Don'ts

- Do not use edible oils such as Crisco as a gasket lubricant.
- Do not use petroleum or solvent-based sealants, lubricants, or fire stop materials.
- Don't use PTFE tape and thread sealants together, only use one or the other.
- Do not install tape, insulated wire or cable in direct contact with CPVC.
- Do not use any glycol-based solutions as an anti-freeze.
- Do not use solvent cement that exceeds its shelf life or has become discolored or jelled.
- Do not allow solvent cement to plug the sprinkler head orifice.
- Do not connect rigid metal couplers to CPVC grooved adapters.
- Do not thread, groove, or drill CPVC pipe.
- Do not use solvent cement near sources of heat, open flame, or when smoking.
- Do not pressure test until recommended cure times are met.
- Do not use any thread sealants on Spears® Gasket Sealed Sprinkler Head Adapters.
- Do not use ratchet cutters below 50°F.
- Do not use CPVC pipe that has been stored outdoors, unprotected and is faded in color.
- Do not allow threaded rod to come in contact with the pipe.
- Do not install Spears® FlameGuard® CPVC Fire Sprinkler Products in cold weather without allowing for expansion.
- Do not cut pipe with dull or broken cutting-tool blades.
- Do not allow chemicals to come in contact with CPVC pipe or fittings without first confirming chemical compatibility with CPVC.

Note: This list does not constitute a complete installation guide.

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MADE IN THE USA WITH PRIDE

WARNING

Incompatible chemicals can compromise these life-safety systems. Always ensure any chemicals that may come in contact with CPVC have been evaluated by the manufacturer for use with CPVC systems. Contact Spears® for additional information.

NSF International

American Society for Testing and Materials

Underwriters Laboratories

FM Approvals

The Loss Prevention Certification Board

MEMBER 04-05

LPS1260 Cert/LBCB ref. 293b

Plastic Pipe & Fittings Association

FG-3A-1024

SPEARS® FlameGuard® CPVC FIRE SPRINKLER PRODUCTS

RECOMMENDED PRACTICES AND PRECAUTIONS

DO'S AND DON'TS

Do' s

- Read the manufacturer's installation instructions.
- Follow recommended safe work practices.
- Make certain that thread sealants, gasket lubricants, or fire stop materials are compatible with CPVC.
- If painting is desired, consult local AHJ. Use only water-based latex paints.
- Keep pipe and fittings in original packaging until needed.
- Cover pipe and fittings with an opaque tarp if stored outdoors.
- Follow proper handling procedures.
- Use tools specifically designed for use with plastic pipe and fittings.
- Use the proper solvent cement and follow application instructions.
- Use a drop cloth to protect interior finishes.
- Cut the pipe ends square.
- Deburr and bevel the pipe end with a chamfering tool.
- Rotate the pipe 1/4 turn when bottoming pipe in fitting socket.
- Avoid puddling of cement in fittings and pipe.
- Make certain no solvent cement is on sprinkler head and adapter threads.
- Make certain that solvent cement does not run and plug the sprinkler head orifice.
- Follow the manufacturer's recommended cure times prior to pressure testing.
- Fill lines slowly and bleed the air from the system prior to pressure testing.
- Support sprinkler head properly to prevent "lift up" of the head through the ceiling when activated.
- Keep threaded rod within 1/16" of the pipe or use a surge arrestor.
- Install Spears® FlameGuard® sprinkler pipe and fittings in wet systems only or specially listed dry or preaction systems.
- Use only insulation and/or glycerin/water solutions as specified in NFPA 13 for freeze protection.
- Allow for movement due to expansion and contraction.
- Renew your Spears® FlameGuard® CPVC Fire Sprinkler Products installation training every two years.
- Contact Spears® for any compatible product questions before application.

Recommended Cut-in Procedures for System Modification or Repair

Existing system modifications or repairs can be made using Spears® FlameGuard® CPVC Fire Sprinkler Products. In order to maintain full system integrity, the following procedure must be followed when making a system tie-in or repair by cutting into an existing system line. A careful review of all Joining Procedures must be made prior to making a cut-in on an existing system and the Minimum Cut-in Cure Times must be followed. A variety of fitting combinations can be used to tie into an existing system or replace a section between fixed cut-in points. These include using a socket Tee for add-ons or a socket Coupling for repairs in combination with a mechanical joint such as a union grooved coupling adapter, or flange. Regardless of the components selected, the following must be adhered to:

Step 1 System modification cut-ins should be made on the smallest diameter pipe section, in close proximity to the area of modification, capable of properly supplying the system change.

