



Warning: Hot Coffee! - Automatic Sprinklers

Possible Product Incompatibility

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Learning Objective: The student shall be able to identify one information source to verify product compatibility.

In many automatic sprinkler installations it is common for the fitter to use both steel and nonmetallic pipe. The steel's durability and the superior friction loss characteristics of plastic together make them a desirable combination in some fire protection applications.

However, concerns have occurred recently regarding the use of some antimicrobial coatings found on some steel pipe. The coatings are provided to resist microbiologically influenced corrosion (See Coffee Break Training 2008-20 for information on MIC). Research suggests that some of these coatings may contain compounds that can affect nonmetallic sprinkler pipe, resulting in environmental stress cracks.



Photo courtesy of Freedom Fire Protection, LLC, Longmont, Colorado.

This treated ferrous pipe may not be compatible with chlorinated polyvinyl chloride (CPVC) sprinkler pipe.

Some chemicals found in construction products and site preparation techniques may be detrimental to the most commonly used nonmetallic product: chlorinated polyvinyl chloride (CPVC). In addition to antimicrobial coated steel pipe, products such as thread sealants, fire stop materials, cutting and packing oils, antifreeze solutions, and other construction products that may come into contact with CPVC should be investigated for compatibility prior to use.

One pipe manufacturing company has created an online tool to verify if the products are compatible. You can use the System Compatible Web site to review compatibility information (<http://www.systemcompatible.com>).

Until specific testing or listing information proves that the products are compatible, only noncoated steel pipe should be used in these mixed material applications, unless the antimicrobial coating being used on the steel pipe can be documented as being compatible with CPVC. The steel pipe manufacturer should be contacted to ensure that its products are compatible for use with CPVC prior to use.

In addition, the use of aftermarket antimicrobial coatings must not be used to apply to untreated steel pipe that is used in conjunction with CPVC, unless that coating also has been proven to be compatible with CPVC.

