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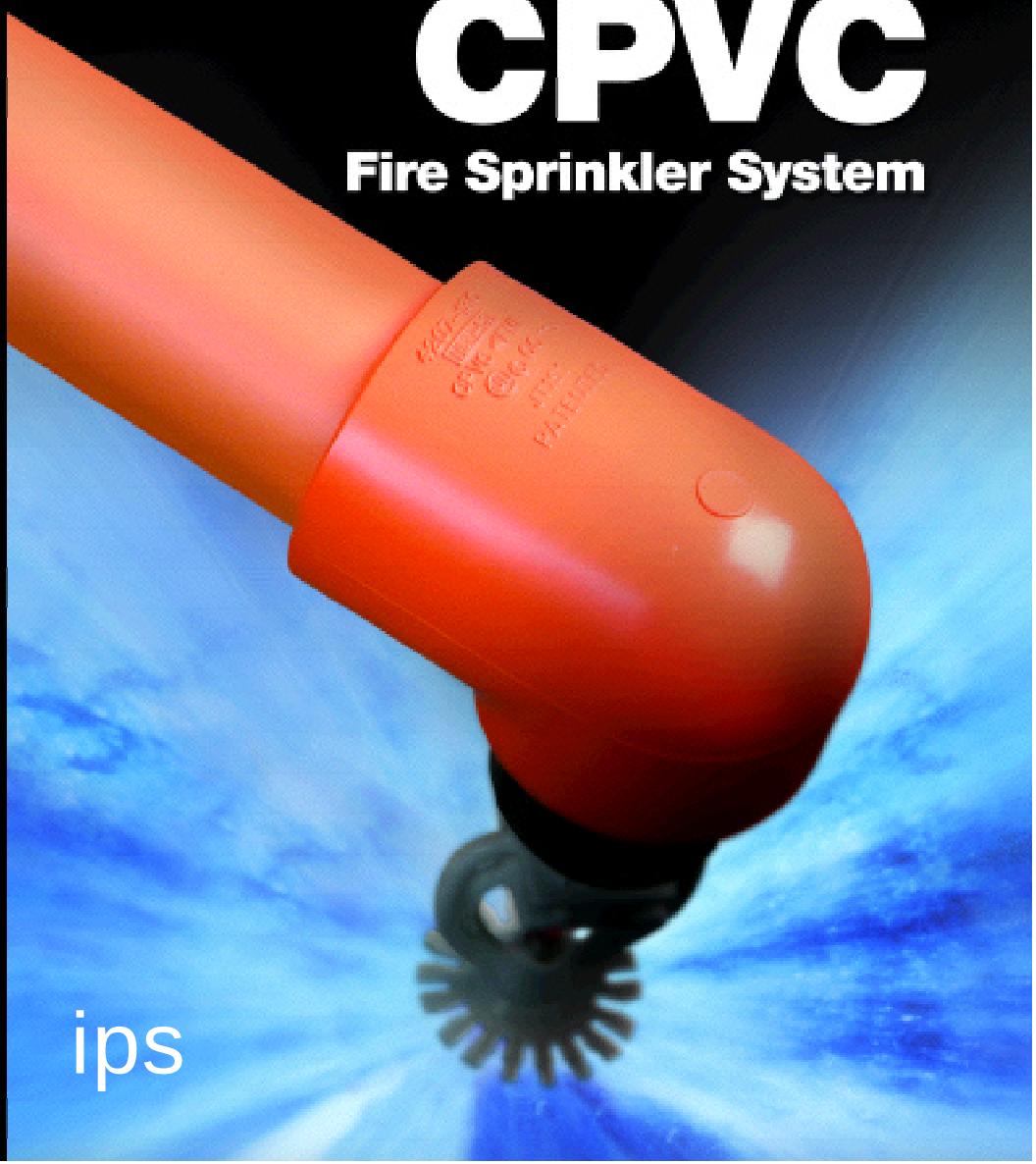
CPVC

Fire Sprinkler System



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CPVC Fire Sprinkler System

CPVC is an engineered thermoplastic piping material that has been used successfully for many years in a wide range of demanding applications, including fire sprinkler systems.

It does not support fire, and will only char when subjected to flame. In fire conditions, it performs superbly, and it has a twenty year proven track record for this application. As may be expected, the system is fully tested and approved by UL, FM and LPCB, as well as being accepted by all leading insurers. In the UK the product has also been tested and is listed by WRAS for use in contact with cold potable water.

