

BUILDING MATERIALS EVALUATION COMMISSION AUTHORIZATION REPORT

DATE OF AUTHORIZATION
BMEC AUTHORIZATION
BMEC APPLICATION
DATE OF REVISION (Applicant name change)

APRIL 24, 2003
BMEC # 03-03-282
#A2003-05
MAY 28, 2015

PIPE SHIELD Non-destructive Pipe Rehabilitation Process

1. Applicant

Vintage Equities (Pipe Shield) Inc.
1105 Britannia Road East
Mississauga, Ontario
L4W 3X1

Tel: (905) 670-7481
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2. Manufacturing Facilities

Vintage Equities (Pipe Shield) Inc.
1105 Britannia Road East
Mississauga, Ontario
L4W 3X1

3. Description

The Vintage Equities (Pipe Shield) Inc.'s Pipe Shield Non-destructive Pipe Rehabilitation Process (The "Pipe Shield Process") is intended for the rehabilitation of metallic potable water pipes. The Pipe Shield Process repairs pipes one-half inch (½") in diameter to four inches (4") in diameter. The Pipe Shield Process, using existing access points along the water line riser, cleans the pipes with air pressure and a garnet abrasive grit. After removing the abrasive grit from the cleaned pipes, air pressure is used to test the lines for leaks and a video bora scope is employed to visually examine the cleaned surfaces. Air pressure is again utilized to apply the AquataPoxy™ A-61 and /or Pipe Shield AN500™, a non-toxic, two-component epoxy. Upon completion, the performance level of the restored pipe is not less than that which existed prior to the Pipe Shield Process.

4. Authorization requested

The applicant sought a Building Materials Evaluation Commission (BMEC) authorization for the Pipe Shield Process as an alternative to repairing metal water pipes in existing buildings, as required by Article 7.1.2.2. "Alteration or Repair", and Section 7.2. "Materials and Equipment" of Ontario Regulation 403/97 (the "Ontario Building Code"), as amended or remade from time to time.

5. Assessment

Reports and assessments provided by the applicant show that if the Pipe Shield Process is designed, performance tested and installed in accordance with the manufacturer's instructions and limitations and the specific terms and conditions stated in this authorization, the level of performance required by the Ontario Building Code will be provided.

Reports submitted, and reviewed:

1. Pipe Shield "Pipe Shield Technology Description and Installations Procedures", February 20, 2003.
2. Pipe Shield "Equipment Schedule For Small Commercial Applications", November 28, 2002.
3. Raven Lining System "AquataPoxy™ A-61" copyright 2002.
4. Material Safety data Sheet for AquataPoxy™ A-61.
5. NSF International Certification correspondence, February 20, 2003.
6. Pipe Shield "Outline of the Pipe Shield Training Program", February 18, 2003.
7. Pipe Shield "Usage and Limitations", February 19, 2003.
8. Pipe Shield "Epoxy Lining Production Report Form"
9. Pipe Shield Non Removable Warning Labels.
10. Pipe Shield and Bradley Mechanical Services Warranty Certificate.
11. Pipe Shield "Employee Safety Handbook"
12. Bradley Mechanical Services LTD "Quality Management Manual"
13. Bradley Mechanical Services LTD (BMS) "Quality Management System: Forms/List."
14. EnvirSense "Fact Sheet from the Navy Pollution Prevention Conference on the Restoration of Drinking Water Piping with Nontoxic Epoxy Linings", June 6, 1995.
15. NSF International: Internet Data Sheets Providing Information with Respect to the Organization, Accreditations, Services, Water Distribution Systems, Certification Process, Products and Service Listings.
16. Manufacturer Information "Pipe Shield."

