



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

THOMAS F. BARRY, JR.
SECRETARY

MEMORANDUM

DATE: October 30, 2002

TO: Specification Review Distribution List

FROM: Duane F. Brautigam, P.E., State Specifications Engineer

COPY: Philip Lancaster, State Materials Office

SUBJECT: **Proposed Specifications Change** – D9340000 – Non-Shrink Grout

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Non-Shrink Grout.

This change was proposed by Philip Lancaster to require the Contractor to provide the Engineer a certification conforming to the requirements of Section 6 from the manufacturer.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after November 27, 2002 may not be considered. Your input is encouraged.

DFB/sh

Attachment

COMMENTS:

Submitted by:

Phone #:

934—NON-SHRINK GROUT.

~~—(REV 12-20-0110-9-0210-21-02) (FA 1-3-02) (7-02)~~

SECTION 934 (Pages 869 and 870) is deleted and the following substituted:

**SECTION 934
NON-SHRINK GROUT**

934-1 Scope.

This Section covers only prepackaged non-shrink cementitious grout for structural use.

934-2 Type Permitted.

Only non-metallic formulations of grouts are allowed. Gas producing, metal oxidizing and expansive aggregate grouts are not allowed.

934-3 Sampling and Testing Methods.

Perform concrete sampling and testing in accordance with the following methods:

- Making and Curing Concrete Test Specimens
in the Laboratory..... ASTM C 192 [ASTM C 192M]
- Time of Setting Concrete Mixtures by
Penetration Resistance ASTM C 403 [ASTM C 403M]
- Determining Low-Levels of Chloride in Concrete and
Raw Materials FM 5-516
- Compressive Strength of Hydraulic Cement
Mortars..... ASTM C 109 [ASTM C 109M]
- Flow of Grout for Preplaced Aggregate Concrete
(Flow Cone Method)..... ASTM C 939
- Measuring Changes in Height of Cylindrical Specimens from
Hydraulic Cement Grout..... ASTM C 1090
- Expansion and Bleeding of Freshly Mixed Grout for Preplaced
Aggregate Concrete in the Laboratory..... ASTM C 940

934-4 Requirements.

When tested as provided in 934-3, the grout shall meet the following requirements:

Property	Test Value
Compressive strength	
one day	2,500 psi [17 MPa] minimum
3 days	5,000 psi [35 MPa] minimum
Time of set, final	8 hours maximum
Chloride Content	0.40lb/yd3 [0.25 kg/m3] maximum
Hardened Height Change @ 1, 3, 14, and 28 Days	0.0% to 0.3%
Hardened Height Change @ 1, 3, and 14 Days	≤ Height Change @ 28 Days
Expansion	≤ 2.0% @ 3 Hours
Bleeding, Final	0.0% @ 3 Hours

934-5 Acceptance. ~~Certification~~ **Product Acceptance on the Project:**

Non-shrink grout shall be one of the products included on the Qualified Products List (QPL). Materials included on the QPL require no additional testing. Materials remaining in storage for more than six months must be retested before use. *The Contractor shall provide certification to the Engineer in accordance with a certification conforming to the requirements of Section 6 from the manufacturer confirming that the requirements of this Section are met.*

Non-shrink grout used shall be one of the products listed on the Qualified Products List. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

934-6 Rejection.

Materials shall be rejected at the point of use if the materials are caked, lumpy, or show any signs of deterioration. Materials shall be rejected if the grout does not achieve the design fluidity or consistency when mixed according to the manufacturer's recommendations.

All broken or open packages shall be rejected.

934-7 Packaging.

Cementitious materials for grouts must be packaged in suitable moisture resistant containers and clearly labeled. Where applicable, manufacturers recommendations, limitations and cautions shall be clearly visible on each label.

934-8 Qualified Products List.

~~Manufacturers seeking evaluation of non-shrink grout for use on state projects that are not on the QPL shall meet the requirements of 6-1 and this Specification. A unit sample shall be submitted to the Engineer for testing at the State Materials Office. The unit sample submitted for testing shall be a single package of no less than 40 pounds [18 kg]. Materials which fail to meet the requirements of 934-4, when tested for manufacturer's evaluation, will not be included on the QPL. Non-shrink grout used shall be one of the products listed on the Qualified Products List. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.~~