



## **PREVENTION MANUAL**

### **FIRE EXTINGUISHING SYSTEMS**

#### **405.7 FIRE PROTECTION OF ROOF DRAINAGE CRICKETS**

**EFFECTIVE: NOVEMBER 2008**

## **SCOPE**

Fire sprinkler protection design options for roof drainage crickets.

## **PURPOSE**

The purpose of this standard is to provide an acceptable alternative to fire sprinkler installation inside combustible concealed spaces created by wood-framed roof drainage crickets..

## **DEFINITIONS**

For purposes of this standard, a cricket is defined as “a roof drainage element partitioned off from the attic or adjacent mansard space, containing no electrical, plumbing, or mechanical equipment (i.e. empty space).

## **BACKGROUND**

In response to fire sprinkler and building contractor requests for approved alternate methods to protect these spaces, an additional protection option using fire stopping not provided in National Fire Protection Association (NFPA) 13 for these spaces may be used in lieu of installing fire sprinklers in crickets that are less than or equal to four feet in height. The intent of the four-foot restriction is to limit the size of concealed spaces between fire stops.

This standard does not apply to mansards; concealed spaces within the building such as composite wood joist cavities, exterior architectural features, and similar spaces (see policy 405.19). These elements require protection in accordance with NFPA 13 (fire sprinklers, filled with insulation, use of minimum 3,000 square-foot design area, etc., or other exceptions as allowed.

Because of their location on top of the roof, drainage crickets are not vulnerable to exposure fires. They also lack sources of interior ignition and fire sprinkler protection is provided within the building directly under the crickets. The

requirements listed below provide an acceptable, approved alternate means to limit fire spread in these areas should an ignition occur. Installation of fire sprinklers in these spaces is often impractical due to limited working space and lack of access after installation.

## REQUIREMENTS

In addition to the listed exceptions in NFPA 13 to providing fire sprinkler coverage in combustible construction cricket spaces (i.e., filling with insulation or use of fire retardant treated lumber and roof sheathing), fire stopping of the space may be provided under the following restrictions:

1. Crickets shall not exceed 4 feet in height (measured vertically from the roof surface to the highest point of the cricket interior at the parapet).
2. Fire stop material shall consist of ½ inch sheetrock minimum.
3. Fire stop intervals shall not exceed 10 feet.

### **Note:**

Where a continuous cricket has varying heights that fall above and below the 4 foot maximum height threshold, the higher areas shall have fire sprinkler protection (insulation of this pipe is highly recommended) and may be cut off from the lower height cricket spaces with approved fire stops. Use of this option shall be noted on the fire sprinkler plan submittal.

Installation of additional fire stops shall be shown on the roof framing detail on approved building plans for use by the Planning and Development Department, City Building Inspector during the framing inspection. If use of fire stopping in lieu of fire sprinkler protection was not coordinated prior to building plan submittal, the general contractor shall provide an addendum to the Development Department, as needed, prior to the roof framing inspection.