Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

August 14, 2025

Daniel Holt, PE, PTOE
Director, Project Delivery
Director, Technical Services
FHWA
400 West Washington Street, Suite 4200
Orlando, FL 32801

Re: State Specifications Office
Section: 938
Proposed Specification: **9380402 Duct Filler for Post-Tensioned Structurs**

Dear Mr. Holt:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Ronald Simmons to update the unit of sulfate limitation and sampling time according to the test method.

Please review and transmit your comments, if any, within two weeks (10 business days). Comments should be sent via email daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on File

Daniel Strickland, P.E.
State Specifications Engineer

DS/jb
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

DUCT FILLER FOR POST-TENSIONED STRUCTURES
(REV 5-21-25)

SUBARTICLE 938-4.2.2 is deleted and the following substituted:

938-4.2.2 Laboratory Testing: The grout shall meet or exceed the specified physical properties stated herein as determined by the following standard and modified ASTM and FM test methods conducted at normal laboratory temperature (65°F-90°F) and conditions. Prepare all laboratory test specimens using 110 percent of the maximum water allowed by the manufacturer unless otherwise noted in Table 938-1. Tests A, B, N, and O will be conducted by the Department.

Table 938-1			
Test ID	Property	Test Value	Test Method
A	Total Chloride Ions	Max. 1.0 lb/yd^3	FM 5-516 (1)
B	Total Sulfate Ions	Max. 3~~0~~ mg/g~~ppm~~	FM 5-618 (1)
C	Gradation	99% passing the No. 50 95% passing the No. 100 90% passing the No. 170	ASTM C136(2)
D	Hardened Height Change @ 24 hours and 28 days	0.0% to + 0.2%	ASTM C1090
E	Expansion	≤ 2.0% for up to 3 hours	ASTM C940
F	Wet Density - Laboratory	Report maximum and minimum obtained test value lb/ft^3	ASTM C138
G	Wet Density - Field	Report maximum and minimum obtained test value lb/ft^3	ASTM C138 or ASTM D4380
H	Compressive Strength 28 day (Average of 3 cubes)	≥7,000 psi	ASTM C942
I	Initial Set of Grout	Min. 3 hours Max. 12 hours	ASTM C953
J	Time of Efflux immediately after mixing	Max. 12 seconds	ASTM C939(3)
K	Bleeding @ 3 hours	0.0 percent	ASTM C940(4)
L	Pressure Induced Bleeding	0.0 percent	ASTM C1741
M	Surface Resistivity@ 28 days	≥16 kOhms-cm	AASHTO T 358
N	Relative Viscosity, RV_f, determined from Dynamic Sheer Rheometry	< 1.15	FM 5-605

Table 938-1			
Test ID	Property	Test Value	Test Method
O	Inclined Tube Test		FM5-619
	Amount of Bleed	≤ 0.0%	
	Allowable Difference in Moisture	≤ 2.0%	
	Penetration at 500 psi	≤ 1 mm	

(1) Obtain test sample in accordance with FM5-619 ~~from upper vent of inclined tube test specimen after 7 days curing~~.

(2) Use ASTM C117 procedure to determine the percent passing after washing the sieve.

(3) The time of efflux is the time to fill a one liter container placed directly under the flow cone. Modify the ASTM C939 test by filling the cone to the top instead of to the standard level. Use the midrange of the water content indicated in the manufacturer's technical data sheet to produce the time of efflux.

(4) Use ASTM C940 to conform with the wick induced bleed test as modified by the Post-Tensioning Institute specification PTI M55.1-12.

DUCT FILLER FOR POST-TENSIONED STRUCTURES
(REV 5-21-25)

SUBARTICLE 938-4.2.2 is deleted and the following substituted:

938-4.2.2 Laboratory Testing: The grout shall meet or exceed the specified physical properties stated herein as determined by the following standard and modified ASTM and FM test methods conducted at normal laboratory temperature (65°F-90°F) and conditions. Prepare all laboratory test specimens using 110 percent of the maximum water allowed by the manufacturer unless otherwise noted in Table 938-1. Tests A, B, N, and O will be conducted by the Department.

Table 938-1			
Test ID	Property	Test Value	Test Method
A	Total Chloride Ions	Max. 1.0 lb/yd^3	FM 5-516 (1)
B	Total Sulfate Ions	Max. 3 mg/g	FM 5-618 (1)
C	Gradation	99% passing the No. 50 95% passing the No. 100 90% passing the No. 170	ASTM C136(2)
D	Hardened Height Change @ 24 hours and 28 days	0.0% to + 0.2%	ASTM C1090
E	Expansion	≤ 2.0% for up to 3 hours	ASTM C940
F	Wet Density - Laboratory	Report maximum and minimum obtained test value lb/ft^3	ASTM C138
G	Wet Density - Field	Report maximum and minimum obtained test value lb/ft^3	ASTM C138 or ASTM D4380
H	Compressive Strength 28 day (Average of 3 cubes)	≥7,000 psi	ASTM C942
I	Initial Set of Grout	Min. 3 hours Max. 12 hours	ASTM C953
J	Time of Efflux immediately after mixing	Max. 12 seconds	ASTM C939(3)
K	Bleeding @ 3 hours	0.0 percent	ASTM C940(4)
L	Pressure Induced Bleeding	0.0 percent	ASTM C1741
M	Surface Resistivity@ 28 days	≥16 kOhms-cm	AASHTO T 358
N	Relative Viscosity, RV_f, determined from Dynamic Sheer Rheometry	< 1.15	FM 5-605
O	Inclined Tube Test		FM5-619

Table 938-1			
Test ID	Property	Test Value	Test Method
	Amount of Bleed	≤ 0.0%	
	Allowable Difference in Moisture	≤ 2.0%	
	Penetration at 500 psi	≤ 1 mm	

(1) Obtain test sample in accordance with FM5-619..

(2) Use ASTM C117 procedure to determine the percent passing after washing the sieve.

(3) The time of efflux is the time to fill a one liter container placed directly under the flow cone. Modify the ASTM C939 test by filling the cone to the top instead of to the standard level. Use the midrange of the water content indicated in the manufacturer's technical data sheet to produce the time of efflux.

(4) Use ASTM C940 to conform with the wick induced bleed test as modified by the Post-Tensioning Institute specification PTI M55.1-12.