



FIRE SAFETY SYSTEMS

MULTIPURPOSE VS. STANDALONE

FACT SHEET

Multipurpose PEX-a vs. Standalone Rigid Systems – Which is Best for Residential Fire Sprinklers?

On Sept. 22, 2008, the International Code Council (ICC) passed a vote mandating residential fire sprinklers in the 2009 International Residential Code (IRC), thus requiring sprinklers in all new one- and two-family homes built after Jan. 1, 2011.

The two main options for residential fire sprinklers include:

- Multipurpose systems featuring flexible crosslinked polyethylene (PEX) tubing
- Standalone systems using rigid chlorinated polyvinyl chloride (CPVC) pipe

A multipurpose system incorporates a home’s cold-water plumbing system with the fire sprinkler system, while a standalone system is separate from the home’s plumbing system.

When it comes to choosing which system is best for your application, check the facts.

Multipurpose PEX-a vs. Standalone Rigid Systems	Multipurpose PEX-a	Standalone Rigid
Often requires only one contractor to install both plumbing and fire sprinklers	✓	
Flexible tubing requires fewer fittings and fewer connections	✓	
Verifies fresh water is available to the sprinklers each time a cold-water plumbing fixture is used	✓	
No need for check valves or backflow preventers	✓	
Can't be unintentionally shut off	✓	
Features ProPEX® expansion fittings that require no torches, glues, solvents or gauges	✓	
No dry-fitting issues	✓	
No routine maintenance or inspections	✓	
Features the most freeze-resistant tubing on the market; requires no antifreeze hassles	✓	
Can be safely air tested	✓	
Backed by a 25-year limited warranty when installed by an Uponor-trained professional	✓	

Benefits of Multipurpose PEX-a Systems

Multipurpose PEX-a systems have been reliably and effectively installed in plumbing systems for more than 20 years. In fact, more than 12 billion feet of Uponor PEX is in service worldwide, offering consistency, durability and peace of mind around the globe.

Fresh Water Verification

Because it incorporates sprinklers with the home's potable cold-water plumbing system, a multipurpose system verifies fresh water is always available to the fire sprinklers each time a cold-water plumbing fixture is used.

One Contractor; Less Hassles

Combining the plumbing and fire sprinkler systems often means only one contractor (conveniently, the plumber who's already on the jobsite) can install both — saving time, money and scheduling hassles.

No Check Valves or Backflow Preventers

Because a multipurpose system combines the home's plumbing and sprinkler systems, it eliminates the need for costly check valves and backflow preventers.

No Maintenance or Routine Inspections

Since a multipurpose system doesn't require backflow preventers or check valves, it eliminates the need for costly, time-consuming maintenance and routine inspections. Once the system is in, one inspection, and you're done.



Weaknesses of Rigid Standalone Systems

Typically, rigid standalone systems feature CPVC pipe, which has several disadvantages compared to flexible PEX-a tubing.

Up to 40% More Fittings

Because of its rigid composition, CPVC requires more joints and fittings with each change of direction — on average, up to 40% more when compared to PEX-a. And more fittings means additional time, cost and potential for leaks.

Leaks or Fittings Blow Off

The most common installation practice is to dry fit CPVC fittings and tubing. This can cause major problems with leaking or fittings blowing off months after the install because the plumber neglected to cement the joint. In fact, dry-fitted joints are capable of temporarily holding system test pressures without leaking. Unfortunately, the fitting eventually blows off at a later time, causing major damage.

Inconsistent Cement Application

If the plumber does remember to apply the solvent cement, there is no practical way of knowing how much solvent is needed to make a good connection. Excess cement will continue to soften the interior wall of the system until the wall balloons and ultimately ruptures. Inadequate cement leaves gaps in the joint, providing an access for water leaks.

Weather Conditions Hinder Cement Effectiveness

Watch out for weather conditions — rain and high humidity can hinder CPVC connections because the presence of moisture dilutes the cement before the joint can properly seal. Also, high humidity can lengthen the drying time of the cement.