Fire Sprinkler Systems with Anti-MIC Coated Metal Pipe

CPVC piping has been successfully used in combination with copper or steel piping for many years when proper attention is given to cutting oils, thread sealants and other potentially incompatible materials that can cause Environmental Stress Cracking (ESC) in CPVC. However, certain Anti-Bacterial Corrosion coatings designed to prevent Microbiological Influenced Corrosion (MIC) that are applied as a lining to metal pipe are at the center of a major ESC problem concerning combination of CPVC with Metal fire sprinkler systems. It has been Spears® experience that this issue is primarily concentrated around piping that has been coated with ABF® II or certain other aftermarket coatings applied in the field.

Steel pipe manufacturers have indicated that with the changes to one CPVC material suppliers “compatibility program”, liability has now shifted from the CPVC manufacturers to the contractor. In reality, nothing has changed with regard to liability. Each party (CPVC and Steel piping manufacturers, designers, contractors and owners) must all do their “due diligence”, and continue to carry the same liability they always have.

While Spears® Manufacturing Company has never provided a CPVC “compatibility program”, information based on our testing and experience with the compatibility of products requested on a case by case basis has been readily provided. Based on conclusion of compatibility studies by FM Global in conjunction with Spears® ongoing test studies, Spears® accepts the following metal pipe products with factory applied MIC prevention coatings for use with Spears® FlameGuard® CPVC piping products:

- Bull Moose Tube Company Eddy Guard II antimicrobial coated sprinkler pipe
- Youngstown Tube Company YTC Guard® antimicrobial coated sprinkler pipe
- Wheatland Tube Company MIC SHIELD™ sprinkler pipe
- Allied Tube and Conduit metal fire sprinkler pipe coated with “M-Coat”

This acceptance for use is contingent on the proper installation of each product with Spears® FlameGuard® CPVC products, in accordance with manufacturers’ published installation instructions. Testing has shown these products to have satisfactory performance in normal installation of CPVC products. However, the potential for compatibility problems can be present in installations where CPVC materials are highly stressed. Such situations include but are not limited to, inadequate compensation for thermal expansion and contraction, excessive bending beyond specified limits, improper pipe hanger or anchor selection or installation, over tightening of threaded joints, and other improper CPVC installation practices yielding high stress loads.

THE FACTS REMAIN: CPVC Nonmetallic Fire Sprinkler Systems offer significant advantages: No Rust, No Microbiologically Influenced Corrosion, Longer Service Life with Superior Flow, Ease of Installation and Overall Lower Cost of Ownership when compared to the alternative materials available. They are completely acceptable and intended for use in hybrid fire sprinkler piping systems when proper training, installation, and common sense prevail. FlameGuard® CPVC Fire Protection products manufactured by Spears® carry our standard Limited Lifetime Warranty.