



Tuesday e-Tech Alert
March 28, 2006

NFPA 13 Big Box Retail Criteria – Who’s Who?

Specialized criteria was introduced into Section 12.7.2 of the 2002 edition of NFPA 13 allowing the use of K-25.2 extended coverage sprinklers for the protection of specific retail arrangements. The NFPA Sprinkler Discharge Criteria Committee allowed this new material based on a series of full-scale fire tests sponsored by a coalition of “big box” retailers. The criteria within the six subsections relates to the specific storage arrangements favored by the sponsors. Which sponsors use which arrangements? A look back at the test report allows connections between the scenarios described and the companies interested in that arrangement. Caution should be used in the application since there is no guarantee that these retailers will continue to use the storage and display techniques planned at the time of the test program.

With regard to sprinkler protection, the only changes expected for these sections in the 2007 edition of NFPA 13 are editorial changes related to the use of the terms shelves and racks, section renumbering, and clarification that the criteria applies to the use of newer pendent extended coverage K-25.2 sprinklers as well as the original upright sprinklers.

12.7.2.1 – Home Depot, HomeBase, and Sam’s Club

- “single and double-row slatted shelf racks”
- maximum storage height of 22 ft
- maximum roof height of 30 ft in the protected area
- shelves slatted using a 2-in. thick by maximum 6-in. wide slat held in place by spacers that maintain a minimum 2-in. opening between each slat
- no slatted shelf levels in the rack above nominal 12-ft level
- wire mesh (greater than 50 percent opening) permitted for shelf levels above 12 ft
- solid plywood shelving (3 ft 6 in. x 8 ft 3 in.) permitted over the wood slats at the 5 –ft level
- perforated metal (open area of 40 percent or more) permitted over the slatted shelves up to the 60-in. level
- no other solid plywood or similar materials other than as stated above to be placed on the slatted shelves
- solid veneered particleboard displays permitted provided that all flues are maintained and only one display is installed per bay
- minimum transverse flues of 3 in. every 10 ft horizontally
- minimum longitudinal flues of 6 in. for double-row racks
- minimum aisle widths of 8 ft
- storage in aisles permitted provided aisle storage not more than 4 ft high and clear aisle of 4 ft maintained

12.7.2.2 – Wal-Mart

- “solid steel cantilever style retail shelving racks (gondola racks)” not exceeding 48 in. in aggregate depth or 78 in. in height
- maximum storage height of 12 ft
- maximum ceiling height of 22 ft in the protected area

- minimum aisles of 5 ft maintained
- rack lengths not more than 70 ft

12.7.2.3 – Best Buy

- “solid steel cantilever style retail shelving racks (gondola racks)” not exceeding 60 in. in aggregate depth or 8 ft in height
- maximum storage height of 15 ft
- maximum ceiling height of 25 ft in the protected area
- perforated deck at 8-ft level permitted with storage placed on top with or without flue spaces to height of 15 ft from floor
- minimum aisles of 6 ft maintained
- rack lengths not more than 70 ft

12.7.2.4 – Target Stock Room

- “shelving structure” not exceeding 48-in. aggregate depth or 12 ft in height
- maximum storage height of 15 ft
- maximum ceiling height of 20 ft 6 in.
- shelving made of solid particleboard
- minimum aisles of 3 ft maintained
- rack lengths not more than 70 ft

12.7.2.5 – Office Depot

- “steel retail sales floor shelving racks” up to 66 in. in aggregate width with a 6-in. longitudinal flue between two 30-in. deep shelves
- maximum storage height of 14 ft
- maximum ceiling height of 20 ft
- solid metal shelving permitted up to the 72-in. level and wire shelving permitted up to the 10-ft level
- minimum longitudinal flue space of 6 in. maintained
- minimum aisles of 5 ft maintained
- rack lengths not more than 70 ft

