



Model LB11 Horizontal Sidewall Storage Sprinkler

UL Listed, 175 psi (12 bar) rated

Features

- Specific application protection of Class I-IV and Group A plastic commodities
- Robust, fast response thermal element
- Intermediate temperature rating

Product Description

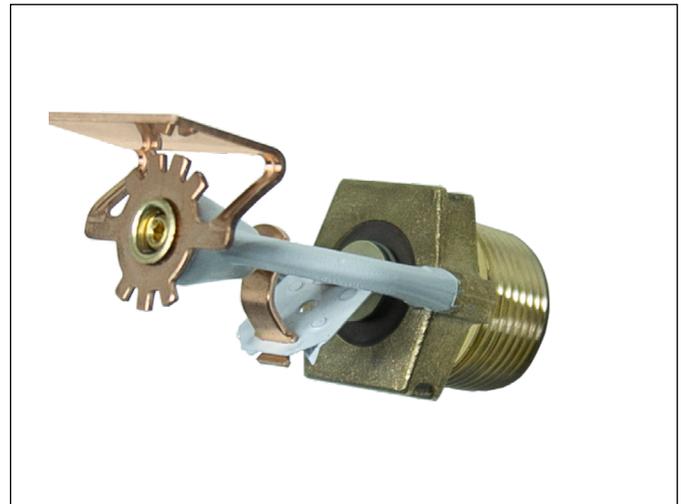
Reliable Model LB11 horizontal sidewall sprinklers are 11.2 (160 metric) K-factor specific application, fast-response storage sprinklers utilizing a levered fusible alloy solder link operating element with a 212°F (100°C) temperature rating. These sprinklers are intended for use as intermediate level (in-rack) storage sprinklers in accordance with this bulletin, NFPA 13 and other applicable standards.

The Model LB11 sprinkler is provided with 3/4-inch NPT or ISO 7-R3/4 threads, and is installed using the Reliable Model J1 wrench.

Application

The Model LB11 sprinkler is UL Listed only for use in accordance with the Specific Application criteria documented in Table B and Figures 2, 3, 4, and 5. The Specific Application criteria for the Model LB11 sprinkler is for the in-rack protection of Class I-IV commodities and Group A plastic commodities (cartoned, exposed, expanded, and unexpanded).

Important! Reliable fire sprinklers must be handled, stored, and installed in accordance with the guidelines in Caution Sheet 310 and this bulletin. Failure to follow these instructions may result in unintended operation or nonoperation of the fire protection system.



Model LB11 Horizontal Sidewall Storage Sprinkler

Model LB11 Specifications

Table A

Style	Sensitivity	K-Factor	Sprinkler Identification Number (SIN)
Horizontal Sidewall	Fast response	11.2 (160 metric)	R505

Technical Specifications

Style: Horizontal Sidewall
Connection: 3/4" NPT or ISO7-1R3/4 (BSPT) threads
Nominal K-Factor: 11.2 (160 metric)
Max. Working Pressure: 175 psi (12 bar)

Material Specifications

Thermal Sensor: Nickel Alloy Solder Link
Lever: Brass Alloy
Strut: Copper Alloy
Cap: Bronze Alloy
Sprinkler Frame: Brass Alloy
Sealing Assembly: Nickel Alloy with PTFE
Load Screw: Bronze Alloy
Deflector: Bronze Alloy
Kick Spring: Stainless Steel Alloy

Sprinkler Finishes

Brass

Sensitivity

Fast response

Temperature Rating

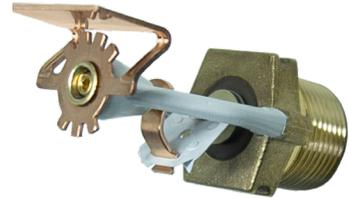
212°F (100°C)

