

Understanding the Value of NSF's Special Engineered (SE) Specification

Only FlowGuard® Bendable Composite Pipe is Certified to NSF SE 7033

(CPVC/AI/CPVC Composite Pipe / CPVC Fittings System)

Specifiers looking for criteria to confidently evaluate the performance characteristics of a new or innovative product need to look no farther than NSF's Special Engineered (SE) Specifications.

What is an NSF SE Specification?

An NSF SE Specification is similar to a consensus standard, such as an ASTM standard, in that it defines the physical properties and performance characteristics of a product. SE Specifications are developed by NSF International and other interested parties to evaluate new and innovative products when no consensus standard exists.

Why did NSF develop SE Specifications?

The purpose of an NSF SE Specification is to provide credible evaluation requirements that demonstrate the capabilities of new and innovative products. Once a new SE Specification is created, NSF can test and certify products to that SE Specification.

How is an NSF SE Specification different than a standard?

While the NSF SE Specification follows the same stringent testing requirements of all product evaluation standards, it is designed as a temporary set of requirements. The NSF SE Specification remains in place during the development of a consensus standard.

Does the NSF SE Specification represent the same level of credibility as a consensus standard?

Yes. In fact, the test requirements for innovative products are typically taken from consensus industry standards that apply to other similar products.

What is the difference between an ASTM standard and an NSF certification?

As a standards writing organization, ASTM is responsible for creating consensus standards that contain requirements for a product's performance. NSF, as a certifying organization, certifies that all of the requirements in the specific ASTM standards have been met. Products are not certified by ASTM, but they can be certified to an ASTM standard.

What do NSF SE Specifications define?

The NSF SE Specifications define various properties of a new product. Such properties can include the physical properties of a material, product performance testing, in-plant quality control requirements, designation of appropriate product markings, long-term hydrostatic strength requirements (for pressure piping) and the health effects of new and innovative products.

What does NSF SE 7033 cover?

NSF SE 7033 defines the requirements of pipe made with a composite layer construction, using specially formulated chlorinated polyvinyl chloride (CPVC) compounds and a layer of adhesive-coated aluminum alloy. The specification also defines the requirements for the innovative insert bushing that allows the composite pipe to be joined using standard copper tube size (CTS) CPVC fittings.

What products qualify for NSF SE 7033?

FlowGuard® Bendable pipe and insert sleeve fittings are the first and only piping system to qualify for the new NSF SE 7033 Specification.



Why don't other piping systems qualify for NSF SE 7033?

As is the case with all certifications by NSF, SE Specifications are based on highly stringent testing that is conducted over a period of time. Only products that consistently perform to the established standards are given the SE Specification. In the case of NSF SE 7033, specifically, pipe must pass a battery of tests used to verify the pressure bearing capability, adhesion of the composite layers, and suitability for potable water applications.

What about the requirements for the insert sleeve fittings?

The innovative insert sleeve fittings are required to be joined to the pipe using solvent cement that is certified to ASTM F493. The insert sleeve fittings are also required to be produced to specific tolerances.

How can specifiers confirm that a piping system has met the requirements of NSF SE 7033?

Check the stencil line. The material designation of CPVC/Al/CPVC, as well as the pressure and temperature rating and the NSF SE mark appear in the stencil line on pipe that conforms to this SE. Since the insert sleeve fittings are molded and do not contain a stencil line, it is important to check the product literature and packaging to verify that the SE Specification is specifically referenced.

What is unique about NSF SE 7033?

The NSF SE 7033 Specification advances the materials of construction of piping systems by standardizing the performance requirements of CPVC/Al/CPVC composite pipe. When determining if a piping system delivers the type of durability required to meet the demands of a specific installation, specifiers can rely on the requirements of the SE listing to verify the performance of the material.

Do FlowGuard Bendable composite pipe and insert sleeve fittings meet relevant plumbing code requirements?

Yes, FlowGuard Bendable composite pipe and insert sleeve fittings meet all applicable code requirements. The products are permitted to be used at the discretion of the code official. FlowGuard Bendable composite pipe and insert sleeve fittings have the NSF 14 and NSF 61 certifications, and have been certified by NSF to the Uniform Plumbing Code™



Why specify products that meet NSF SE 7033?

Demanding environments require that only the highest performing products be specified. The NSF SE 7033 Specification defines a robust material combination of CPVC/Al/CPVC that offers a higher level of performance than other common plastic plumbing pipes. In addition to the traditional benefits of CPVC including resistance to corrosion, pitting, scaling and chlorine degradation, CPVC/Al/CPVC offers the versatility to adapt to challenging applications since it can bend and retain its shape. Fewer joints are needed underground, in the floor and behind the walls since CPVC/Al/CPVC composite pipe can be coiled in long runs. CPVC/Al/CPVC composite pipe will expand and contract less than standard plastic tubing allowing for a straighter appearance. Finally, a CPVC/Al/CPVC composite pipe is more resistant to incidental damage or abuse due to its inner aluminum layer.

Can your project afford anything less than FlowGuard Bendable pipe and fittings – the only piping system to meet NSF SE 7033?

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