



Sample Engineering Specification

FlameGuard® CPVC Marine Fire Sprinkler System

All CPVC fire sprinkler fittings shall be manufactured in the U.S.A. from a Chlorinated Polyvinyl Chloride (CPVC) compound having a Cell Classification of 23447 in accordance with ASTM D1784. Fittings shall be manufactured in strict compliance to ASTM F438 or F439, as applicable. All CPVC fire sprinkler fittings shall carry a working pressure of 175 psi @ 150° F. All CPVC fire sprinkler fittings shall be installed with UL® listed CPVC fire sprinkler pipe in accordance with Spears® Manufacturing Company FlameGuard® CPVC Fire Sprinkler Products Installation Instructions (FG-3) and Addendums. All CPVC fire sprinkler piping shall be manufactured in the U.S.A. from a Chlorinated Polyvinyl Chloride (CPVC) compound having a Cell Classification of 23447 in accordance with ASTM D1784. Piping shall be manufactured in strict compliance to ASTM F442. All CPVC fire sprinkler piping shall carry a working pressure of 175 psi @ 150° F. All CPVC fire sprinkler piping shall be installed with UL® listed CPVC fire sprinkler fittings in accordance with Spears® Manufacturing Company FlameGuard® CPVC Fire Sprinkler Products Installation Instructions (FG-3) and Addendums and the additional criteria for the use of heat sensitive piping in the “Marine Systems” chapter of NFPA 13-1996.

All CPVC solvent cement shall be a primerless, one-step type manufactured in strict compliance to ASTM F493 and approved for use with CPVC fire sprinkler systems. All CPVC fire sprinkler fittings, pipe and solvent cement shall be listed by Underwriters Laboratories (UL®), Underwriters Laboratories Canada (ULC®) and Factory Mutual Research Corporation (FM Global) for use in light hazard wet pipe systems and bear their authorized certification marks. All CPVC fire sprinkler fittings, pipe and solvent cement shall be listed by Underwriters Laboratories (UL®) for use in light hazard dry pipe systems and bear their authorized certification marks. Thread sealant shall be that approved by the fitting manufacturer for use with CPVC fire sprinkler products. All fittings, pipe, solvent cement and thread sealant shall be certified by NSF International for potable water service. All CPVC fire sprinkler fittings and pipe shall be Spears® FlameGuard®, all solvent cement shall be Spears® FS-5 One-Step, and all thread sealant shall be Spears® Blue 75™ as produced by Spears® Manufacturing Company.

All CPVC FlameGuard® pipe and solvent cement (FS-5) shall be GREENGUARD GOLD certified to UL 2818 by Underwriters Laboratories.

FlameGuard® US Coast Guard Compliance

The Coast Guard regulations for sprinkler systems installed onboard U.S. vessels require compliance with NFPA 13-1996 which permits the use of listed pipe and tubing such as CPVC. The United States Coast Guard does not require type approval for piping used in fire sprinkler systems if installed in accordance with their listing limitations and installations instructions.

The FlameGuard® product line is currently listed by Underwriters Laboratories under file # EX3769, and as such may be installed onboard inspected vessels subject to its listing and the additional criteria for the use of heat sensitive piping in the “Marine Systems” chapter of NFPA 13-1996. Please note that for installation onboard ships, CPVC piping is considered heat sensitive and must be located behind noncombustible B-15 Coast Guard approved bulkhead panels. The use of plywood or gypsum wallboard specified in the listing is not acceptable for marine applications. Light hazard occupancies and accommodations spaces for ships are defined in table A-9-1.2 of NFPA 13-1996 and subject to the limitations of the listing.