Sprinkler Wrench

Model J1

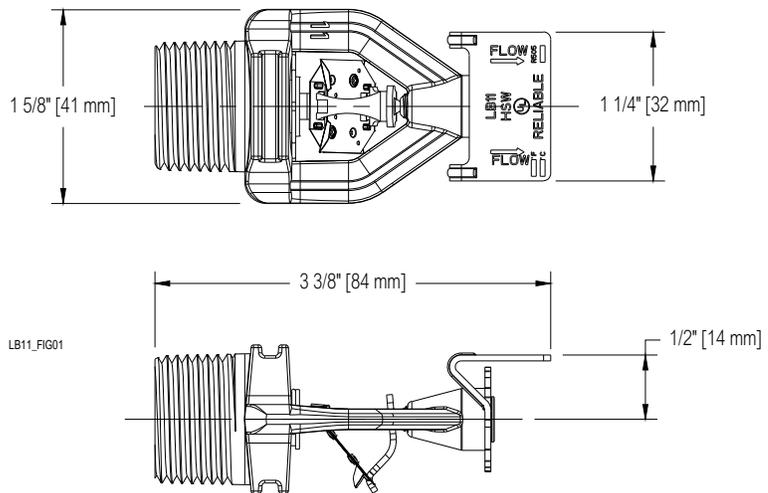
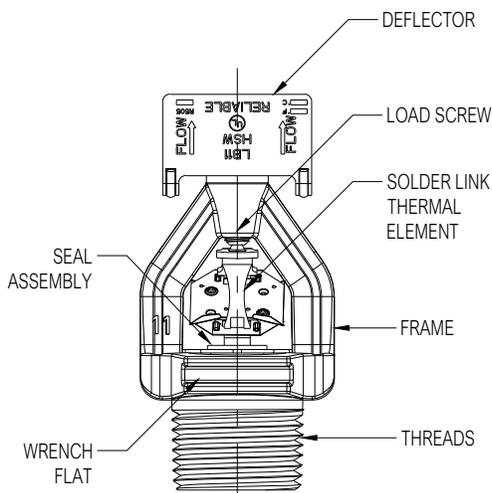
Listings and Approvals

