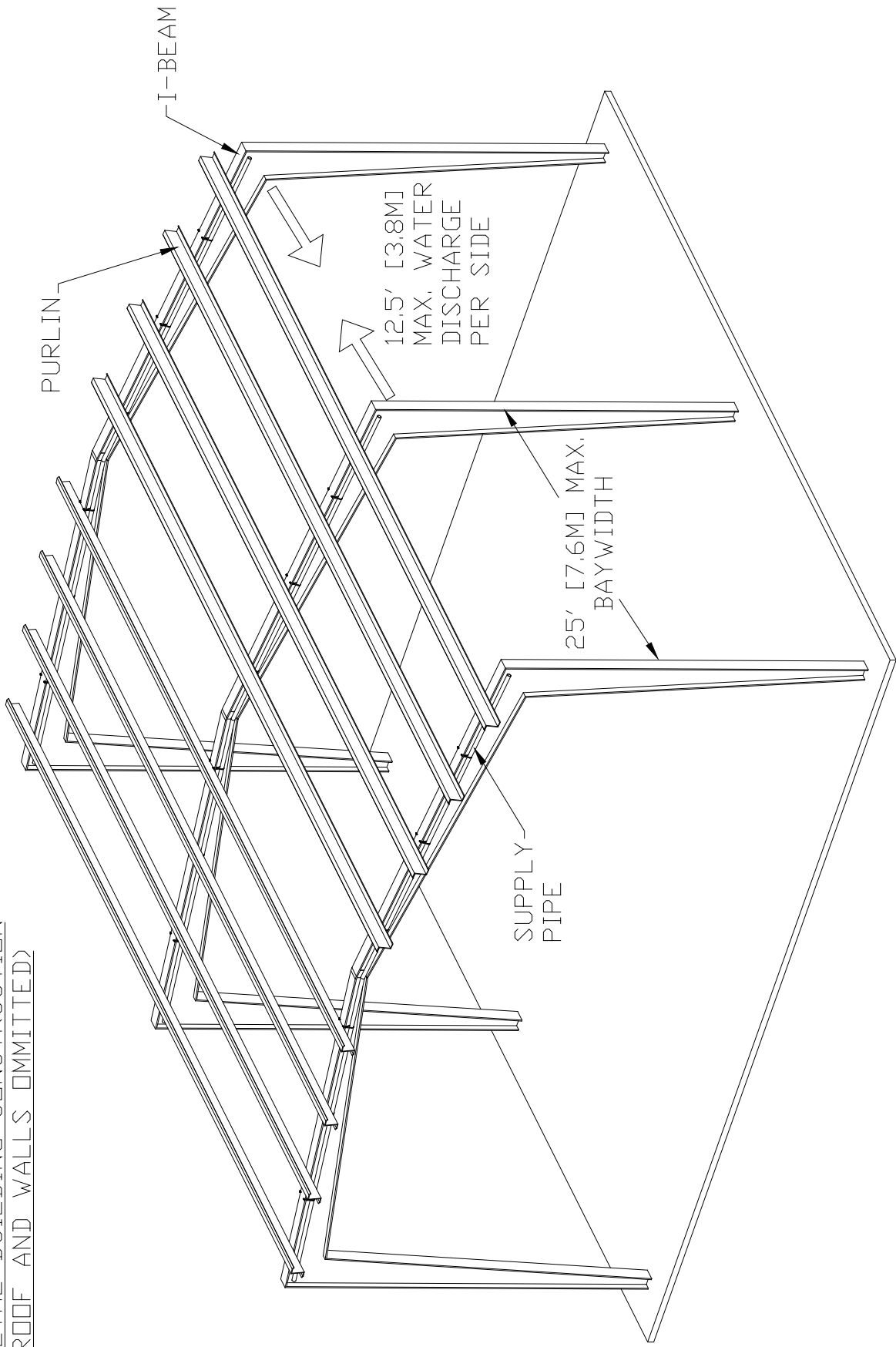
<sup>(1)</sup> Other colors and finishes are available on special order. Consult factory for details.

## Model H Sprinkler Wrench

Use Model H Wrench for Model MBEC-14 HSW Sprinkler removal and installation.



