

High Piled & Rack Storage Occupancies Automatic Fire Sprinkler Systems

Scope

This application pertains to the installation of automatic fire sprinkler systems in storage occupancies where the commodity is stored more than 12 feet in height in solid piles or on shelves or racks. In speculative use building, assume Class IV Non-encapsulated, 19 feet high in single and double row racks.

Minimum Requirements for Construction Drawings

Plans which do not contain the minimum information required will not be accepted for plan check. Plans shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show that it will conform to the provisions of the adopted International Codes and ordinances.

- Three (3) copies of plans (24" x 36", or 30" x 42") must be submitted for review.
- Copies shall **all** be the same size.
- Working Drawings -scale to 1/8" = 1'.
- Shall be drawn in indelible ink.
- Sheets that are cut and pasted, taped, or that have been altered by any means (pen, pencil, marking pen, etc.) **will not** be accepted for plan check.
- Site Plans – scale to 1" = 20' or 1" = 40'
- Washington State law requires that any registered professional who prepares or supervises the preparation of drawings and construction documents stamp and sign such documents.

PROJECT NAME

Other Checklists/Permits that may be Required

- ✓ Building Services:
Rack Permit
- ✓ Fire Prevention:
Fire Pump Checklist

General

| Yes | No |
|-----|----|
|-----|----|

- | | | |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Owner's name, address and telephone number. |
| <input type="checkbox"/> | <input type="checkbox"/> | Occupant's name, address, telephone number, if different from owner. |
| <input type="checkbox"/> | <input type="checkbox"/> | Contractor's name, address, fax number, telephone number and Washington State Contractor's license number. |

Documentation—One Set

| Yes | No |
|-----|----|
|-----|----|

- | | | |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Accurate classification of the commodity to be stored, including its height, array, packaging, encapsulation, banding or other storage method. |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|

Documentation (cont.)

- A summary sheet for the hydraulic calculations, including:
 - Date.
 - Location.
 - Name of owner or occupant.
 - Building identifier.
 - Description of hazard
 - System design requirements:
 - 1.) Design density adjusted for commodity height.
 - 2.) Area of discharge adjusted for wet or dry pipe systems, if applicable.
 - Total water requirements, including hose streams.
 - Water supply information, source and date.
- Detailed worksheets or computer print-outs containing the following:
 - Sheet Number.
 - Sprinkler description and discharge constant (K-factor).
 - Hydraulic reference points to the point of connection.
 - Flow in gallons per minute.
 - Pipe size.
 - Pipe lengths, center-to-center of fittings.
 - Equivalent pipe lengths for fittings and devices.
 - Friction loss in psi per foot of pipe.
 - Total friction loss between reference points.
 - Elevation head in psi between reference points.
 - Small hose stream demand.
 - Required pressure in psi at each reference point.
 - In-rack sprinkler demand (if applicable).
- Other sources of supply, with quantity, pressure and elevation.
- Sway brace calculations for each type of brace used.

Working Drawings—Floor Plans

- | Yes | No |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> Compass direction and clearly marked scale. |
| <input type="checkbox"/> | <input type="checkbox"/> Ceiling construction and reflected ceiling plan. |
| <input type="checkbox"/> | <input type="checkbox"/> Full-height cross section, including roof slope. |
| <input type="checkbox"/> | <input type="checkbox"/> Location of area and/or occupancy separation walls, partitions and stairway enclosures. |
| <input type="checkbox"/> | <input type="checkbox"/> Location and size of concealed spaces and closets. |
| <input type="checkbox"/> | <input type="checkbox"/> Any questionable enclosures in which no sprinklers are to be installed. |
| <input type="checkbox"/> | <input type="checkbox"/> Detailed representation of storage array showing aisles, height, overhead clearances, rack, shelf or bin box placement, plus dimensions and volume, transverse and longitudinal flue spaces. |
| <input type="checkbox"/> | <input type="checkbox"/> If draft curtains or smoke vents are installed, their location and temperature ratings, as applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> Designated storage areas for idle or plastic pallets, if applicable. |
| <input type="checkbox"/> | <input type="checkbox"/> Pipe, Valves, Fittings. |
| <input type="checkbox"/> | <input type="checkbox"/> Size of municipal or private water main and whether dead-end or looped. If dead-end, direction and distance to nearest circulating main. |
| <input type="checkbox"/> | <input type="checkbox"/> Nominal pipe size and cutting lengths of pipe or center-to-center dimensions. |
| <input type="checkbox"/> | <input type="checkbox"/> Location and size of riser nipples. |
| <input type="checkbox"/> | <input type="checkbox"/> Type of fittings and joints. |
| <input type="checkbox"/> | <input type="checkbox"/> Type and location of hangers and bracing. |
| <input type="checkbox"/> | <input type="checkbox"/> All control valves, check valves, drains and test pipes. |
| <input type="checkbox"/> | <input type="checkbox"/> Total area protected by each system on each floor. |
| <input type="checkbox"/> | <input type="checkbox"/> Make, type, model and size of alarm, dry-pipe, pre-action or deluge valve. |

- Type and location of alarm bells.
- Approximate capacity in gallons of each dry-pipe system.
- Pipe type and schedule of wall thickness.

Sprinklers

Yes No

- Make, type and nominal orifice size of sprinklers.
- Temperature rating and location of high temperature sprinklers.

Miscellaneous Information

Yes No

- Size and location of all hand-held hose, hose outlets and related equipment.
- Hydraulically most remote area(s).
- Hydraulic reference points (nodes).
- When a fire pump is employed provide submittal per NFPA 20.
- When high expansion foam is employed, the location and design of system.
- Location and type of fire department hose connection for supply.
- Location and type of backflow prevention device.

PLEASE READ THE INFORMATION BELOW AND SIGN BEFORE SUBMITTING YOUR APPLICATION

Your application shall be deemed complete only if this checklist is completed and submitted along with the submittal package. Submittals not accompanied by a checklist will not be accepted. Accuracy of the submittal package, including this checklist, is the responsibility of the applicant. Failure to submit an accurate submittal package will be considered an incomplete application by the Plan Reviewer. An incomplete submittal will result in a HOLD. A Re-submittal (new submittal package) will be required and always results in a delay.

I have checked the applicable boxes and have included those requirements in my submittal.

Print Name

Signature