



## **NSF International**

Special Engineered Specification  
NSF SE 8221

# PEX Tubing with a Barrier Layer





**SPECIFICATIONS FOR A SPECIAL ENGINEERED (SE) PRODUCT  
NSF / ANSI Standard 14**

**PEX Tubing with a Barrier Layer**

**Scope of Specification:**

Testing, marking, in-plant QC for PEX Tubing made with a barrier layer where the maximum wall thickness is not within the requirements of ASTM F876/F877.

**Testing Requirements:**

<b>Conformance Criteria</b>	<b>Reference Standard</b>	<b>Requirement</b>
Workmanship	ASTM F876	ASTM F876 Sec. 6
Dimensions and Tolerances	Manufacturer's Specifications	Manufacturer's Specifications
Density	ASTM F876	ASTM F876 Sec. 6, Sec 7
Hydrostatic Sustained Pressure	ASTM F876	ASTM F876 Sec. 6, Sec 7
Hydrostatic Burst	ASTM F876	ASTM F876 Sec. 6, Sec 7
HDS* **	ASTM F876, PPI TR-3	ASTM F876 Table 3
ESCR	ASTM F876	ASTM F876 Sec. 6, Sec 7
Degree of Crosslinking	ASTM F876	ASTM F876 Sec. 6, Sec 7
Stabilizer Functionality*	ASTM F876	ASTM F876 Sec. 6, Sec 7
Thermocycling	ASTM F877	ASTM F877 Sec. 6, Sec 7
Excessive Temperature	ASTM F877	ASTM F877 Sec. 6, Sec 7
Adhesion	ASTM F876	ASTM F876 Sec. 6
Hot & Cold Bent Tubing Testing	ASTM F876	ASTM F876 Sec. 6
Chemical Extraction Testing (Potable water applications)	NSF/ANSI 61	NSF/ANSI 61
* Testing only required for initial authorization.		
** Testing not required if material has a PPI TR-4 listing		

**Product Marking:**

Product to be marked in accordance with NSF/ANSI Standard 14, Sections 8.2 and 8.5, NSF certification program policies, as well as the applicable requirements of ASTM F876/877. Products covered under the scope of this SE shall not be marked with any referenced performance standard.

**In-plant Q.C. Requirements:**



In general, the requirements of NSF/ANSI Standard 14 Section 9.1 shall apply. The following tests are to be performed at start-up and designated frequencies thereafter.

<b>Test</b>	<b>Frequency</b>
Burst pressure <sup>12</sup>	24 h
Degree of Crosslinking	Weekly
Dimensions	2 h

<sup>1</sup>If one material is continuously used in several machines or sizes and when a steady-state operation is obtained on each machine, sample selection shall be from a different extruder each day and rotated in sequence among all machines or sizes.

<sup>2</sup> Burst pressure testing only required at one temperature – either 180 F or 200 F

**Listing Requirements:**

Pipe and tubing covered under this SE shall bear a footnote restricting its use with the manufacturer's fittings only.

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