

**MINNEAPOLIS FIRE DEPARTMENT
FIRE PREVENTION BUREAU POLICY # 7-6
SPRINKLERS USED IN LIEU OF FIRE RATED CONSTRUCTION**

Original issue: Undated

Last revision 8-24-05

Page 1 of 2

ISSUE:

Fire sprinklers are sometimes used for Performance Based Design (PBD) and Alternative Designs (AD) in lieu of code required fire rated construction. Examples of the PBD use of sprinklers are glass walls washed by sprinklers in place of fire rated construction or fire rated glass; sprinklers spraying directly on structural members in place of fixed in place fire proofing.

This policy **DOES NOT** apply to the following conditions:

1. Close spaced sprinklers protecting openings through floors, as required by NFPA #13 or the Minnesota State Building Code.
2. Sprinklers and glass walls used in lieu of one (1) hour fire rated construction for separation of tenant spaces from atria space.
3. Sprinklers used in conjunction with glass walls or draft stops as an equivalent to one (1) hour walls of corridors that are 12 feet or greater in width.

This policy **DOES NOT**, Carte Blanche, grant the use of sprinklers in lieu of fire rated construction. The project architect of record must have an acceptance in writing for an equivalency or alternative design from the Minneapolis Building Inspection Division.

CODE REQUIREMENTS:

The Minnesota State Building Code and the Minnesota State Fire Code allow the code official to accept a performance based design or an equivalent alternative design.

PROBLEM:

PBD or AD are to provide an equivalent level of protection. This policy outlines some of the issues that must be addressed and lists some basic requirements when sprinklers are used as part of that design.

ACCEPTABLE COMPLIANCE:

1. A fire protection engineer shall produce detailed drawings and specifications for approval by this department and are to be used to give guidance to the sprinkler contractor. The engineer shall review and approve the contractor's shop drawings prior to their submittal to the Fire Department and shall inspect the installation of the system. The engineer shall provide a written report to this department indicating that the installed system meets the approved equivalency design and this policy.

Policy # 7-6
Page 1 of 2

**MINNEAPOLIS FIRE DEPARTMENT
FIRE PREVENTION BUREAU POLICY # 7-6
SPRINKLERS USED IN LIEU OF FIRE RATED CONSTRUCTION**

Original issue: Undated

Last revision 8-24-05

Page 2 of 2

2. The following is the minimum criteria for all sprinkler designs used as equivalencies. An acceptable design for an equivalency may require greater protection or redundancy than these minimums.
 - a. The sprinklers that are part of the equivalent design are to be supplied and controlled separately from the area protection sprinklers. The water supply to the systems is to be arranged so either system may be shut down while maintaining the other system in service.
 - b. When sprinklers are used in conjunction with building components that are in the vertical position, e.g. windows, walls, doors, etc., listed window sprinklers (similar to Central WS) are to be used and installed in accordance with their listing.
 - c. When sprinklers are used to protect structural components, standard style sprinklers or spray nozzles are to be used.
 - d. Permanent signs are to be installed at the special system's control valves and are to state that the sprinklers are part of a special protection system and are to be in service at all times.
3. Other issues that need to be addressed on each project are:
 - a. A drawn architectural design to prevent drapes and blinds from being installed between sprinklers and protected glass.
 - b. A documented guideline that controls the use of the effected area or building. E.g. limits to the amount of fuel loading etc.
 - c. Special maintenance and testing requirements.