COLORADO DEPARTMENT OF TRANSPORTATION

PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

APL Reference No. 3044-10

Product Evaluation Coordinator
Colorado Department of Transportation
4670 North Holly Street, Unit A
Denver, Colorado 80216

Material code: 707.12.01.00

FOR INTERNAL CDOT USE

Material code description full name: Pipe, Repair, Lining

PART 1

Product name: Glass Reinforced Pipe / Cured-In-Place Pipe

Product category: Drainage\Culvert Pipe\Culvert Lining (Repair)

Product representative (name & address):
Attn: Christopher Larson
C&L Water Solutions, Inc.
12249 Mead Way
Littleton, CO 80125
Phone: (303) 791-2521 FAX: (303) 791-2524

Manufacturer (name & address):
Attn: Dr. Jurgen Alexander
Saertex Multicom, GmbH
Brochterbecker Damm 52
48369 Saerbeck, Germany
Phone: (163) 345-0505 FAX:

Web-site address:

Web-site address: www.saertex-multicom.de

Description of the product: (Include specific quantifiable details from tech data sheet. Advertising generalities are not appropriate.)

This product is very similar to traditional CIPP products with the following differences:
Installing a fiberglass reinforced liner will give you the following advantages:

1. Modulus of Elasticity: S-liner DESIGN PSI: 1,740,000PSI, Tested 4mm-2,540,000PSI Mean Average vs. 450,000PSI for felt with thicker wall designs
2. Wall thickness: Because of strength, capable of installing line in thinner wall thicknesses, retains hydraulic capacity.
3. 0 Styrene emissions/pollutions: This is a dry installation, no pollution from styrene contaminated waters. Small equipment footprint, no big boilers.
4. Pre-inspection capable: we know what the liner will look like once cured; before we cure.
5. 70 Design life vs. 50 Design life for the felt products.

Restrictions, (installation and/or use):

Use of the product, (be specific to CDOT highway activities only):
Rehabilitation/Replacement of Storm Sewer Drainage culverts and piping from 6" to 48".

Benefits to CDOT, (how will your product enhance quality, improve safety, save money, be a better value then other manufacturer's products):
No other CIPP tube can compare in strength, design life, and minimal environmental impact. The result being that the product is a far more advanced and cost effective alternative. We can be cost competitive due to the thinner wall thicknesses, improved strength, and UV curing. These elements allow for lower cure times and cost. This product is a structural stand alone product that will protect the roadways and stream ways from potential damage.

Specifications, (listing those applicable is required) **& Certificate of Compliance** (required to certify compliance with listed specifications):

- ☐ CDOT :
- ☒ ASTM : F 2019
- ☐ AASHTO :
- ☐ FHWA :
- ☒ other : European ATVM-127

Product testing, (from national/independent laboratories or universities) **& Certified Test Report** (CTR required to validate all claims):

- ☐ NTPEP-AASHTO :
- ☐ FHWA :
- ☒ other : IKT [Institute for Underground Infrastructure] (May 24, 2007)
- ☐ other :

State DOT Approvals, (current documentation required):

Sample submitted: ☒ yes ☐ no ☐ n/a | Materials Safety Data Sheets (MSDS): ☐ yes ☐ no ☒ n/a

Notes/Additional Comments
Submitted an engineer's standard and sample.