COLORADO DEPARTMENT OF TRANSPORTATION

PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

APL Reference No. 3918-15

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

Material code: 701.03.01.00

FOR INTERNAL CDOT USE

Material code description full name: Silica Fume

PART 1

Product name: Microfume Concrete (102) [SA]	Product category: Concrete\Pozzolan\Silica Fume
Product representative (name & address): Attn: Rodney Chiodo R-E-D Industrial Products 100 Meadow Lane Suite 7 DuBois, PA 15801 Phone: (814) 673-1552 FAX: (814) 217-6839	Manufacturer (name & address): Attn: Ed Hopkins FerroAtlantica Old Middleburg Road e Malahleni, 1035 South Africa Phone: (330) 764-3500 FAX: (330) 764-3550
Web-site address: www.redindustrialproducts.com	Web-site address: www.ferroatlantica.es

Description of the product: (Include specific quantifiable details from tech data sheet. Advertising generalities are not appropriate.)
Microfume Concrete is a silica fume for inclusion in a concrete mix as a supplementary cementious material to increase the density and strength on the mix. Microfume Concrete is a continuously produced product which is rigorously tested to meet both the U.S. ASTM C1240 standards and the European EN 13263 standards. Test data over the entire 2014 year has an average silica content of 91.65%, a loss on ignition of 3.4%, a specific surface of 18.51m2/g, and a pozzolanic activity index of 121%.

Restrictions, (installation and/or use):
There are no restrictions on this product. It can be used as any silica fume would.

Use of the product, (be specific to CDOT highway activities only):
For replacement of a portion of the cement in a mix to increase the durability and strength.

Benefits to CDOT, (how will your product enhance quality, improve safety, save money, be a better value then other manufacturer's products):
When adding Microfume Concrete to a mix design it will increase the density and strength therefore increasing the durability and extending the time which the concrete element can be in service.

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

- ☐ CDOT :
- ☒ ASTM : C 1240-14
- ☒ AASHTO : M 307
- ☐ FHWA :
- ☐ other :

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

- ☐ NTPEP-AASHTO :
- ☐ FHWA :
- ☒ other : FerroAtlantica Group - Internal (November 2013)
- ☒ other : Tourney Consulting Group (August 19, 2015)

State DOT Approvals, (current documentation required):
CA, WA

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

Notes/Additional Comments