

# **BULLETIN**

## **Fire Protection System Requirements (5/24/2010)**

**Simon Property Group requires all tenants to use  
SimplexGrinnell for all sprinkler work.**

**Tenant or Tenant's General Contractor is required to contract with (and pay for) all tenant sprinkler work directly with SimplexGrinnell. The central contact number for SimplexGrinnell is 800-299-4377, Option 4 is designated to Simon.**

**SimplexGrinnell is required to comply with Landlord's Fire Protection Systems requirements (below).**

### **SECTION 15400 -TENANT FIRE PROTECTION SYSTEMS**

#### **SECTION**

#### **DESCRIPTION**

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### **SECTION 15400 - FIRE PROTECTION SYSTEMS**

#### **15401 - GENERAL REQUIREMENTS**

##### **A GENERAL REQUIREMENTS**

1. The fire protection system shall be designed, fabricated, and installed by a Licensed or NICET Fire Protection System Contractor. The engineer shall provide specifications and diagrams to allow letting of a contract for the fire

protection portion of the project. The entire system design, material use and installation shall comply with FM Global engineering guidelines as a minimum.

2. Regional plan submissions for **Simon Tenant Improvement Projects** shall be made to the following Global Risk Consultants (GRC) offices:

States: CT, DE,MA,MD,ME,NH,NJ,NY,PA,RI,VT  
Attn: Peter Rullo / Simon Tenant Plan Review  
Global Risk Consultants  
100 Walnut Avenue, 5<sup>th</sup> Floor  
Clark, NJ 07066  
(732) 827-4454  
[peter.rullo@globalriskconsultants.com](mailto:peter.rullo@globalriskconsultants.com)

States:AR,CO,KS,LA,MO,NE,NM,OK,TX,Puerto Rico,IA,IL,IN,MI,MN,ND,OH,SD,WI,Canada  
Attn: Michelle Czarnecki / Simon Tenant Plan Review  
Global Risk Consultants  
6122 King's Way  
Saugatuck, MI 49453  
(269) 857-8198  
[michelle.czarnecki@globalriskconsultants.com](mailto:michelle.czarnecki@globalriskconsultants.com)

States: AL,DC,FL,GA,KY,MS,NC,OR, SC, TN,VA  
Attn: Lori Meyer / Simon Tenant Plan Review  
Global Risk Consultants  
1003 Regency Manor Drive  
Ballwin, MO 63011  
(636) 891-9052  
[lori.Meyer@globalriskconsultants.com](mailto:lori.Meyer@globalriskconsultants.com)

States: AK,AZ,CA,HI,ID,MT,NV,UT,WA,WY  
Attn: John Boureston / Simon Tenant Plan Review  
Global Risk Consultants  
56 Companion Way  
Pacific Grove, CA 93950  
(831)324-4401  
[john.boureston@globalriskconsultants.com](mailto:john.boureston@globalriskconsultants.com)

3. The sprinkler system shall be a wet pipe system serving all areas of the retail space. Portions of the space that are unheated or exposed to freezing temperatures shall be provided with an automatic dry pipe type system complying with FM Global engineering guidelines and NFPA-13.

4. Piping shall be fastened to the structural system of the building and concealed in areas having a suspended ceiling. Install and/or upgrade seismic sway bracing on existing systems where required for earthquake zones per local codes and FM Global engineering guidelines. Seismic bracing for fire systems must be designed and installed following FM Global Data Sheet 2-0.
5. Drain piping is required at low points of piping systems. Drain down locations shall be extended to locations that are accessible.

