Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

August 6, 2026

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: 971
Proposed Specification: **9710302 Pavement Marking Materials**

Dear Mr. Holt:

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

The changes are proposed by Julia Cooper to allow performance-based requirements instead of strict compositional ones which will provide greater formulation flexibility for vendors, clarify physical requirements, and align requirements with current best practices overall.
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/am
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

**PAVEMENT MARKING MATERIALS**
**(REV 5-26-26)**

SUBARTICLE 971-3.2 is deleted and the following substituted:

**971-3.2 Composition:** Standard paints shall meet the compositional requirements of Table 971-6A. Alternatively, standard paints may be approved based on AASHTO Product Evaluation & Audit Solutions field test results in accordance with Table 971-6B. Approval is limited to paints applied at a wet film thickness of 15 mils using Type 1 glass beads with a refractive index of no more than 1.55. In addition, only test deck applications installed within the preceding eight years, as measured from the start of the applicable submission cycle, will be considered for approval.

| Table 971-6A | | |
|---|---|---|
| Component | Test Method | Criteria |
| Total Solids, by weight | ASTM D2369 | minimum 75% |
| Pigments, by weight | ASTM D3723 | minimum 57% |
| Vehicle Solids % of Vehicle* | | minimum 40% |
| $TiO_2$, Type II Rutile (white paint only) | ASTM D476 | minimum 1.0 lb/gal |
| Volatile Organic Compound, (VOC) | ASTM D3960 | maximum 150 g/L |
| *Vehicle Solids % of Vehicle = $\frac{(\%\text{ total solids} - \%\text{ pigment})}{(100 - \%\text{ pigment})}$ | | |

| Table 971-6B | | |
|---|---|---|
| Property / Component | Test Method | Criteria |
| Skip Line Retroreflectivity from AASHTO test deck after 6 months | ASTM E1710 | Minimum 150 mcd/$m^2$/lx on both asphalt and concrete |
| Skip Line Durability from AASHTO test deck after 6 months | ASTM D913 | Minimum 8 on both asphalt and concrete |
| Total Solids, by weight | ASTM D2369 | Within ±2% of the corresponding AASHTO test deck value* |
| Pigments, by weight | ASTM D3723 | Within ±2% of the corresponding AASHTO test deck value* |
| $TiO_2$, Type II Rutile (white paint only) | ASTM D476 | minimum 1.0 lb/gal |
| Volatile Organic Compound, (VOC) | ASTM D3960 | maximum 150 g/L |
| * Evaluated against the measured value reported in AASHTO Product Evaluation & Audit Solutions database, using an absolute tolerance of ±2% | | |

SUBARTICLE 971-3.3 is deleted and the following substituted:

**971-3.3 Physical Requirements:** Standard paints shall meet the physical requirements of Table 971-7. For products evaluated under Table 971-6B, the density shall be within ±0.5 lb/gal of the measured density of the corresponding AASHTO test deck sample.

| Table 971-7 | | | |
|---|---|---|---|
| Property | Test Method | Minimum | Maximum |
| Density | ASTM D1475 | ~~13.5 ± 1.4 lb/gal~~12.1 lb/gal | -14.9 lb/gal |
| Viscosity at 77ºF | ASTM D562 | 80 KU | 100 KU |
| Fineness of Grind | ASTM D1210 | 3(HS) | |
| Dry Opacity at 15 mils WFT | ASTM D2805 | 0.9~~2~~8 | - |
| Bleed Ratio | ASTM D868 | 0.95 | - |
| Flexibility | ASTM D522 Method B | Pass | - |
| Abrasion Resistance | ASTM D4060 | Pass | - |

**971-3.3.1 Set To Bear Traffic Time:** The paint shall set to bear traffic in not more than two minutes.

**971-3.3.2 Abrasion Resistance:** Test four samples using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 20 mils. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with a combined load of 500 g (arm plus auxiliary weight) on each arm and CS-10 wheels. Clean the samples with a soft brush and weigh again. The average weight loss for the four plates shall not exceed 75 mg per plate.

**971-3.3.3 Retroreflectivity:** The white and yellow pavement markings shall attain an initial retroreflectance of not less than 300 mcd/$m^2$/lx and 250 mcd/$m^2$/lx, respectively. Black pavement markings shall have a retroreflectance of less than 20 mcd/$m^2$/lx. The retroreflectance of the white and yellow pavement markings at the end of the six-month period shall not be less than 150 mcd/$m^2$/lx.