Step 2 Carefully plan and measure prior to cutting into existing system. Be sure to provide adequate space and ensure that full insertion into fitting sockets can be made during assembly.

Note: Allowance must be made for making a 1/4-turn twist when inserting the pipe into the fitting during assembly of the tee (or other component), especially on 1-1/2" and larger pipe sizes. This may require assembly of components in combination with the cut-in tee to create a short spool piece for final connection using socket unions, flanges, or grooved coupling adapters.

Step 3 Review all Installation & Joining Procedures prior to commencing cut-in (including square cutting, deburring & beveling, cleaning, dry fit checks).

Step 4 Depressurize and drain existing line prior to making the cut-in.

Step 5 Connect to the existing system prior to proceeding with the modification or repair.

Step 6 All pipe shavings, dirt, debris must be removed from the cut-in system, and water and residual moisture must be removed from all solvent cement areas. Vacuum lines and wipe dry with a clean dry rag. Moisture and dirt will slow the curing and can affect joint strength.

Step 7 Use only a new can of approved solvent cement when making cut-in connections. Verify cement expiration date on can prior to use.

Step 8 Cut-ins for modifications or system repairs are often made under less than ideal situations as compared to new installations. As a result, the following specified Minimum Cut-in Cure times must be used.

Step 9 Following completion and proper cure, inspect for proper alignment and hanger placement prior to pressure testing.

Step 10 To pressure test the system, slowly fill the system with water and make sure that all air is bled from the farthest and highest point before test pressure is applied. The system MUST be pressure tested in accordance with NFPA 13, NFPA 24, or any other applicable NFPA standard requirement. The system must be tested with water. The purpose of the hydrostatic pressure test is to check for leakage, and it may not identify improperly assembled joints. This test MUST NOT be considered a substitute for full compliance to these published installation instructions.

It is recommended that the portion of the sprinkler system containing the cut-in tee be isolated for pressure test where possible. The applied test pressure should not exceed 50 psi over the system pressure in order to minimize water damage in the event that a leak occurs.

WARNING: Spears® FlameGuard® CPVC Fire Sprinkler Products must never be used in a system of compressed air or other gases. Air must be removed from piping systems. Entrapped air can generate excessive surge pressures, regardless of the piping materials used. Failure to follow this warning could result in product failure, property damage and severe personal injury or death.

Cut-ins for modification or system repairs are often made under less than ideal situations as compared to new installations. As a result, Spears® recommends a minimum cure time of 24 hours. However, the following Minimum Cut-in Cure Times MUST be used:

Minimum Repair/Cut-in Cure Times
Ambient Temperature During Cure

Nominal Pipe Sizes Inch (mm)	60°F to 120°F (16°C to 49°C)	40°F to 59°F (4°C to 15°C)	0°F to 39°F (-18°C to 3°C)
3/4" (DN20)	1 hour	4 hours	48 hours
1" (DN25)	1-1/2 hours	4 hours	48 hours
1-1/4" & 1-1/2" (DN32 & DN40)	3 hours	32 hours	10 days
2" (DN50)	8 hours	48 hours	Note 1
2-1/2" & 3" (DN65 & DN80)	24 hours	96 hours	Note 1

Note 1: Solvent cement can be applied at temperatures below 40°F (4°C) in all sizes. For the 2" & larger, the temperature must be raised to 40°F (4°C) or above and allowed to cure for the recommended times before the system is filled and pressurized. Cement, pipe or fittings brought in from colder outside temperatures must be brought up to room temperature before using the 60°F to 120°F cure schedule.

Minimum Standard Cure Time Table for Pressure Test up to 200 psi (13.8 bar)
Ambient Temperature During Cure

Nominal Pipe Sizes	60° F to 120° F (16° C to 49° C)	40° F to 59° F (4° C to 15° C)	0° F to 39° F (-18° C to 3° C)
3/4" (DN20)	45 minutes	1-1/2 hours	24 hr.
1" (DN25)	45 minutes	1-1/2 hours	24 hr.
1-1/4" & 1-1/2" (DN32 & DN40)	1-1/2 hours	16 hours	120 hours
2" (DN50)	6 hours	36 hours	Note 1
2-1/2" & 3" (DN65 & DN80)	8 hours	72 hours	Note 1

Note 1: For these sizes, the solvent cement can be applied at temperatures below 40° F (4° C). However, the sprinkler system temperature must be raised to a temperature of 40° F (4° C) or above and allowed to cure per the above recommendations prior to pressure testing.