ICC-ES PMG Product Certificate

PMG-1147

Effective Date: June 2019
Revision Date: September 17, 2019
This listing is subject to re-examination in one year.

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CSI: DIVISION: 22 00 00—PLUMBING
              Section: 22 13 16—Sanitary Waste and Vent 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 System 2000

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

Compliance with the following codes:

2018. 2015, 2012 and 2009 *International Plumbing Code®* (IPC)
2018, 2015, 2012 and 2009 *International Residential Code®* (IRC)
2018, 2015, 2012 and 2009 *Uniform Plumbing Code®* (UPC)*
2015 and 2010 National Plumbing Code of Canada® (NPC)**

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Compliance with the following standards:

ICC-ES LC1011-2010, Listing Criteria for Rehabilitation of Existing Building Drains and Building Sewers by the Inversion and Curing of Resin-impregnated Tube
ASTM F1743-2017, Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place of Cured-in-Place Thermosetting Resin Pipe (CIPP)
NSF14-2017, Plastic Piping System Components and Related Materials
NSF SE 13004-2013, Rehabilitation for Small Diameter Pipelines

Code Alternate:

LC1011 was approved by the ICC-ES PMG Listing Committee based on several factors, which include the following: (1) ASTM F1743 is a consensus standard but not referenced in the code. (2) The code prohibits drainage line size reduction in the direction of flow. Nu Flow System 2000 installation does not constitute a reduction to a smaller nominal pipe size. Further, the resulting surface affords less friction loss, which provides equivalent flow capacity despite the small reduction in diameter. (3) The use of this system restores the treated pipe capacity to minimum requirements in the code. Note that this analysis only applies to systems evaluated by ICC-ES in accordance with LC1011.

Identification:

Nu Flow System 2000: Each container bears a label marked Part A or Part B, with the manufacturer's name, and the ICC-ES PMG listing mark. Each container is stamped on the side with the date of manufacture and the batch number.

Installation:

The Nu Flow System 2000 must be applied by authorized applicators trained by Aquam Corporation, Inc. The following steps comprise the installation sequence:

A. Wet Out:
1. The amount of resin and catalyst required is accurately calculate based on the size and thickness of the felt, and thoroughly mixed.
2. The wet out area is covered with plastic to prevent any resin from spilling onto the ground.
3. The liner is laid out on the plastic with the rollers in place ready to work the resin into the felt.
4. Pour the resin between the felt and the rubber bladder thoroughly saturate the flexible felt tube with resin using the metal rollers.
5. Fold and tape the resin impregnated tub to enable an easy installation.

B. Insertion:
1. The installation operation will be carried out using trenchless technology eliminating the need for excavation.
2. The tube will be impregnated with the pre-calculated amount of the epoxy resin after the two parts are thoroughly mixed.
3. The liner will be installed using the pull in place method where the liner bladder system will be pulled to the specified location in the pipe and the bladder will be inflated using compressed air or water to an adequate pressure forming the liner to tightly fit the internal circumference of the pipe.
4. The cured-in-place pipe shall provide a smooth bore interior and shall conform to the existing pipe eliminating groundwater and root infiltration. The tube will be continuous in length and wall thickness shall be uniform.

C. Curing:
The epoxy resin used is designed to have an ambient curing cycle and can be cured using one of the following methods:
1. The bladder will be inflated using air and the liner left in place until the resin curing cycle is complete.
2. The bladder is inflated using hot water which will result in a shorter curing cycle.

D. Finish:
The finished CIPP shall be continuous and free from visual defects such as foreign inclusions, dry spots, pinholes, and wrinkles.

E. Documentation:
An installations log will be filled out for each individual lateral, all aspects of the pipe and the liner are recorded, including pipe diameter, material, defects, cleaning, liner length, resin mix and curing times, a copy of the installation log along with a DVD having the Pre, Post and final video of the liner will be submitted part of the deliverables to the client.

Installation must comply with the manufacturer's published installation instructions and the applicable codes.

Models:

Nu Flow System 2000 is a felt tube made from woven or nonwoven material and impregnated with thermosetting resin.

Conditions of listing:

1. The Nu Flow System 2000 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 Nu Flow System 2000 may be used to line pipe with a minimum diameter of 2 inches (50 mm) up to a maximum diameter of 96 inches (2400 mm).
3. The rehabilitation of existing pipe by using Nu Flow System 2000 is suitable to be used in a variety of gravity and pressure applications such as sanitary sewers, building drains, storm sewers, process piping, electrical conduits, and ventilation systems.
4. Nu Flow System 2000 is under a quality control program with annual surveillance inspections by ICC-ES.