

# Aquatherm Technical Bulletin

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## **Aquatherm Red Pipe® Polypropylene Sprinkler Piping**

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The actual code requirements may vary somewhat with jurisdiction, but most codes refer to NFPA 13 – Installation of Fire Sprinkler Systems for requirements on the use of plastic fire sprinkler piping. Within NFPA 13, Table 6.3.1.1 provides a list of materials and standards for steel and copper pipe to be used in aboveground installations. This table is specifically limited to only metal pipe.

Section 6.3.6 of NFPA 13-2010, allows for the use of other types of listed pipe and tubing which have been investigated for suitability in automatic sprinkler installations. This section includes, but is not limited to, CPVC and steel, and permits the use of any piping which is installed in accordance with the listing limitations and installation instructions. Section 6.4.3 has this same provision for other types of fittings (i.e. materials other than steel or copper).

The Aquatherm Red Pipe® and Green Pipe® MF piping systems have been approved (listed) by Factory Mutual (FM). FM refers to this as an approval, and the approval meets the definition of “Listed” as given in NFPA 13, Section 3.2.3. As such, and FM approval is considered a listing within NFPA requirements. FM is also a Nationally Recognized Testing Laboratory (NRTL) accredited by OSHA for testing and approving plastic sprinkler piping. The OSHA program uses “approved”, and states that other acceptable terms are “listed”, “certified”, and “labeled”.

There is also a requirement that the listing be per national consensus standards. In the U.S., standards development organizations (SDO’s) are accredited by the American National Standards Institute (ANSI). FM is accredited by ANSI as an SDO. The two accreditations, OSHA and ANSI, are a means of leveling the playing field within the certification arena.

What this means is that a jurisdiction can no longer require a specific certification/listing agency evaluate a product, but rather can only require that a product be certified by an NRTL, to a standard written by an ANSI SDO. That is, an AHJ cannot legally compel a manufacturer to obtain listing by one agency over another, as long as both are NRTL’s.

The FM Approval restricts the use of Aquatherm Red Pipe® and Green Pipe® MF to unexposed installations in light hazard occupancies only. Unexposed installation means that the pipe must be installed behind a noncombustible fire barrier with a minimum 15-minute rating.

Aquatherm Green Pipe MF is intended and approved for use in multi-purpose or standard NFPA 13D installations (one or two family dwellings).



Aquatherm Red Pipe is approved for any light hazard occupancies within NFPA 13, 13R or 13D.

NFPA 13, Section A.5.2, states “Light hazard occupancies include occupancies having uses and conditions similar to the following: Animal shelters; Churches; Clubs; Eaves and overhangs, if of combustible construction with no combustibles beneath; Educational; Hospitals, including animal hospitals and veterinary facilities; Kennels; Institutional; Libraries, except large stack rooms; Museums; Nursing or convalescent homes; Offices, including data processing; Residential; Restaurant seating areas; Theaters and auditoriums, excluding stages and prosceniums; and Unused attics”