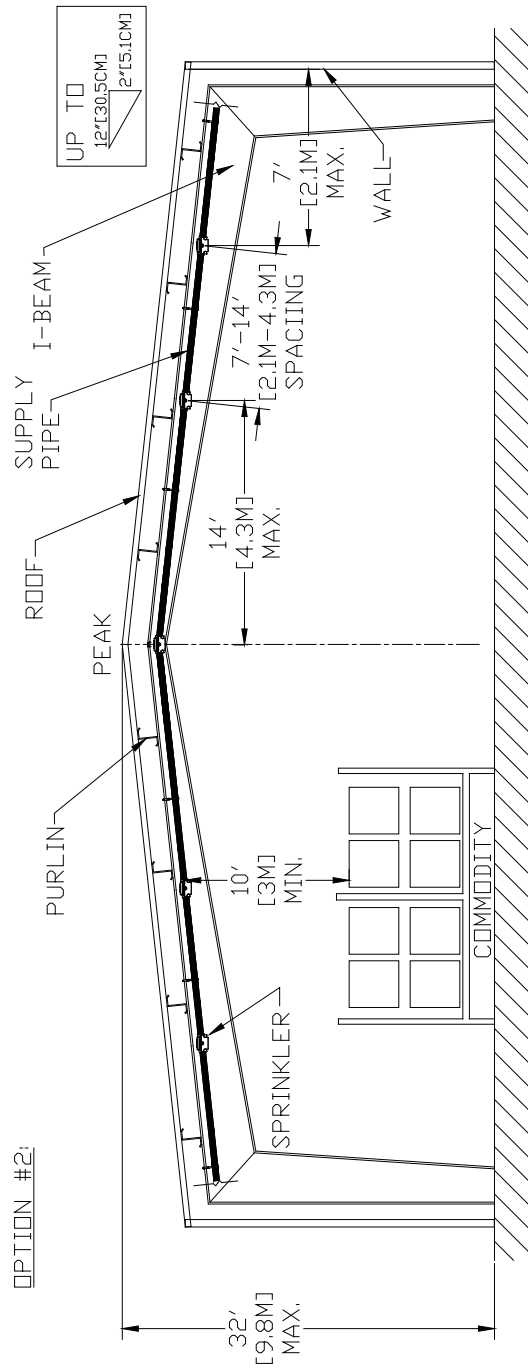
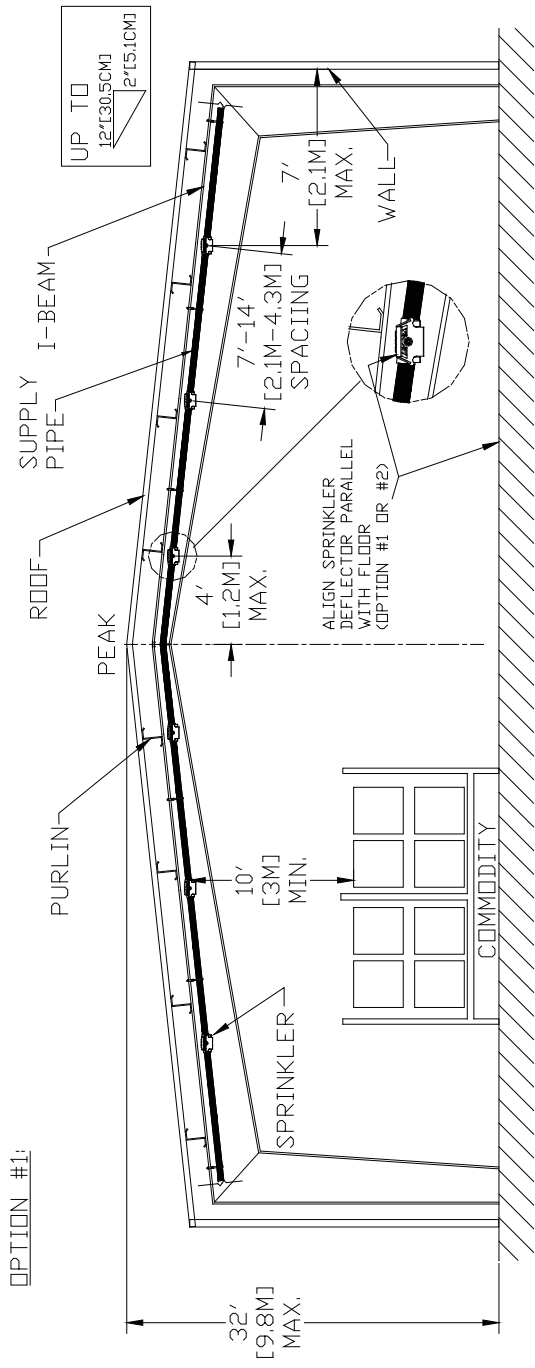
METAL BUILDING CONSTRUCTION  
(ROOF AND WALLS OMITTED)



