

# Origination Form

## Specifications

<b>Name:</b>	Ronald Simmons	<b>Standard Specification Section:</b>	938
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<b>Date:</b>	2025-05-21T15:10:16Z	<b>Associated Specs:</b>	None

### Summary:

Updated the unit of sulfate limitation and sampling time according to the test method.

### Justification:

To align with the testing method, the unit of sulfate limitation and the sampling time need to be updated.

### Do the changes affect other types of specifications?

Neither

### List Specifications Affected:

Other Affected Documents/Offices	Contacted	Yes/No
Other Standard Plans		No
Florida Design Manual		No
Structures Manual		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No
Materials Manual		No
Traffic Engineering Manual		No

**Are changes in line with promoting and making progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?**

No, but addressing the gap between standard specification and Florida Method.

**What financial impact does the change have; project costs, pay item structure, or consultant fees?**

N/A

**What impact does the change have on production or construction schedules?**

N/A

**How does this change improve efficiency or quality?**

Eliminate misunderstandings regarding the sulfate limitation of materials for corrosion assessment.

**Which FDOT offices does the change impact?**

State Materials Office, Construction Office

**What is the impact to districts with this change?**

Eliminate misunderstandings regarding the sulfate limitation of materials for corrosion assessment.

**Does the change shift risk and to who?**

N/A

**Provide summary and resolution of any outstanding comments from the districts or industry.**

Comments and Responses are available on the Track the Status of Revisions hyperlink located on the Specifications landing page: <https://www.fdot.gov/programmanagement/Specs.shtm>

**What is the communication plan?**

Through the established specification revision process (e.g., Internal and Industry Review)

**What is the schedule for implementation?**

The Standard Specifications eBook and Workbook are effective July 1st every year.

**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 <sup>3</sup>	FM 5-516 <sup>(1)</sup>
B	Total Sulfate Ions	Max. 30 <del>mg/g</del> ppm	FM 5-618 <sup>(1)</sup>
C	Gradation	99% passing the No. 50 95% passing the No. 100 90% passing the No. 170	ASTM C136 <sup>(2)</sup>
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 <sup>3</sup>	ASTM C138
G	Wet Density - Field	Report maximum and minimum obtained test value lb/ft <sup>3</sup>	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 <sup>(3)</sup>
K	Bleeding @ 3 hours	0.0 percent	ASTM C940 <sup>(4)</sup>
L	Pressure Induced Bleeding	0.0 percent	ASTM C1741
M	Surface Resistivity@ 28 days	≥16 kOhms-cm	AASHTO T 358
N	Relative Viscosity, RV <sub>f</sub> , 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	
<p>(1) Obtain test sample <del>in accordance with FM5-619, from upper vent of inclined tube test specimen after 7 days curing.</del></p> <p>(2) Use ASTM C117 procedure to determine the percent passing after washing the sieve.</p> <p>(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.</p> <p>(4) Use ASTM C940 to conform with the wick induced bleed test as modified by the Post-Tensioning Institute specification PTI M55.1-12.</p>			