



CSI: DIVISION: 22 00 00—PLUMBING
Section: 22 11 16—Domestic Water Piping

Product certification system:

The ICC-ES product certification system includes testing samples taken from the market or supplier's stock, or a combination of both, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the supplier's quality system.

Product: Nu Flow Potable 7000 Water Piping Epoxy Coating Systems (uses epoxy to coat the interior of existing, but cleaned, metallic pipe within pressurized potable water supply systems)

Listee: Nu Flow Technologies 2000, Inc.
106 McMaster Ave.
Ajax, Ontario L1S 2E7
Canada
www.nuflowtech.com

Compliance with the following codes:

2024, 2021, 2018, 2015, 2012 and 2009 *International Plumbing Code*® (IPC)
2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)
2024, 2021, 2018, 2015 and 2012 *Uniform Plumbing Code*® (UPC)*

**Uniform Plumbing Code is a copyrighted publication of the International Association of Plumbing and Mechanical Officials*

Compliance with the following standards:

ASTM F2831-2019, Internal Non-Structural Epoxy Barrier Coating Material Used in Rehabilitation of Metallic Pressurized Piping Systems
LC1008-2009, Listing Criteria for Internal Epoxy Barrier Pipe Coating Material for Water Supply Systems
IAPMO IGC 189-2019e1, Internal Pipe Epoxy Barrier Coating Material for Application in Pressurized (Closed) Water Piping Systems
ASTM D 4541-2022, Standard Test Method for Pull-off Strength of Coatings Using Portable Adhesion Testers
NSF/ANSI/CAN 61-2022, Section 5, Drinking Water System Components – Health Effects
AWWA C210-2015, Liquid-Epoxy Coating System for the Interior and Exterior of Steel Water Pipelines

Identification:

Nu Flow 7000 Epoxy: Each container bears a label marked Part A or Part B, with the manufacturer's name (Nu Flow Technologies), the NSF 61 designation, the name of the third-party inspection agency, and the ICC-ES PMG listing mark. Each container is stamped on the top with the date of manufacture and the batch number.

Coated Piping or Rigid Tubing: At a maximum distance of 20 feet (6096 mm) along coated pipe or tube, and at each fixture connection, a label is attached indicating the manufacturer's name (Nu Flow Technologies), NSF-PW, the words "Attention, epoxy lined piping," the product name (Nu Flow 7000) and the ICC-ES PMG listing mark. The label includes a warning against using flame or heat when repairing any part of the piping system.

Installation:

The Nu Flow 7000 Epoxy System must be applied by authorized applicators trained by Nu Flow Technologies 2000, Inc. Existing piping or rigid tubes must be in good condition, with any cracks or leaks or visible signs of corrosion repaired. The following steps comprise the installation sequence:

1. The existing piping system is partially disassembled into separate sections, with flexible tube, valves and gasketed connections removed.
2. Each section is air-dried and sandblasted clean in accordance with the manufacturer's published instructions. The cleaned surface, when viewed without magnification, must be in a shiny metal state and free of all visible oil, grease, dirt, mill scale, rust, and previously applied coatings. Evenly dispersed, very light shadows, streaks and discolorations caused by stains of mill scale, rust and old coatings may be permitted to remain on no more than 33 percent of the surface. Slight residues of rust and old coatings are permitted to be left in the craters of pits, if the original surface is pitted. Upon completion, this level of cleaning must be visually verified and recorded by the applicator.
3. Each section is then pressure-tested with air to 100 psi (689.5 kPa), to verify that the pipe has no holes, cracks, or leaks.
4. Using proprietary measuring and application equipment provided by Nu Flow Technologies 2000, Inc., Nu Flow 7000 epoxy is applied in one end of a pipe or tube section and forced by air pressure through the section.
5. After drying in accordance with the manufacturer's instructions, the Nu Flow applicator then reassembles the piping system and hydrostatically pressure tests to 150 psi (1,034 kPa) in the presence of the code official or the official's designated representative.
6. In the presence of the code official or designated representative, the Nu Flow applicator then conducts a flow test to verify the minimum flow rate to each fixture in accordance with Table 604.3 of the IPC.

Models:

Nu Flow 7000 is a proprietary, two-part, mechanically mixed epoxy material that is pneumatically applied to the interior of cleaned rigid-galvanized pipe or copper tube used to convey pressurized potable water. Nu Flow 7000 is composed of a two-component epoxy (68%-part A to 32%-part B by weight) which meets the requirements of NSF 61, Section 5. The Nu Flow Epoxy System is recognized for application on either galvanized steel pipe or copper tube from 1/2 inch to 12 inches (12.7 to 305 mm) in diameter. The installed minimum thickness of the coating must be 0.007 inch (0.178 mm) on all sizes. The average coating thickness must not exceed 0.009 inch (0.229 mm) on 1/2-inch-diameter (12.7 mm) galvanized steel pipe and copper tube, or 0.05 inch (1.27 mm) on larger pipe and tube. The Nu Flow Epoxy System is not for application on gasketed connections, on valves or on flexible pressure pipe that can be flexed more than 15%.

Conditions of listing:

1. The Nu Flow 7000 system must be installed in accordance with this listing and the manufacturer's published installation instructions. In the event of a conflict, the instructions in this listing govern.
2. The existing piping system must be fabricated from rigid copper tubing or galvanized steel pipe materials in accordance with the applicable code.
3. For pipe materials such as lead or cast iron which are outside the scope of applicable codes, the epoxy lining of existing pipe is subject to the approval of authority having jurisdiction where installation is sought.
4. All leaks must be repaired prior to coating in such a way to restore the affected sections to a code-complying condition.
5. Nu Flow 7000 is manufactured under a quality control program with annual surveillance inspections by ICC-ES.