UL



Model LB11 Sprinkler Components and Dimensions

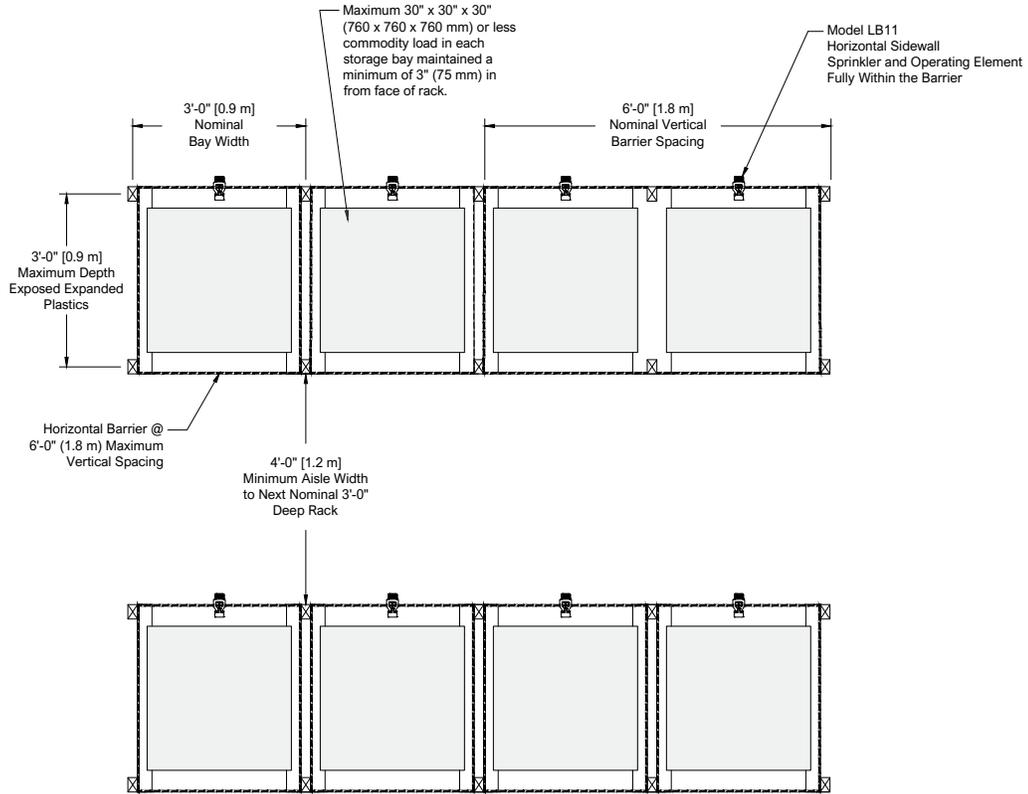
Figure 1



UL Specific Application Listing		
Commodity	Encapsulated and unencapsulated Class I - IV commodities, cartoned, exposed, expanded, and unexpanded Group A plastic commodities.	Encapsulated and unencapsulated Class I - IV commodities, and cartoned unexpanded Group A plastic commodities.
Model	LB11	
Sprinkler Identification Number (SIN)	R505	
Response Type	Fast	
Orientation	Horizontal Sidewall	
Nominal K-Factor, gpm/psi ^{1/2} (L/min/bar ^{1/2})	11.2 (160)	
Temperature Rating °F (°C)	212 (100)	
System Type	Wet, Single Interlock Preaction	
Max. Sprinkler Spacing, ft (m) Lateral/Side-to-Side	4 (1.2)	
Min. Deflector to Top of Storage Distance, in (mm)	3 (75)	
Obstruction Criteria	Per NFPA 13	
Max. Ceiling Height, ft (m)	Unlimited	
Max. Storage Height, ft (m)	Unlimited	
Storage Arrangement	Storage units consisting of combustible or non-combustible crates, totes, bins or boxes on a frame or rack in a single row configuration, with both horizontal and vertical barriers. Storage units maintained 3 in. (75mm) inboard of the face of the rack and barrier edges. See Figures 2, 3, 4, and 5 for storage and protection layout. Where open top containers are being protected the containers shall be provided with appropriate drainage.	
Storage Arrangement-Nominal Commodity Size	Each storage bay nominally 3 ft wide by 3 ft tall (900 mm wide by 900 mm tall) and not exceeding 3 ft (0.9 m) deep.	Each storage bay nominally 3 ft wide by 3 ft tall (900 mm wide by 900 mm tall) and not exceeding 6 ft (1.8 m) deep.
Storage Arrangement-Horizontal and Vertical Barrier Spacing	Vertical and horizontal barriers spaced 6 ft (1.8 m) apart.	
Horizontal and Vertical Barrier Construction	Horizontal and vertical barriers must be constructed of min. 3/8 in. (10 mm) plywood or particleboard, 22 gauge (0.7 mm) sheet metal, or equivalent. Vertical barriers must extend from a max. of 4 in. (100 mm) above the floor to the max. storage height. Horizontal barriers must extend from aisle to aisle. Horizontal barriers may have gaps of up to 2 in. (50 mm) at rack uprights only.	
Min. Aisle Width, ft (m)	4 (1.2)	
Flue Spaces	NA	
Sprinkler System Design	Hydraulically calculate 4 sprinklers in the most remote area consisting of 2 sprinklers on 2 lines. Hydraulically calculate sprinklers at 60 gpm (225 L/min) each; not balanced with the ceiling-level sprinkler system; the ceiling-level sprinkler system must be designed in accordance with NFPA 13 to protect hazards and areas of the space not protected by the in-rack sprinkler system	
Hose Stream Allowance, gpm (L/min)	250 (950)	
Water Supply Duration, minutes	60	
Installation Requirements Relative to Horizontal and Vertical Barriers	Sprinklers immediately below horizontal barriers shall be not more than 3 in. (75mm) below the barrier. Four sprinklers shall be installed within each barriered area. All four sprinklers shall have deflectors and operating element fully within the barrier. Maximum distance 20 in. (500 mm) from each vertical barrier to nearest sprinkler.	Sprinklers immediately below horizontal barriers shall be not more than 3 in. (75mm) below the barrier. Two sprinklers shall be installed within each barriered area. Both sprinklers shall have deflectors at least even with the edge of the barrier or closer to the commodity. Maximum distance 20 in. (500 mm) from each vertical barrier to nearest sprinkler.

