

Product Evaluation

RE: Review of GeoSpray Geopolymer Mortar

PRODUCT

GeoSpray Geopolymer Mortar is manufactured and distributed in Alberta by Henkel Corporation located in Lafayette, Colorado, USA. Web Site: <https://www.cs-nri.com/>

VENDOR CLAIMS AND INFORMATION

CLAIMS

GeoSpray Geopolymer Mortar is a high-performance fiber reinforced mortar specifically designed for structural rehabilitation. This high strength, ultra-low porosity material is made from natural mineral polymers and recycled industrial waste streams. The GeoSpray system is designed for use through multiple application techniques including pouring, placing, trowelling, spraying, or centrifugal casting.

DESCRIPTION

GeoSpray Geopolymer is a high-performance fiber reinforced mortar specifically designed for rehabilitation, primarily of pipes and culverts above 900mm in diameter, to create a new structural pipe within the existing structure. The material is designed for use through multiple application techniques including pouring, placing, troweling, spraying, or centrifugal casting.

POTENTIAL USAGE

Rehabilitation of pipes and culverts

STANDARDS

ASTM C 39 – Compressive Strength
ASTM C 469 – Modulus of Elasticity
ASTM C 807 – Set Time
ASTM C 1090 – Shrinkage
ASTM C 1138 – Abrasive Resistance

ASTM C 78 – Flexural Strength
ASTM C 880 – Bond Strength of Concrete
ASTM C 666 – Freeze Thaw Durability
ASTM C 496 – Tensile Strength
ASTM C 1202 – Rapid Chloride Ion Permeability

ALBERTA TRANSPORTATION AND ECONOMIC CORRIDORS COMMENTS

EXPERIENCE

Alberta Transportation and economic Corridors has used this product.

APPLICABLE STANDARDS

Alberta Transportation Specification 2.10.2.6, Mortar; 2.18.2.2 Cement Mortar; 5.16.2.7 Cement Mortar

RECOMMENDATIONS:

GeoSpray Geopolymer Mortar be listed as a Trial Product under Alberta Transportation and Economic Corridors's Products List, Culverts – Culvert Liners – Proprietary based on the information provided. Final acceptance as a proven product will be based on field performance.

TRIAL PROJECTS

Hwy 33 Jerry Creek (Bridge File 78643) CON0018144, Work on the geopolymer liner was started on November 30, 2024, and the final touches were completed on Jan 22, 2025

Rishi Adhikari

cc New Products Evaluation Group – Kristen Tappenden
Junaid Iqbal, Landon Keep, Tyler Donovan