



LISTING REPORT

Number: UEL-5054

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FLOW-LINER® SYSTEMS

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FLOW-LINER® CIP-CONDUIT®

CSI Sections:

26 05 33.13 – Conduit for Electrical Systems

27 05 33 – Conduits and Backboxes for
Communication Systems

1.0 RECOGNITION

1.1 Compliance with the following standard:

- ASTM F1216 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

1.2 Properties assessed:

- Flexural Strength
- Flexural Modulus
- Tensile Properties

2.0 LIMITATIONS

Use of the FLOW-LINER® CIP-Conduit® system recognized in this report is subject to the following limitations:

2.1 The FLOW-LINER® CIP-Conduit® system shall be manufactured, identified, and installed in accordance with this report and the applicable codes. In the event of a conflict, the most restrictive requirement governs.

2.2 The manufacturer's installation instructions shall be always available during the repair operation.

2.3 Repair operations and inspections shall be made by individuals trained and certified by FLOW-LINER® Systems.

2.4 The use of additives in the resin is beyond the scope of this report.

2.5 The FLOW-LINER® CIP-Conduit® system is limited to use as an underground, continuously supported conduit system.

2.6 The maximum heat deflection shall be limited to 172°F (78°C) in existing pipelines and conduits lined with the FLOW-LINER® CIP-Conduit® system.

2.7 The FLOW-LINER® CIP-Conduit® system shall be installed in conduits meeting the requirements of the National Electrical Code.

2.8 The products recognized in this report are produced by FLOW-LINER® Systems in Zanesville, Ohio.

3.0 FINDINGS

3.1 **Product Information:** The FLOW-LINER® CIP-Conduit® system is used as a non-invasive rehabilitation method to repair and seal underground electrical conduits and telecommunications conduits, which include fiber optic conduits, telephone conduits, and computer conduits.

For 2-inch diameter (51 mm) and larger conduits, the FLOW-LINER® CIP-Conduit® uses a specially designed polyester felt substrate material with a PVC membrane that is impregnated with the applicable proprietary FLOW-LINER® CIP-Conduit® resin. Once the liner system is installed by the inversion method, it is integrated with the existing conduit. The impregnated liner has a thickness ranging from 1.5 mm to 5 mm after curing. The resin is epoxy-based with the mixture color-tinted red to aid in proper mixing and identification. For conduit less than 2 inches, the liner is a jointless, waterproof thermoplastic liner.

3.2 **Compliance:** FLOW-LINER® CIP-Conduit® system based on testing complies with the applicable portions of ASTM F1216 as shown in Table 1 of this report.

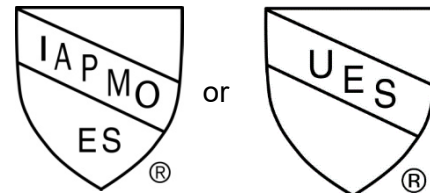
TABLE 1
Results of Properties Tested to ASTM F1216

Test	Requirement	Result
Flexural Strength	4,500 psi	10,744 psi
Flexural Modulus	250,000 psi	415,037 psi
Tensile Properties	3,000 psi	5,219 psi

For SI: 1 psi = 6.89 MPa

4.0 IDENTIFICATION

FLOW-LINER® CIP-Conduit® liner will be identified on the liner and packaging, and the resin will be identified, and the packaging shall include the FLOW-LINER® name and trademark, product name, and listing number (UEL-5054). The identification may also include either of the IAPMO Uniform Evaluation Service Marks of Conformity as shown below:



IAPMO UES UEL-5054

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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5.0 SUBSTANTIATING DATA

5.1 Reports of testing in accordance with ASTM F1216.

5.2 Test reports are from laboratories in compliance with ISO/IEC 17025.

6.0 STATEMENT OF RECOGNITION

This listing report describes the results of research completed by IAPMO Uniform Evaluation Service on FLOW-LINER® System's FLOW-LINER® CIP-Conduit® system to assess conformance to the standard shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.8 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this listing report please visit www.uniform-es.org or email us at info@uniform-es.org