LOWER COST

Materials are lightweight and are delivered to the job site with no pre-fabrication. On site, sprinkler contractors can fabricate CPVC fire sprinkler systems much more easily than metal systems. Because the installation is fast and simple, the total installed cost of this superior system is less expensive than systems made from metallic materials.

CLEANER, QUIETER INSTALLATION

Joints are made using a cold solvent welding process that requires only a few simple tools. Pipe lengths can be cut and prepared on the spot, eliminating the need for power saws, threading tools or welding torches. There is no oil or grease on the pipe - minimising the risk of damage or mess in the work area. In retro-fit applications, this means that buildings can continue to be occupied during installation with only minimal disruption.

SUPERIOR PERFORMANCE

CPVC systems have a smooth internal bore which has a very low friction loss (Hazen-Williams C Factor = 150). The material is highly resistant to corrosion, pitting and scaling, giving improved water delivery and long-term reductions in maintenance costs.

SECURITY

CVPC does not corrode and is designed for continuous use with a life expectancy of over 50 years with a safety factor of 2:1. In the event of exposure to fire, the material will not support combustion. It has very low smoke generation and has very low toxicity compared to other building materials.

Approvals

CPVC fire sprinkler systems are approved by the following organisations:

- Loss Prevention Certification Board (LPCB)
- Underwriters Laboratories (UL)
- Factory Mutual System (FM)
- National Fire Protection Association (NFPA) - Standards 13, 13D and 13R and 90A.
- Water Regulations Advisory Scheme (WRAS) - for use with cold potable water
- National Sanitation Foundation (NSF) - for use with cold potable water

Specifications

CPVC fire sprinkler systems meet or exceed the requirements of the following standards:

- Raw Material - ASTM D1784
- Pipe - ASTM F442
- Fittings - ASTM F437, F438 and F439

The system is manufactured under accredited quality systems by:

- Pipe - Harvel Plastics, Inc. (ISO 9002)
- Fittings - Spears Manufacturing Co. (ISO 9001)

It is distributed under an accredited quality system by:

- International Plastic Systems Ltd. (ISO 9001:2000)

Where can the system be used?

The system can only be used for wet pipe systems. It is not suitable for use with fire extinguishing systems that use compressed air or other gases.

It is suitable for a wide variety of applications, including hotels, shops, schools, libraries, residential care homes, houses and flats, hospitals, offices, historic buildings and museums, as well as in offshore accommodation modules. The system is also approved for use in air plenums typically found in air conditioning and ventilating systems.

What is the maximum working pressure?

The system is designed to operate continuously at a working pressure of up to 12 bar.

How is the system joined together?

Joints are made using a simple cold solvent welding process. It requires no special tools other than a wheel cutter (or saw and mitre box), a beveller and a de-burring tool. A strap wrench is also useful for making threaded connections. All tools are inexpensive and will fit into a toolbox.

Can it be connected to other materials?

Threaded adaptors with NPT or BSP threads can be used to connect to metal pipes or other components. Flanges are available (drilled ASA 150). A CPVC grooved coupling adaptor will connect to flexible groove joint couplings such as the Victaulic Type 75.

Does CPVC require special supports?

Most hangers that are designed for metal pipes are suitable for CPVC, but they must be free of snags and sharp edges that could damage the pipe, and have a minimum load bearing surface of 12.7mm.

Does temperature affect the material?

The system is designed for use in ambient temperatures up to 65˚C. In extremely cold conditions freeze protection should be applied. Like all piping materials, CPVC systems will expand and contract if there are changes in temperature. For most installations, thermal movement is accommodated by the changes of direction naturally occurring in the system, but in exceptional circumstances it may be necessary to control movement using anchor points and pipe loops.

Does the system require special spinkler heads?

Standard commercial and residential sprinkler heads may be used, with a maximum operating temperature of 76˚C. When the pipe is exposed, quick-response sprinkler heads should be used.

What range is available?

Pipes and fittings are available in sizes from $^{3}/_{4}$" (DN20) to 3" (DN80). There is a wide range of standard pipe fittings together with adaptors to connect to spinklers and to other non-plastic systems. A range of hand tools and pipe hangers is also available.

What help is available?

International Plastic Systems are a European Master-Distributor for the CPVC fire sprinkler system manufactured by Harvel Plastics, Inc. and Spears Manufacturing Co. We can offer free, practical help with your application. Certified training for installers is available either on site or in our own training facilities.