

## NFPA 13 (2012) requirements for clearance around sprinkler pipes as they pass through a fire-rated assembly – where subject to earthquakes

### 9.3 Protection of Piping Against Damage Where Subject to Earthquakes

#### 9.3.4\* Clearance.

**9.3.4.1** Clearance shall be provided around all piping extending through walls, floors, platforms, and foundations, including drains, fire department connections, and other auxiliary piping.

**9.3.4.2** Unless the requirements of 9.3.4.3 through 9.3.4.7 are met, where pipe passes through holes in platforms, foundations, walls, or floors, the holes shall be sized such that the diameter of the holes is nominally 2 in. (50 mm) larger than the pipe for pipe 1 in. (25 mm) nominal to 3½ in. (90 mm) nominal and 4 in. (100 mm) larger than the pipe for pipe 4 in. (100 mm) nominal and larger.

**9.3.4.3** Where clearance is provided by a pipe sleeve, a nominal diameter 2 in. (50 mm) larger than the nominal diameter of the pipe shall be acceptable for pipe sizes 1 in. (25 mm) through 3½ in. (90 mm), and the clearance provided by a pipe sleeve of nominal diameter 4 in. (100 mm) larger than the nominal diameter of the pipe shall be acceptable for pipe sizes 4 in. (100 mm) and larger.

**9.3.4.4** No clearance shall be required for piping passing through gypsum board or equally frangible construction that is not required to have a fire resistance rating.

**9.3.4.5** No clearance shall be required if flexible couplings are located within 1 ft (305 mm) of each side of a wall, floor, platform, or foundation.

**9.3.4.6** No clearance shall be required where horizontal piping passes perpendicularly through successive studs or joists that form a wall or floor/ceiling assembly.

**9.3.4.7** No clearance shall be required where nonmetallic pipe has been demonstrated to have inherent flexibility equal to or greater than the minimum provided by flexible couplings located within 1 ft (305 mm) of each side of a wall, floor, platform, or foundation.

**9.3.4.8** Where required, the clearance shall be filled with a flexible material that is compatible with the piping material.

**9.3.4.9** Clearance from structural members not penetrated or used, collectively or independently, to support the piping shall be at least 2 in. (50 mm).

**A.9.3.4** While clearances are necessary around the sprinkler piping to prevent breakage due to building movement, suitable provision should also be made to prevent passage of water, smoke, or fire. Drains, fire department connections, and other auxiliary piping connected to risers should not be cemented into walls or floors; similarly, pipes that pass horizontally through walls or foundations should not be cemented solidly or strains will accumulate at such points.

Where risers or lengths of pipe extend through suspended ceilings, they should not be fastened to the ceiling framing members.

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