
BULLETIN 2000-007-SP

APRIL 19, 2007
(Revised)

FROST PROTECTION FOR SPRINKLER PIPING IN WOOD FRAME CONSTRUCTION

(REFERENCE NFPA 13-1999 [5.14.3.1.1])

The Standard for the Installation of Sprinkler Systems, NFPA 13, requires that all water-filled sprinkler components be protected against freezing by insulated coverings, frost-proof casings or other reliable means of maintaining a minimum temperature of 4° C (40° F).

The City of Vancouver has a minimum requirement to provide protection of sprinkler piping in wood frame ceiling assemblies with an unheated attic or a non-insulated roof located above the ceiling. The details of these requirements are consistent with our climate.

Therefore, this bulletin is intended to achieve consistent frost protection for sprinkler piping which complies with NFPA 13.

1. Water-filled sprinkler piping and components installed in exterior walls is only permitted on the room side of the insulation of heated rooms.
2. One acceptable method of protecting piping that is installed within an unheated ceiling space or within a non-insulated roof, is to box in the sprinkler piping with 12.7 mm (½ in.) gypsum wall board or plywood sheathing and provide a minimum of 150 mm (6 in.) of uncompressed insulation or other type of insulation equivalent to 3.5 RSI (R20). The insulation must be uniformly distributed over the boxing and any exposed sides of the boxing.

NOTE: Under no circumstance shall insulation be placed between piping and a heat source (room below). Other methods of protecting sprinkler piping may be acceptable however alternate methods should be detailed on the sprinkler drawings for review by the Building Code Review Branch

3. Where there is no attic located above the ceiling and the joist depth will not allow space for both the boxing and the required 150 mm (6 in.) of uncompressed insulation, the piping shall be boxed in below the ceiling joists or run exposed below the finish ceiling.
4. Where applicable, all piping is to be boxed in prior to calling for the rough-in sprinkler inspection.

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