169FG01

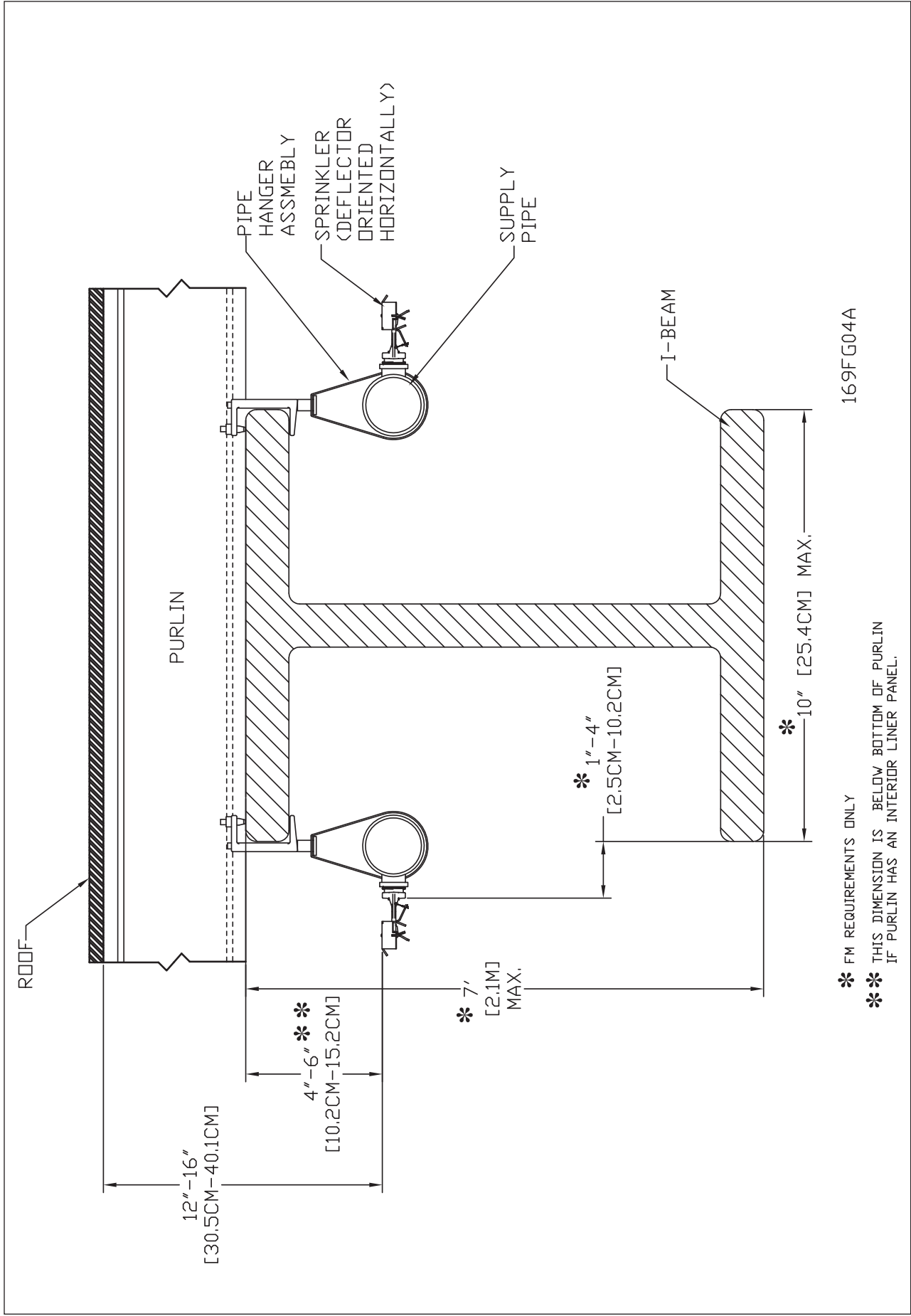
Figure 1

FACTORY MUTUAL SPRINKLER SPACING REQUIREMENTS:



169FG03B

Figure 2



169FG04A

\* FM REQUIREMENTS ONLY

\*\* THIS DIMENSION IS BELOW BOTTOM OF PURLIN IF PURLIN HAS AN INTERIOR LINER PANEL.

Figure 3  
(Suggested Installation)

# Reliable...For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical systems
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connection

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The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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Manufactured by

**Reliable**<sup>®</sup>

**The Reliable Automatic Sprinkler Co., Inc.**

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