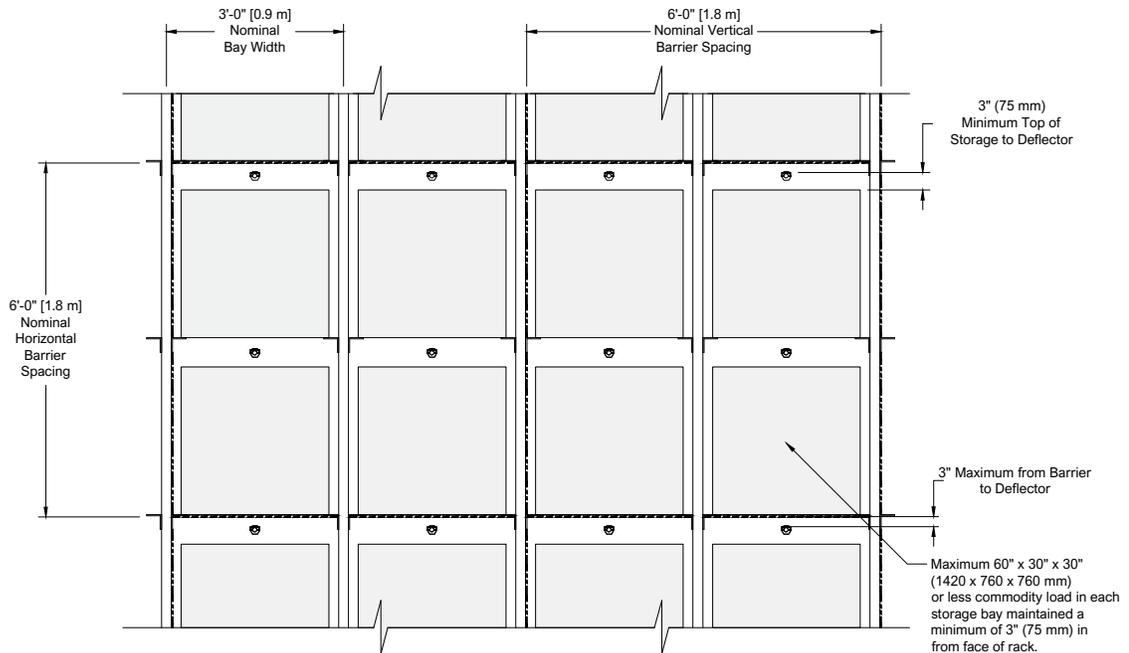
Rack Layouts - Encapsulated and Unencapsulated Class I - IV Commodities, Cartoned, Exposed, Expanded, and Unexpanded Group A Plastic Commodities -Plan View

Figure 2



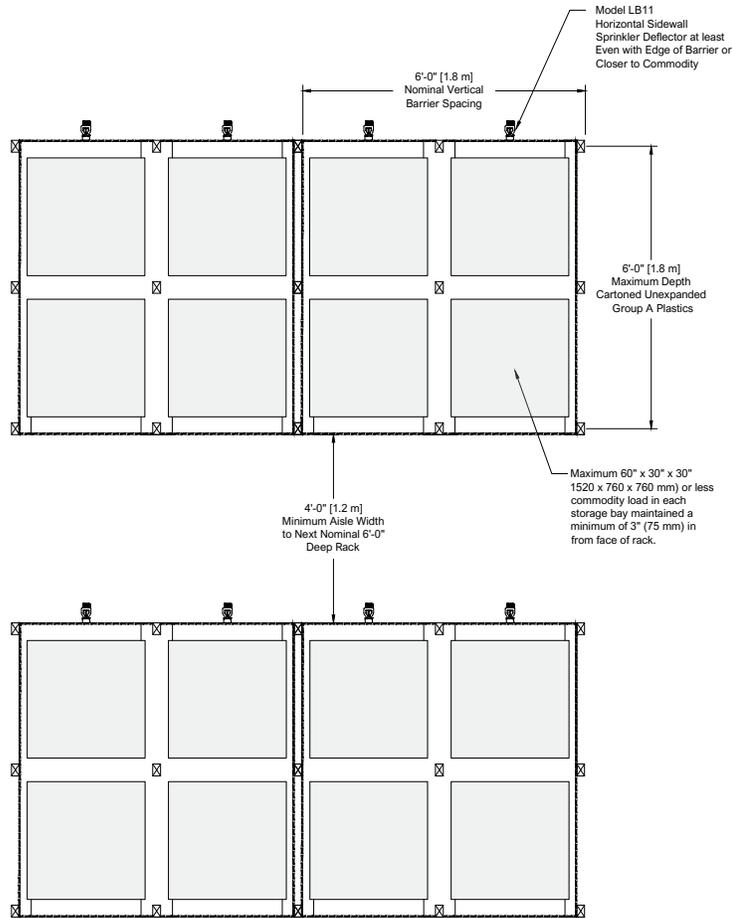
Rack Layouts - Encapsulated and Unencapsulated Class I - IV Commodities, Cartoned, Exposed, Expanded, and Unexpanded Group A Plastic Commodities- Elevation View

