COLORADO DEPARTMENT OF TRANSPORTATION

PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

APL Reference No. 3226-14

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

Material code: 618.02.01.00

FOR INTERNAL CDOT USE

Material code description full name: Concrete, Grout, Post-Tensioned

PART 1

Product name: NA-50

Product category: Concrete\Grout\Post-Tensioned Cable

Product representative (name & address):
Attn: Andrew Beaty
US SPEC
112 South Santa Fe Drive
Denver, CO 80223
Phone: (303) 778-7227 FAX: (303) 722-8426

Web-site address: www.usspec.com

Manufacturer (name & address):
Attn: Andrew Beaty
US Mix Co.
112 South Santa Fe Drive
Denver, CO 80223
Phone: (303) 778-7227 FAX: (303) 722-8426

Web-site address: www.usmix.com

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

US SPEC's NA-50 is a high-flow, zero-bleed, non-aggregate, non-shrink cementitious grout designed as a Class C grout as determined by the Post-Tensioning Institute (PTI) Guideline Specification. NA-50 is a blend of high quality proprietary admixtures providing shrinkage compensating properties while extending working times to aid extended pumping distances and better pumpability. NA-50 experiences zero-bleed when tested at 50 psi for 5 minutes per PTI GS 4.4.5.2, Table 4-1 as well as zero-bleed under Wick Induced Bleed Testing. The aggregate-free formulation is ideally situated where clearances are minimal such as in the grouting of tendons. NA-50 can also be used for anchoring bolts, dowels and rods where sanded grouts restrict encapsulation. NA-50 is non-metallic and contains no aluminium powder. NA-50s rate of set is approximately 8 hours and attains a compressive strength of 8,700 psi at 7 days.

For non-post-tension applications in depths exceeding 3" NA-50 must be extended by up to 30% by weight with clean, washed & dried 3/8" pea gravel.

Restrictions, (installation and/or use):
Maintain contact areas between 40° F and 90°F prior to grouting and during initial curing period.

Use of the product, (be specific to CDOT highway activities only):
Grouting of post-tension ducts or where non-sanded non-shrink grouts are needed.

Benefits to CDOT, (how will your product enhance quality, improve safety, save money, be a better value then other manufacturer's products):
Manufactured locally in Denver, CO allows convenient availability, delivery & advantageous pricing.

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

- [x] CDOT : Standard Specification Section 618.09 (b), Table 618-1
- [ ] ASTM :
- [ ] AASHTO :
- [ ] FHWA :
- [x] other : PTI M55.1-12

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

- [ ] NTPEP-AASHTO :
- [ ] FHWA :
- [x] other : Nelson Testing Laboratories (June 4, 2013)
- [x] other : Concrete Solutions (November 4, 2014)

State DOT Approvals, (current documentation required):
ID, IA, NC, TN

Sample submitted: [ ] yes [x] no [ ] n/a | Materials Safety Data Sheets (MSDS): [x] yes [ ] no [ ] n/a

Notes/Additional Comments