**C. FIRE PROTECTION FOR EXISTING TENANT SPRINKLER SYSTEMS**

1. Whenever an existing sprinkler system is being renovated, the integrity and reliability of the existing system must be maintained. Original sprinkler shop drawings shall be acquired through the Mall Manager/Project Manager. If these drawings are not available, field verification will be required. If the sprinkler contractor discovers a discrepancy from the original sprinkler shop drawings and actual field conditions, he shall note the discrepancy on his renovated shop drawings.
2. The hydraulic design criteria as a minimum shall match the hydraulic criteria originally intended for the facility. At no time shall the hydraulic criteria be less than Ordinary Hazard Group 2 occupancy as defined by NFPA-13. The latest site water flow data to be used for hydraulic calculations shall be obtained from Global Risk Consultants or Mall Management.
3. Existing pipe schedule sprinkler systems are required to be calculated at the FM Global density of 0.15 gpm per sq. ft. over the most hydraulically remote 2500 sq. ft.
4. FM Approved materials for Ordinary Hazard Group 2 occupancy must be used, including but not limited to sprinkler piping, hangers, sprinkler heads, etc. Seismic bracing may be UL Listed.
5. Sprinkler head spacing requirements for Ordinary Hazard Group 2 occupancy shall be in strict compliance with the sprinkler head listings and approval.
6. NFPA-13 and FM Global Data Sheets 2-0 latest editions shall be the minimum design requirements along with any state and local requirements.
7. A minimum of (4) sets of shop drawings along with hydraulic calculations shall be submitted to Global Risk Consultants for approval. **Hydraulic calculations shall be submitted for all tenant sprinkler system work regardless of the scope of work involved.** Plans shall be submitted to the local authorities having jurisdiction for approval. Installation/renovation of sprinkler system shall not begin until all approvals have been received.
8. 4 sets of material brochures shall also be submitted to GRC for review. Brochures shall include new sprinklers heads, pipe, flexible drops, valves etc. Plans shall indicate the type of piping being utilized with the gauge indicated.

9. Occupancy detail must be submitted and shall include, but not be limited to, stored material classification per NFPA 13, storage height, storage arrangement (shelves, racks, mobile storage units), processes present, etc.

## **15402 - FIRE PROTECTION DESIGN CRITERIA**

### **A. GENERAL**

1. Sprinkler head arrangement shall be in conjunction with architectural finishes and provide allowance for partitions, columns, light fixtures, air diffusers, etc.
2. Sprinkler Shop Drawings shall not be considered final until all requirements of GRC, SPG, and all Local and State Building Codes having authority have been met, and the approval of each has been tendered.
3. Minimum and maximum sprinkler head operating pressures shall be consistent with their UL Listing/FM Approval.
4. Design calculations for inside pipe should use C=100 for dry and pre-action systems, and C=120 for wet or deluge systems.
5. Minimum and maximum sprinkler spacing shall be in accordance with their UL Listing/FM Approval.
6. FM Global required minimum density for Sales/Retail/Storage spaces will be 0.15 gpm per sq. ft. over the most hydraulically remote 2500 sq. ft., using ½” or 17/32” orifice, 165 degree F. rated heads. If the local AHJ requires an NFPA-13 design density, 0.18 gpm per sq.ft. over the most hydraulically remote 2500 sq. ft. shall be used unless specific approval is given otherwise for special occupancies. The most remote area should have the dimensions parallel to the branch line of at least 1.4 times the square-root of the area per FM Global Data Sheet 2-0. Quick-response (QR) sprinklers do not qualify for a design area reduction per FM Global Data Sheet 3-26. The density design should conform to the most stringent of either FM Global Data Sheet 3-26 or NFPA-13, Ordinary Group 2 occupancy.
7. Stockroom/storage areas over 200 sq. ft. must be protected for the maximum storage height and configuration (bin-box/gondola/shelf or rack) per FM Global Data Sheet 8-9. When storage exceeds 10 feet in height, the Regional GRC plan reviewer shall be consulted for appropriate design densities. Classify the commodities in tenant spaces as “Cartoned Expanded & Unexpanded Plastics” for sprinkler design purposes. Sprinkler head spacing shall not exceed 100 sq. ft. in storage areas unless approved for extended coverage (i.e., EC-25).

8. Big Box Stores require unique sprinkler system designs to meet the requirements of FM Global Data Sheet 8-9 and NFPA-13, Chapter 12. Contact Bill Cary with Global Risk Consultants for specific design requirements based upon the proposed display / storage configuration and roof deck height.

