INSTALLATION GUIDE

BlazeMaster®
FIRE PROTECTION SYSTEMS

SCIENCE. SERVICE. SAFETY.

# Embedded for Success

**This document provides design guidelines for embedding BlazeMaster® Fire Protection Systems in concrete. Refer to the individual manufacturer's installation and design manual for specific listings, approvals and limitations.**

As the BlazeMaster Fire Sprinkler System is laid out, it must not come into contact with sharp objects or edges, such as rocks, metal, or structural members. Any open pipe ends must be protected from debris or concrete getting into the system.

When laying out BlazeMaster CPVC, it is best to use straight runs of pipe. However, CPVC is inherently ductile, which means the pipe can be snaked when it is laid out. This can be useful in some installations when some offset from a straight run can be helpful in avoiding construction obstacles. Straight runs of pipe will minimize any stress that is exerted on the pipe. When the pipe is embedded in concrete there is not opportunity to relieve any stress once the concrete is poured. As a result, it is important to lay out the pipe to minimize stress from the time of installation.

Do not allow BlazeMaster Fire Protection Systems to contact construction materials that are incompatible with CPVC. Verify the suitability of a product for use with BlazeMaster CPVC with the manufacturer of the chemical additive to confirm chemical compatibility.

**BlazeMaster Fire Protection Systems have a long, proven history of successful installations encased in concrete. To date, Lubrizol is not aware of any issues related to chemical incompatibility between BlazeMaster Fire Sprinkler Systems and concrete, including commonly used concrete additives. As new construction materials continue to emerge, Lubrizol recommends verifying chemical compatibility by consulting the manufacturers of specific products or additives to ensure optimal system performance.**


- Take steps to prevent the wire mesh or reinforcing bars from causing any abrasion damage to the BlazeMaster CPVC. This is mostly of concern prior to pouring the concrete. Do not install BlazeMaster Fire Sprinkler Systems in concrete that will be post tensioned. The post-tensioning process can create excessive forces that can damage BlazeMaster Fire Protection Systems.
- When pipe joints will be covered in concrete, pressure test the installation before pouring the concrete. If there will not be any joints covered by concrete, there is no need to pressure test the system prior to pouring the concrete.
- Before pouring the concrete, intermittently secure the BlazeMaster CPVC to prevent movement during this process. Nonabrasive, plastic fasteners are good choices for this application. In addition, most metal hangers designed for metal pipe are suitable for BlazeMaster CPVC. Do not use undersized hangers. Select hangers with sufficient load bearing surface shall be selected based on pipe size (e.g., 1-1/2 inch hangers for 1-1/2 inch pipe). The hanger must not apply compressive load or have rough or sharp edges that come into contact with the pipe.
- Be careful that BlazeMaster Fire Sprinkler Systems are not damaged by the tools and equipment used to pour and finish the concrete. All standard methods of pouring concrete onto the ceiling construction with concrete pumps or concrete containers, followed by compaction with vibrators, can be used in combination with BlazeMaster Fire Protection Systems. BlazeMaster CPVC must not come into contact with equipment such as tampers and agitators.
- As the concrete is poured, ensure that the pipe has not moved from its intended positioning.
- Thermal expansion and contraction is not an issue for BlazeMaster CPVC that is embedded in concrete. Those forces are relieved in a manner that does not affect the pipe or fittings. However, be sure to include address expansion and contract when designing those sections that are not embedded in concrete. Failure to adequately allow for stress at these points may result in damage to the pipe where it enters and exits the concrete.

NOTE: It is recommended that when transitioning from embedded to non-embedded CPVC in concrete that 6 in. of 1 in. compatible foam pipe insulation be installed around the embedded pipe. Ensure selected sprinkler heads are suitable for this application.

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