



*Florida Department of Transportation*

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GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.  
SECRETARY

September 3, 2024

Cathy Kendall  
Director, Office of Technical Services  
Federal Highway Administration  
3500 Financial Plaza, Suite 400  
Tallahassee, Florida 32312

Re: State Specifications Office  
Section: 971  
Proposed Specification: **9710203 Pavement Marking Materials**

Dear Ms. Kendall:

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

The changes are proposed by Awilda Merced to eliminate redundant information and add language to clarify where to find rumble strips physical requirements.

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](mailto: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/dh

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**PAVEMENT MARKING MATERIALS**  
**(REV 6-25-24)**

SUBARTICLE 971-2.3 is deleted and the following substituted:

~~971-2.3 Sampling: A random 50-pound sample of glass spheres shall be obtained for each 50,000 pounds shipped. Send each 50-pound sample to the State Materials Office.~~

**971-2.34 Containers:** The spheres shall be furnished in new 50-pound moisture-proof bags or 2,000-pound triwall boxes. All containers shall meet Interstate Commerce Commission requirements for strength and type.

SUBARTICLE 971-6.1 is deleted and the following substituted:

**971-6 Preformed Thermoplastic Material.**

**971-6.1 General:** The manufacturer shall have the option of formulating the material according to his own specifications. However, the requirements delineated in this Specification and Section 711 shall apply regardless of the type of formulation used. The pigment, friction elements, glass spheres, and filler shall be well dispersed in the resin. Preformed thermoplastic for raised rumble strips shall meet Standard Plans Index 546-001.

SUBARTICLE 971-6.3 is deleted and the following substituted:

**971-6.3 Color:** Materials shall meet the performance requirements specified in 971-1.6 ~~and the following additional requirements.~~ The initial luminance factor, Cap Y, for white preformed shall not be less than 55.

SUBARTICLE 971-6.4.2 has the following Administrative change:

**971-6.4.2 Friction Resistance:** Initial performance of pavement markings shall provide a minimum Dynamic Friction Tester (DFT40) value of 45 or greater in accordance with FM 5-622 – Part A. In-service pavement markings shall maintain a DFT40 value of 40 or greater for a three-year period as tested per FM 5-622, Part B.

SUBARTICLE 971-7.3 is deleted and the following substituted:

**971-7.3 Color:** Materials shall meet the performance requirements specified in 971-1.6. The initial luminance factor, Cap Y, for white permanent tape shall not be less than 55.

SUBARTICLE 971-7.4 is deleted and the following substituted:

**971-7.43 Thickness:** The APL will list the specified thickness of each approved product.

SUBARTICLE 971-7.5 is deleted and the following substituted:

**971-7.54 Durability and Wear Resistance:** The film shall be weather resistant and, through normal wear, shall show no significant tearing, rollback or other signs of poor adhesion.

SUBARTICLE 971-7.6 is deleted and the following substituted:

**971-7.65 Conformability and Resealing:** The pavement markings shall be capable of conforming to pavement contours, breaks and faults under traffic at pavement temperatures recommended by the manufacturer. The film shall be capable of use for patching worn areas of the same types of film in accordance with the manufacturer's recommendations.

SUBARTICLE 971-7.7 is deleted and the following substituted:

**971-7.76 Tensile Strength:** The pavement markings shall have a minimum tensile strength of 40 psi when tested according to ASTM D638. A rectangular test specimen 6 inches by 1 inch by 0.05 inches minimum thickness shall be tested at a temperature range of 40 to 80°F using a jaw speed of 0.25 inch/min.

SUBARTICLE 971-7.8 is deleted and the following substituted:

**971-7.87 Pigmentation:** The pigment shall be selected and blended to provide a material which is white or yellow conforming to standard highway colors through the expected life of the pavement markings. Test laboratory samples in accordance with ASTM E811 and E1349.

SUBARTICLE 971-7.9 is deleted and the following substituted:

**971-7.98 Glass Spheres:** The pavement markings shall have glass retention qualities such that, when at room temperature a 2 inches by 6 inches specimen is bent over a 0.5 inch diameter mandrel axis, a microscopic examination of the area on the mandrel shall show no more than 10% of the spheres with entrapment by the material of less than 40%. The bead adhesion shall be such that spheres are not easily removed when the film surface is scratched firmly with a thumbnail.

SUBARTICLE 971-7.10 is deleted and the following substituted:

**971-7.109 Retroreflectivity:** The materials shall attain an initial retroreflectance of not less than 450 mcd/m<sup>2</sup>/lx for white markings and not less than 350 mcd/m<sup>2</sup>/lx for yellow markings. The pavement markings shall retain a minimum retroreflectance for two years of not less than 300 mcd/m<sup>2</sup>/lx for white markings and not less than 250 mcd/m<sup>2</sup>/lx for yellow markings. The retroreflectance of the white, yellow and contrast pavement markings at the end of the three-year period shall not be less than 150 mcd/m<sup>2</sup>/lx.

SUBARTICLE 971-7.11 is deleted and the following substituted:

| **971-7.11~~0~~** **Packaging and Labeling:** Ship all permanent tape materials in containers which will not adhere to the product during shipment and storage. Clearly mark each container with the thickness of the preformed material in units of inches.

**PAVEMENT MARKING MATERIALS**  
**(REV 6-25-24)**

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**971-6 Preformed Thermoplastic Material.**

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SUBARTICLE 971-6.4.2 has the following Administrative change:

**971-6.4.2 Friction Resistance:** Initial performance of pavement markings shall provide a minimum Dynamic Friction Tester (DFT40) value of 45 or greater in accordance with FM 5-622 – Part A. In-service pavement markings shall maintain a DFT40 value of 40 or greater for a three-year period as tested per FM 5-622, Part B.

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**971-7.3 Color:** Materials shall meet the performance requirements specified in 971-1.6. The initial luminance factor, Cap Y, for white permanent tape shall not be less than 55.

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SUBARTICLE 971-7.5 is deleted and the following substituted:

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SUBARTICLE 971-7.6 is deleted and the following substituted:

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SUBARTICLE 971-7.7 is deleted and the following substituted:

**971-7.7 Tensile Strength:** The pavement markings shall have a minimum tensile strength of 40 psi when tested according to ASTM D638. A rectangular test specimen 6 inches by 1 inch by 0.05 inches minimum thickness shall be tested at a temperature range of 40 to 80°F using a jaw speed of 0.25 inch/min.

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SUBARTICLE 971-7.10 is deleted and the following substituted:

**971-7.10 Retroreflectivity:** The materials shall attain an initial retroreflectance of not less than 450 mcd/m<sup>2</sup>/lx for white markings and not less than 350 mcd/m<sup>2</sup>/lx for yellow markings. The pavement markings shall retain a minimum retroreflectance for two years of not less than 300 mcd/m<sup>2</sup>/lx for white markings and not less than 250 mcd/m<sup>2</sup>/lx for yellow markings. The retroreflectance of the white, yellow and contrast pavement markings at the end of the three-year period shall not be less than 150 mcd/m<sup>2</sup>/lx.

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