**B. Tenant Display Fixtures, Rack/Shelving/Storage Unit Requirements**

1. Tenant display fixtures in the retail space and rack/shelving/storage units in the stockroom must be designed to provide adequate clearance for the automatic (fire) sprinkler system. No displays or storage should exceed 12 ft. and ceilings must be installed to provide at least 18 in. of clearance between the top of storage and sprinkler deflectors.
2. Tenant displays or storage higher than 12 ft. are classified as “high piled storage”, which requires high hazard automatic (fire) sprinkler protection designed per FM Global Loss Prevention Data Sheet 8-9 and NFPA-13-Chapter 12 for the storage of “Group A Plastic” commodities. High piled storage also requires at least 36 in. of clearance between the top of storage and sprinkler deflectors.
3. Tenant mobile (compact) storage systems should be constructed of wire mesh shelves. However, if constructed with solid shelves (steel, wood), the units must be equipped with 3 in. spacers to provide flue spaces at 4 ft. to 5 ft. maximum intervals.
4. Tenants Architect/General Contractor must provide the following information to the Sprinkler Contractor regarding stock/storage area:
  - Type of storage units (Details of storage unit)
  - Type of shelving (wire mesh, solid, steel, wood, etc.)
  - Type of commodities (plastics, aerosol’s, clothing, etc.)
  - Elevation of highest shelf
5. **Tenant shall be solely responsible for the display, installation and use of any display or storage system within the Premises in compliance with applicable fire codes and the requirements of any insurance rating bureaus. If anything done, omitted to be done or suffered to be done by Tenant in, upon or about the Premises in regard to such display or storage systems shall result in a fire code violation and Tenant fails to take corrective action and/or pay the**

**associated fine, regardless of whether assessed against Tenant or Landlord, within the prescribed time period, then Tenant shall be liable for all costs and expenses resulting from such violation and Landlord shall have the right to correct any such condition at Tenant's expense.**

## **15403 - SPRINKLER EQUIPMENT**

### **A. GENERAL**

1. Only sprinkler equipment bearing the FM Global Approval mark shall be installed. Provide equipment as manufactured by: Automatic Sprinkler, Tyco, Reliable, Viking Gem or equal.

### **B. SPRINKLER HEADS**

1. Sprinkler heads shall be glass bulb type of a configuration as required for each particular location. All heads on concealed piping shall be chrome plated with chrome plated escutcheon plates. Operating temperature shall be as required for the type of occupancy.
2. Sprinkler heads in janitor's closets, mechanical rooms, electrical rooms and those mounted less than 8 feet above finished floor shall be protected with a wire cage type guard.

### **C. SPRINKLER PIPING**

1. Aboveground piping shall be FM Approved Schedule 10 or 40 black steel. Schedule 10 piping shall be joined with FM Approved roll-grooved fittings, not threaded or plain-end. Fittings shall be cast iron or steel approved for a minimum of 175 psi working pressure. Dry systems shall have FM Approved galvanized piping and fittings for corrosion resistance.
2. Threadable "lightwall" (XL) and "thinwall" pipe may not be utilized under any circumstances.
3. Hangers shall be FM Approved, and adaptable to various types of construction. Hangers shall be supported from building structure and structural steel headers shall be installed for supporting crossmain hangers where main is not directly below structural member. Roof deck hangers are prohibited. All hangers shall comply with FM Global engineering guidelines.
4. Wall plates shall be provided on exposed piping where pipe passes through walls, partitions, ceilings, etc. and secured by setscrews.

### **D. VALVES**

1. All valves and fittings shall be FM Approved and rated 175 lb. minimum.

#### **15404 - SYSTEM ACTIVATION, TESTING AND CERTIFICATION**

1. Sprinkler contractor shall install and activate the entire sprinkler system prior to the Certificate of Occupancy.
2. Existing sprinkler systems shall be shut down and “red” tagged in strict accordance with Simon Property Group Impairment Procedures. Under no circumstances should a sprinkler system be left out of operation overnight without an appropriate “fire watch” in place.
3. All fire protection systems shall be tested as required by local authorities and Global Risk Consultants before any systems are concealed.
4. Contractor shall conduct hydrostatic tests in compliance with FM Global Data Sheet 2-0 and NFPA-13 (two hours at 200 psi or 50 psi over normal system pressure minimum). Piping subject to freezing during test period shall be tested with compressed air.
5. Certificates of approval of installation shall be obtained from the Authority having Jurisdiction and forwarded to SPG.
6. After tests are conducted and any repairs completed; completely flush the piping systems with water until discharge shows no discoloration. Upon return to service, a main drain test shall be conducted to verify the control valve is fully open.

\*\*\* END OF SECTION \*\*\*