SUBARTICLE 971-4.2 is deleted and the following substituted:

**971-4.2 Composition:** Durable paints shall meet the compositional requirements of Table 971-8A. Alternatively, durable paints may be approved based on AASHTO Product Evaluation & Audit Solutions field test results in accordance with Table 971-8B. Approval is limited to paints applied at a wet film thickness of 20-30 mils using glass beads with a refractive index of no more than 1.55. In addition, only test deck applications installed within the preceding eight years, as measured from the start of the applicable submission cycle, will be considered for approval.

| Table 971-8A | | |
|---|---|---|
| Component | Test Method | Criteria |
| Total Solids, by weight | ASTM D2369 | 75% minimum |
| Pigments, by weight | ASTM D3723 | 57% minimum |
| Vehicle Solids, % on Vehicle* | - | 40% minimum |
| $TiO_2$, Type II Rutile (white paint only) | ASTM D476 | 1.0 lb/gal minimum |
| Volatile Organic Compound, (VOC) | ASTM D3960 | 150 g/L maximum |

| Table 971-8A | | |
|---|---|---|
| Component | Test Method | Criteria |
| *Vehicle Solids % of Vehicle = (% total solids - % pigment) / (100 - % pigment)<br>~~Vehicle solids shall be 100% acrylic emulsion polymer.~~ | | |

| Table 971-8B | | |
|---|---|---|
| Property / Component | Test Method | Criteria |
| Skip Line Retroreflectivity from AASHTO test deck after 18 months | ASTM E1710 | Minimum 150 mcd/$m^2$/lx on both asphalt and concrete |
| Skip Line Durability from AASHTO test deck after 18 months | ASTM D913 | Minimum 8 on both asphalt and concrete |
| Total Solids, by weight | ASTM D2369 | Within ±2% of the corresponding AASHTO test deck value* |
| Pigments, by weight | ASTM D3723 | Within ±2% of the corresponding AASHTO test deck value* |
| $TiO_2$, Type II Rutile (white paint only) | ASTM D476 | minimum 1.0 lb/gal |
| Volatile Organic Compound, (VOC) | ASTM D3960 | maximum 150 g/L |
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SUBARTICLE 971-4.3 is deleted and the following substituted:

**971-4.3 Physical Requirements:** Durable paints shall meet the physical requirements of Table 971-9. For products evaluated under Table 971-8B, the density shall be within ±0.5 lb/gal of the measured density of the corresponding AASHTO test deck sample.

| Table 971-9 | | | |
|---|---|---|---|
| Property | Test Method | Minimum | Maximum |
| Density | ASTM D1475 | ~~13.5 ± 1.4 lb/gal~~12.1 lb/gal | ~~N/A~~14.9 lb/gal |
| Viscosity at 77ºF | ASTM D562 | 80 KU | 100 KU |
| Fineness of Grind | ASTM D1210 | 3(HS) | - |
| Dry Opacity at 15 mils WFT | ASTM D2805 | 0.9~~2~~8 | - |
| Bleed Ratio | ASTM D868 | 0.95 | - |
| Flexibility | ASTM D522 Method B | Pass | - |
| Abrasion Resistance | ASTM D4060 | Pass | - |

**971-4.3.1 Set to Bear Traffic Time:** The paint shall set to bear traffic in not more than ten minutes.

**971-4.3.2 Abrasion Resistance:** Test four samples using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 20 mils. Air dry each sample until fully cured based on the manufacturer's product recommendation. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with a combined load of 500 g (arm plus auxiliary weight) on each arm and CS-10 wheels. Clean the samples with a soft brush and weigh again. The average weight loss for the four plates shall not exceed 75 mg per plate.

**971-4.3.3 Retroreflectivity:** The white and yellow pavement markings shall attain an initial retroreflectance of not less than 450 mcd/$m^2$/lx and 300 mcd/$m^2$/lx, respectively. The retroreflectance of the white and yellow pavement markings at the end of the 18 month period shall not be less than 150 mcd/$m^2$/lx.

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| Table 971-7 | | | |
|---|---|---|---|
| Property | Test Method | Minimum | Maximum |
| Density | ASTM D1475 | 12.1 lb/gal | 14.9 lb/gal |
| Viscosity at 77ºF | ASTM D562 | 80 KU | 100 KU |
| Fineness of Grind | ASTM D1210 | 3(HS) | |
| Dry Opacity at 15 mils WFT | ASTM D2805 | 0.98 | - |
| Bleed Ratio | ASTM D868 | 0.95 | - |
| Flexibility | ASTM D522 Method B | Pass | - |
| Abrasion Resistance | ASTM D4060 | Pass | - |

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| Bleed Ratio | ASTM D868 | 0.95 | - |
| Flexibility | ASTM D522 Method B | Pass | - |
| Abrasion Resistance | ASTM D4060 | Pass | - |

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