6. Authorization

Use of the Pipe Shield Process is authorized as an alternative to traditional metal water pipe repair and/or replacement, subject to the following:

A. Specific Terms & Conditions

1. This authorization is valid only for Vintage Equities (Pipe Shield) Inc.
2. Only manufacturer trained and approved installation personnel shall perform the Pipe Shield Process in accordance with the Pipe Shield Installation, Training & Quality Assurance Manual.
3. The manufacturer shall provide field training to all installers and such training will be delivered by an experienced technician approved by Vintage Equities (Pipe Shield) Inc.
4. The Pipe Shield Process shall only be used on pipe of one-half inch ($\frac{1}{2}$ ") in diameter to four inches (4") in diameter and in single pipe segments up to one thousand feet (1000 ft) in length.
5. The Pipe Shield Process shall not be used in fire protection systems, such as standpipe and sprinkler systems.
6. The AquataPoxy™ A-61 and /or Pipe Shield AN500™, non-toxic, two-component epoxy shall be certified to the ANSI/NSF-61-2002 standard.
7. The thickness of the epoxy coating shall be determined by the epoxy manufacturer process instructions. The reduction in pipe diameter from the coating should be considered minimal and not essential for the flows in the pipes.
8. The curing process shall be supervised at all times by Vintage Equities (Pipe Shield) Inc.'s personnel in accordance with the "Pipe Shield Technology Description and Installation Procedures."
9. All materials and including the two-component epoxy equipment used in the Pipe Shield Process shall be supplied by Vintage Equities (Pipe Shield) Inc. and shall be handled in accordance with the manufacturer's specifications.
10. Trained and authorized Vintage Equities (Pipe Shield) Inc.'s personnel in accordance with the Pipe Shield Instruction Manual shall, upon completion of the work or segment of the work, perform a visual inspection using a video bora scope to ensure the continuity and integrity of the applied lining.
11. The Pipe Shield Process shall include a warranty certificate that includes "The Pipe Shield Epoxy Lining Production Report."

12. Non-removable stickers or labels recording the following information shall be applied near the water shut off valve on each riser treated;
 - (a) a name and telephone label - identifying Vintage Equities (Pipe Shield) Inc.'s as having treated the pipe and including the phone number to call for information,
 - (b) a warning - that the pipe has been coated with an epoxy lining, and
 - (c) warning - not to torch, not to solder and to use pressure fittings only.

B. General Conditions

1. The use of the Pipe Shield Process as described in 6. A. Specific Terms and conditions No. 1. must comply with the *Building Code Act, 1992* as amended or re-enacted from time to time and except as specifically authorized herein, with the Ontario Building Code as amended or remade from time to time.
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 named in Part 1 hereof shall promptly notify the BMEC of:
 - (a) the failure of the Applicant, or of the material, system or building design that is the subject matter of this Authorization, to comply with any of the terms and conditions set out in 6. A. above; or
 - (b) the occurrence of any of the events described in Conditions 6. B. 4.(a) and (b) (ii) below.
4. The BMEC may amend or revoke this Authorization where it determines that:
 - (a) any change has been made to:
 - (i) the material, system or building design that is the subject matter of this Authorization;
 - (ii) the address of the applicant specified in Part 1 of this Authorization; or,
 - (iii) the ownership of the applicant specified in Part 1 of this Authorization.
 - (b) the use of the material, system or building design authorized herein;
 - (i) does not comply with the *Building Code Act, 1992* or any relevant legislation as they may be amended or re-enacted from time to time; or

- (ii) provides an unsatisfactory level of performance, in situ.
 - (c) the Applicant, or the material, system or building design that is the subject matter of this Authorization, has failed to comply with any of the terms and conditions set out in this Authorization; or
 - (d) any Ontario Building Code provision relevant to this Authorization has been amended or remade.
5. Where the Commission receives additional information concerning the material, system or building design authorized herein, the Commission may review this Authorization and the Commission may after the review amend or revoke this Authorization as in the opinion of the Commission may be necessary.

at Toronto this 24th day of April 2003.

BUILDING MATERIALS EVALUATION COMMISSION

Rashmi Nathwani, Chair