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**Ontario**

**Building Materials Evaluation  
Commission**

**Commission d'évaluation des  
matériaux de construction**

# **BMEC AUTHORIZATION: 14-03-369**

## **Nu Flow Non-destructive Pipe Rehabilitation System (CIPP)**

**Date of Authorization:** March 27, 2014  
**Date of Expiry<sup>1</sup>:** March 27, 2019

### **1. Applicant**

Nu Flow Technologies 2000 Inc.  
1313 Boundary Rd. South  
Oshawa, ON  
L1J 6Z7

Tel: 619 275-9130  
Fax: 619 275-7710  
Web: [www.nuflowtech.com](http://www.nuflowtech.com)

### **2. Manufacturing Facility**

Nu Flow Technologies 2000 Inc.  
1313 Boundary Rd. South  
Oshawa, ON  
L1J 6Z7

### **3. Authorization**

The Nu Flow Non-destructive Pipe Rehabilitation System (Cured in Place Pipe - CIPP) is a pipe rehabilitation system that allows the repair of pipes by a pulled-in-place installation of a resin impregnated flexible fabric tube into an existing conduit, and a bladder is inflated by the use of hydrostatic head or air pressure. The resin impregnated tube is expanded and pressed against the existing pipe wall allowing it to fit tightly around the inner wall of the host pipe.

Additional descriptive information is provided in documents supplied by the applicant listed in Appendix A.

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<sup>1</sup> This Authorization expires on the date shown. It is the responsibility of Authorization holders to make a complete application considering the time for review and complexity of the new application.

Reports and assessment provided by the Applicant demonstrate that if the Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) is manufactured, designed, installed, and maintained in accordance with manufacturer's instructions and limitations, and the specific terms and conditions stated in this Authorization, the use of the Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall be deemed not in contravention of Article 11.3.4.1. "Extension, Material Alteration or Repair", and Section 7.2. "Materials and Equipment" of Division B of the Building Code;

All other requirements pertaining to the construction and installation are subject to the requirements of the Building Code, and subject to the following terms and conditions contained in 4 and 5 below:

## 4. Specific Terms and Conditions

1. This Authorization is valid only for Nu Flow Non-destructive Pipe Rehabilitation System (CIPP);
2. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) may be used for the rehabilitation of cast iron, steel, ABS, PVC, copper, asbestos cement, clay, and concrete pipes in the interior or exterior of existing buildings;
3. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) may be used in drain, waste, vent, and force main systems;
4. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) may be used underground and above ground installations;
5. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) may be used in vertical and horizontal applications;
6. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall not exceed a maximum total of 270° of bends from the cleanout or point of insertion;
7. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall be used in conjunction with epoxy system Nu Flo System 2000, and only include base #200 and catalysts #210, #220 and #230;
8. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) may be used to repair pipes as described in Table 3.8. "Pipe Diameter and Length" below:

Table 3.8. "Pipe Diameter and Length"

Existing Pipe Diameter	Pipe Length
50 mm (2")	30.5 m (100 ft)
75 mm (3")	30.5 m (100 ft)
100 mm (4")	45.7 m (150 ft)
125 mm (5")	45.7 m (150 ft)
150 mm (6")	45.7 m (150 ft)
200 mm (8")	22.9 m (75 ft)
250 mm (10")	22.9 m (75 ft)
300 mm (12")	22.9 m (75 ft)

9. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall be used with one of the following custom designed liner tubes, in either a single felt liner or double thick liner arrangement:
  - a. Nu Flow liner, or
  - b. Nu Flex liner
10. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall be installed in accordance with:
  - a. NFS SE 13004 "Rehabilitation for Small Diameter Pipelines", for use in pipes having a diameter of 50 mm (2") to less than 100 mm (4");
  - b. ASTM 1743-2008 " Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place of Cure-in-Place Thermosetting Resin Pipe, for use in pipes having a diameter between 100 mm (4") and 300 mm (12"); and
  - c. "Nu flow Drain Lining Procedure Manual", ©The Nu flow Companies 2009, 105 pages, dated January 1, 2013,

Where there is a conflict in the requirements, the most restrictive requirement shall apply;

11. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall be installed by certified installers who are trained and approved by Nu Flow Technologies 2000 Inc.;
12. After the installation of the Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) is complete, Nu Flow Technologies 2000 Inc.'s Daily Quality Inspection Report and Quality Control Checklists shall be submitted to the Principal Authority;
13. The Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) shall have a post CCTV inspection performed, documenting the liner placement and condition; the owner shall receive a video recording and written report documenting the inspection of the cured-in-place pipe (CIPP) by a certified installer; and
14. Non-removable stickers or labels, shall be posted at either end of the pipe run and in conspicuous locations at the cleanout(s) nearest to the repaired pipes, recording the following information:
  - a. identifying Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) has treated the pipe(s),
  - b. Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) contact information,
  - c. a warning that the pipe has been coated with a liner, and
  - d. a warning not to torch, not to solder, and to use pressure fittings only.

## 5. General Conditions

1. The use of the Nu Flow Non-destructive Pipe Rehabilitation System (CIPP) as described in Section 3. and the Specific Terms and Conditions set out in Section 4 must comply with:
  - (a) the *Building Code Act, 1992*, (the "Act") as amended or re-enacted,
  - (b) except as specifically authorized herein, the Building Code as amended or remade, and
  - (c) all other applicable legislation.

2. A copy of this Authorization shall accompany each application for a building permit and shall be maintained on the site of the construction with the building permit.
3. The Applicant specified in Section 1. shall promptly notify the BMEC of:
  - (a) the failure of the Applicant to comply with any of the Specific Terms and Conditions set out in Section 4,
  - (b) the failure of the material, system or building design that is the subject matter of this Authorization to
    - (i) comply with any of the Specific Terms and Conditions set out in Section 4, or
    - (ii) provide a satisfactory level of performance in situ, or
  - (c) the occurrence of any of the events described in General Conditions 5.4.(a), (b), (e) or (f).
4. The BMEC may amend or revoke this Authorization at any time on its own initiative, or at the request of the Applicant specified in Section 1. Without restricting the foregoing, the BMEC may amend or revoke this Authorization where it determines that:
  - (a) any change has been made to:
    - (i) the name of the Applicant specified in Section 1,
    - (ii) the address or other contact name information of the Applicant specified in Section 1,
    - (iii) the ownership of the Applicant specified in Section 2,
    - (iv) the manufacturing facilities specified in Section 2,
    - (v) the material, system, or building design that is the subject matter of this Authorization, or
    - (vi) a test method relevant to this Authorization,
  - (b) the Applicant has failed to comply with any of the terms and conditions set out in this Authorization,
  - (c) in the opinion of the BMEC, the use of the material, system or building design authorized herein provides an unsatisfactory level of performance in situ,
  - (d) in the opinion of the BMEC, amendment or revocation of the Authorization is appropriate on the basis of potential danger to public health and safety,
  - (e) the Act or Building Code has been amended, re-enacted or remade in a manner relevant to this Authorization,
  - (f) this Authorization was issued on mistaken, false or incorrect information, or
  - (g) a revision of an editorial nature is appropriate.

Dated at Toronto this 27th day of March

## **BUILDING MATERIALS EVALUATION COMMISSION**

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Edward Link, P.Eng  
Chair, Building Materials Evaluation Commission

ENCLOSURES: APPENDIX A - SUPPORTING INFORMATION

## Appendix A – Supporting Information

The following is a list of the documents that were submitted and reviewed, but were not limited to:

1. Manufacturer's Literature, N. America Nu Flow™ Reline Repair Renew, "Corporate Overview", undated, 3 pages;
2. Manufacturer's Literature, N. America-Nu Flow™ Reline Repair Renew, "Why is "In-Place" Pipe Lining Better than Replacing Pipes", undated, 1 page;
3. Manual, Nu Flow™ Reline Repair Renew, "Nu Flow Drain Lining Procedure Manual", ©The Nu flow Companies 2009, 105 pages;
4. Manufacturer's Literature, Nu Flow™ Reline Repair Renew, "Nu flow Drain Lining Equipment List", undated, 5 pages;
5. Test Report, NSF International, "ASTM F1216-2011 – NSF/ANSI 14, 4" - PVC Pipe with Liner", Job Number J-00113248, dated 03-Aug-2012, 6 pages;
6. Test Report, Canadian Standards Association, "Flexural Strength & Modulus of Elasticity-ASTM D 790-02, Procedure A., Method I", File Number 221843-1467626", dated August 11, 2003, 1 page;
7. Test Report, Triodem Technical Services Ltd., Flow Comparison Analysis, dated May 14, 2002, 3 pages;
8. Test Report, Triodem Technical Services Ltd., Tensile Properties, Report Number D-5533 Revision 1, dated 21 May 2004, 1 page;
9. Test Report, Triodem Technical Services Ltd., Tangent (Flexural) Modulus and Flexural Strength, Report Number E-2936, dated 31 January 2005, 3 pages;
10. Test Report, Acuren, Tangent Flexural Modulus, Flexural Strength and Wall Thickness, Report Number 07-845, dated 16 March 2007, 1 page;
11. Design Sheet, Trenchless Design, "CIPP DESIGN by ASTM F1216-98X1 for Gravity Pipes", dated 12-May-03, 1 page;
12. Certificate, IAMPO RESEARCH AND TESTING INC., "Certificate of Listing", File No. C-4547, Effective date January 2013, 3 pages;
13. Listing, ES ICC EVALUATION SERVICE, ICC-ES PMG Listing, PMG-1147, Effective Date June 1, 2013, 3 pages;
14. Listing, NSF International, Official Listing, Nu Flow Technologies 2000 Inc., dated June 10, 2013, 1 page;
15. Certificate, NSF International, Nu Flow Technologies Inc. 2000, dated February 1, 2005, Certificate # 1P791-01, complies with NSF/ANSI 14, 1 page;
16. Manual, Nu Flow™ Reline Repair Renew, "Quality Manual", Revision Date 10-01-12, 37 pages;
17. Material Safety Data Sheet, Nu Flow™ Reline Repair Renew, Epoxy Resin #200, date of issue 12/15/2011, 5 pages;
18. Material Safety Data Sheet, Nu Flow™ Reline Repair Renew, Epoxy Hardener #220, date of issue 12/15/2011, 5 pages;
19. Quality Control Sheets, "Base Epoxy #200" and "Normal Catalyst #220", revised December 16, 2010, 2 pages;
20. Label Samples, Nu Flow™ Reline Repair Renew, revised October 10, 2012, 3 pages
21. Sample Forms, Nu Flow™ Reline Repair Renew, 7 pages, undated
22. Schedule, Nu Flow™ Reline Repair Renew, "Equipment Maintenance Schedule", dated 10-15-12, 1 page;
23. Sample Certificate, Nu Flow™ Reline Repair Renew "Warranty Certificate", undated, 1 page;
24. Approval Letter and Certificate, State of Michigan, Department of Labor & Economic Growth, "Certificate of Acceptability, Nu Flow Technologies Inc., Product: Nu Flow Lateral Lining. Cured in Place Pipe (CIPP), Effective date January 11, 2006, 3 pages;

25. Approval Letter, State of Louisiana Department of Health and Hospitals, "Use of Nu Flow Cure-In-Place-Pipe (CIPP) Drain Lining for Drainage, Waste and Vent Pipes", dated June 5, 2008, 2 pages;
26. Approval Letter, Illinois Department of Public Health, "Cured in Place Pipe Lining (CIPP)", dated October 12, 2005, 3 pages;
27. Online registry, "Accepted Plumbing Products Online System Massachusetts Board of Registration", dated 8/9/2013, 1 page;
28. Letter from Karan Singh, P.Eng, to the BMEC, Subject: Nu Flow Non-Destructive pipe Rehabilitation Lining System (CIPP), dated March 18, 2013;
29. Letter from Dennis W. Persaud, Compliance Manager to the BMEC, Subject: BMEC Application 2013-10 – Response to questions by BMEC on Nu flow non-destructive pipe rehabilitation system (CIPP), dated November 19, 2013;
30. Letter from Dennis W. Persaud, Compliance Manager to the BMEC, Subject: BMEC Application 2013-10 – Response to questions by BMEC on Nu flow non-destructive pipe rehabilitation system (CIPP), dated November 27, 2013; and
31. Letter from Dennis W. Persaud, Compliance Manager to the BMEC, Subject: BMEC Application 2013-10 – Response to the second set of questions by BMEC on Nu flow non-destructive pipe rehabilitation system (CIPP), dated December 20, 2013.