12.7.2.6 – Bed, Bath & Beyond

- “solid shelved steel rack structure” not more than 51 in. aggregate depth or 148 in. in height
- maximum storage height of 16 ft 6 in.
- maximum ceiling height of 22 ft
- intersection of perpendicular steel racks permissible if no storage within void space at junction of perpendicular shelf units

There are a few disconnects between the test program conclusions and the NFPA 13 criteria. For example, the criteria in 12.7.2.6 for Bed, Bath & Beyond was accompanied by a conclusion that a minimum aisle width of 4 ft be maintained between the shelf unit and other displays. Also, the tests representing Bed Bath & Beyond were conducted using 24-inch deep solid veneered particle board shelving suspended on wire uprights at 24 in., 48 in., 72 in., 96 in., and 120 in., with a wire shelf at 148 in., but the final criteria only references solid steel shelving.

Upcoming NFSA Technical Tuesday Online Seminar

Topic: Dry Sprinklers

Instructor: Russell P. Fleming, P.E., NFSA Executive Vice President

Date: April 4, 2006

The dry sprinkler has been one of the most challenging from a performance standpoint, due to special environmental and mechanical demands. Rules of NFPA 13 relating to the use of dry sprinklers are reviewed, along with guidance related to heat transfer concerns that influence the minimum length of dry sprinklers extending from wet systems into areas subject to freezing. The NFPA 25 sample testing requirements are also addressed.

Information and registration for this seminar is available at www.nfsa.org.

2006 Basic and Advanced Technician Training, NICET Inspection Seminars

The NFSA is the only organization that offers two-week basic technician training seminars, 3-day advanced technician training seminars, and NICET-oriented inspection and testing review seminars at various locations across the United States. The 2006 schedule has been set for the following dates and locations:

2-week Basic Technician Training

August 14-25, 2006 – Seattle, WA

October 16-27, 2006 – Philadelphia, PA

3-day Advanced Technician Training

April 18-20, 2006 – Chicago, IL

October 3-5, 2006 – Minneapolis, MN

3-day NICET Inspection and Testing Certification Review

July 11-13, 2006 - Edwards, CO

November 14-16, 2006 - Anchorage, AK

For more information, contact Nicole Sprague using Sprague@nfsa.org

NFSA In-Class Training Opportunities

NFSA also offers in-class training on a variety of subjects at locations across the country. Here are some upcoming seminars:

April 4	McFarland, WI	Introduction to Sprinkler Systems (1/2 day)
April 5	McFarland, WI	Inspection, Testing & Maintenance
April 6	McFarland, WI	Pumps for Fire Protection
April 18-19	Woodland, CA	Plan Review & Inspection SOLD OUT!!
April 20	Woodland, CA	Sprinklers for Dwellings
May 2	Cockeysville, MD	Inspection, Testing & Maintenance
May 3	Cockeysville, MD	Sprinkler Protection for Rack Storage
May 4	Cockeysville, MD	Standpipe Systems (1/2 day)
May 4	Cockeysville, MD	Underground Piping (1/2 day)

May 9	Colorado Springs, CO	Pumps for Fire Protection
May 10	Colorado Springs, CO	Sprinkler Protection for General Storage
May 11	Colorado Springs, CO	Sprinkler Protection for Rack Storage
May 9-10	Nags Head, NC	Plan Review & Inspection
May 11	Nags Head, NC	Hydraulics for Fire Protection
May 16-17	Richmond, CA	Plan Review & Inspection
May 18	Richmond, CA	Underground Piping (1/2 day)
May 18	Richmond, CA	Seismic Protection (½ day)
May 23-24	Freeland, MI	Plan Review & Inspection
May 25	Freeland, MI	Residential: Homes to High-Rise
May 23-24	Murray, UT	Plan Review & Inspection
May 25	Murray, UT	Hydraulics for Fire Protection
May 23	Spokane, WA	Sprinkler Protection for General Storage
May 24	Spokane, WA	Sprinkler Protection for Rack Storage
May 25	Spokane, WA	Hydraulics for Fire Protection

For more information or to register, visit www.nfsa.org or call 845-878-4207.

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