Figure 3



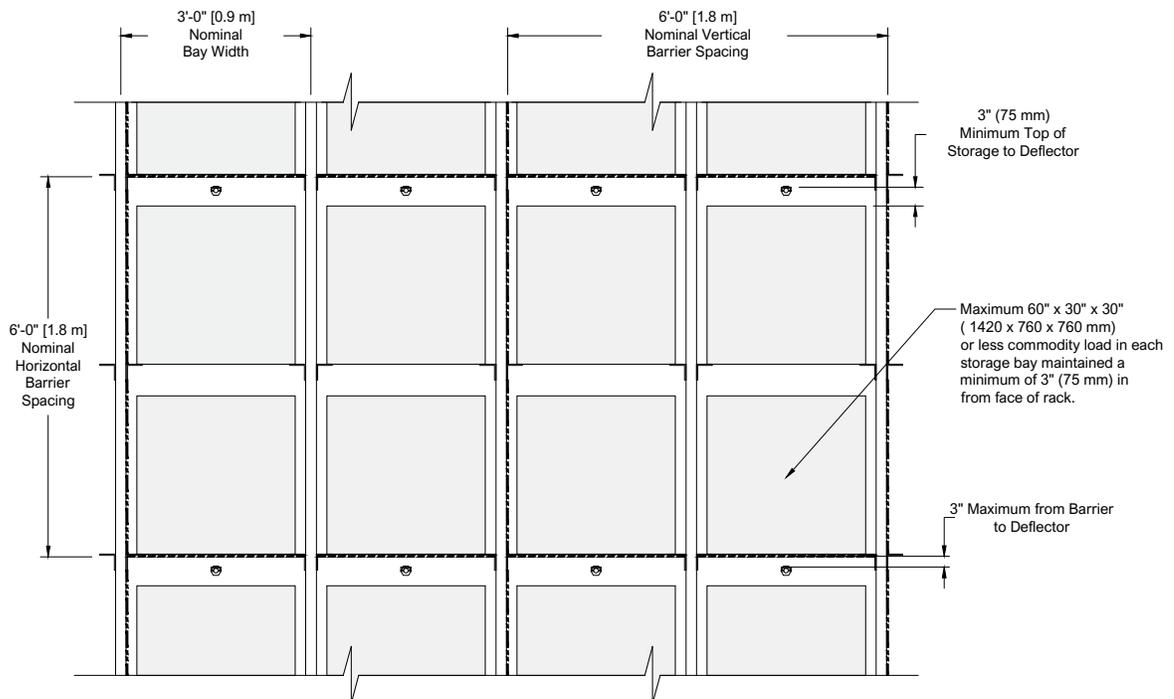
**Rack Layout-Encapsulated and Unencapsulated Class I - IV Commodities, and
Cartoned Unexpanded Group A Plastic Commodities - Plan View**

Figure 4



**Rack Layout-Encapsulated and Unencapsulated Class I - IV Commodities, and
Cartoned Unexpanded Group A Plastic Commodities - Elevation View**

Figure 5



Installation

The Reliable Model LB11 sprinkler must be installed according to NFPA Standards or other applicable standards as well as the Authority Having Jurisdiction.

Use only the Model J1 sprinkler wrench for sprinkler installation (Figure 6). Any other type of wrench may damage the sprinkler. Damaged sprinklers must be replaced immediately.

Note: Sprinklers should be tightened between 14-20 lb-ft (19-27.1 N·m) torque after applying an appropriate thread sealant to the sprinkler threads. Exceeding maximum recommended torque may cause leakage or impairment of the sprinklers.

Maintenance

Reliable Model LB11 sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers.

Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify: Model LB11 Horizontal Sidewall Sprinkler

- Sprinkler Wrench: Model J1

Wrench

Figure 6

