



SIGNIFICANT CHANGES TO THE

INTERNATIONAL FIRE CODE[®]

2012 EDITION

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2012 Significant Changes to the International Fire Code, 2012 Edition,
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3208.3.1

Flue Space Protection



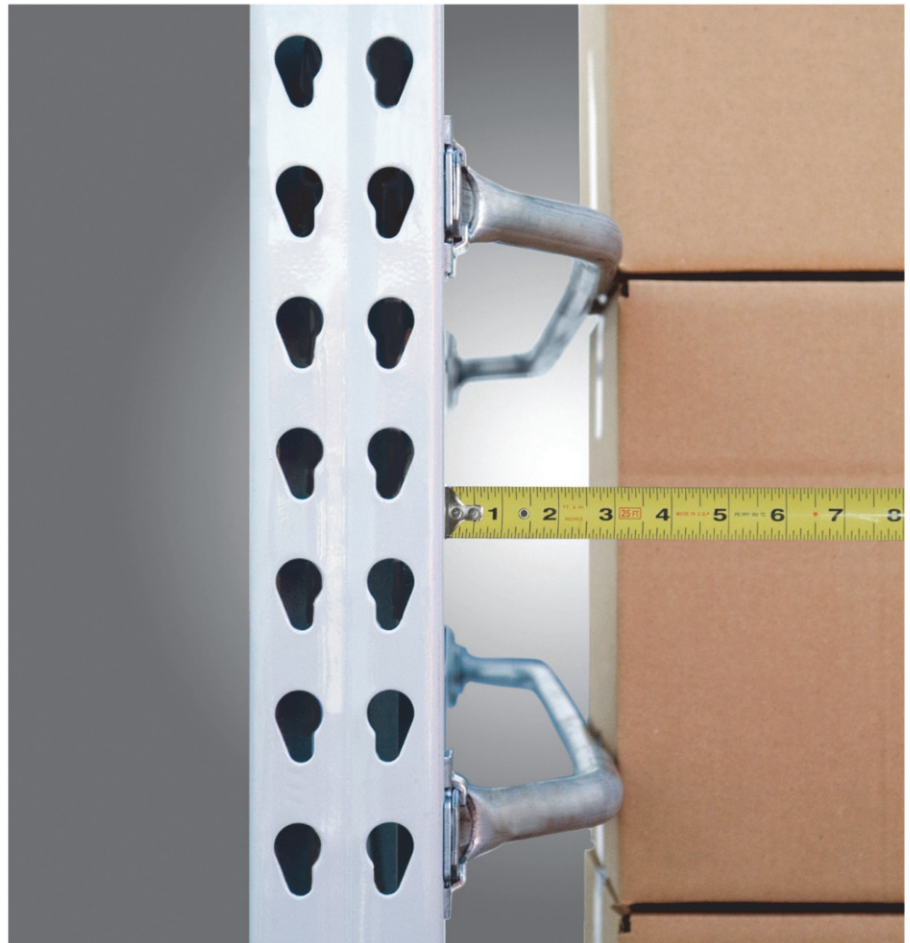
Mechanical guard for transverse flue spaces (Courtesy of DACS, Inc., Portsmouth, VA)

CHANGE TYPE: New

CHANGE SUMMARY: The installation of approved devices designed to protect flue spaces from obstructions can be prescribed by the fire code official.

2012 CODE: 3208.3.1 Flue Space Protection. Where required by the fire code official, flue spaces required by Table 3208.3, in single, double or multiple row rack storage installations shall be equipped with approved devices to protect the required flue spaces. Such devices shall not be removed or modified.

CHANGE SIGNIFICANCE: In high-piled combustible storage using storage racks, flue spaces are an important component of the fire protection design. NFPA 13 categorizes flue spaces as either being longitudinal or transverse. Longitudinal flue spaces extend the length of the storage rack, whereas transverse flue spaces extend the depth of the rack. Flue spaces permit water discharged from a ceiling sprinkler to penetrate into the rack so that it can begin to either control or suppress the fire, depending on the automatic sprinkler system design. When the sprinkler system is designed



Mechanical transverse flue space guard maintaining minimum 3-inch clearance in accordance with IFC Table 3208.3. (Courtesy of DACS, Inc., Portsmouth, VA)

to control the fire, flue spaces allow the additional sprinkler discharge to pre-wet the commodities. Pre-wetting slows vertical and horizontal fire spread within the rack, which limits the number of sprinklers that may operate.

Flue spaces in storage racks containing Class I through IV commodities over 12 feet in height, high-hazard commodities over 6 feet in height, or bin box storage over 5 feet in height must comply with all of the provisions in Section 3208. Section 3208.3 requires longitudinal and transverse spaces to be maintained in accordance with Table 3208.3. Its requirements are dependent on the high-piled combustible storage area being unprotected or protected by an automatic sprinkler system, the height of rack storage, the type of storage rack system, and whether partial or complete in-rack automatic sprinkler protection is provided.

Section 3208.3.1 is a new provision authorizing the fire code official to require the installation of approved devices that maintain required flue spaces. Devices are available in the marketplace that are designed to maintain transverse and longitudinal flue spaces. However, product selection should consider if the rack tiers are designed for mechanized material handling equipment, such as forklifts, versus racks where hand picking is the preferred method, such as in archive storage. Devices available for hand-picking operations may lack the mechanical strength to resist the impact loads that can arise during movements of palletized unit loads.

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