

# Origination Form

## Specifications

<b>Name:</b>	Awilda Merced	<b>Specification Number:</b>	Section heading, 971-2.3, 971-6.1, 971-6.3, 971-6.4.2, 971-7.3, 971-7.4, 971-7.5, 971-7.6, 971-7.7, 971-7.8, 971-7.9, 971-7.10, 971-7.11
<b>Email:</b>	awilda.merced@dot.state.fl.us	<b>Associated Specs:</b>	None
<b>Date:</b>	2024-06-25T21:18:34Z	<b>Verified:</b>	VERIFIED

### Summary:

Sampling is addressed in 971-1.5 and it covers glass spheres. There is no need to have a sampling statement for glass spheres. Section 971-2.3 was eliminated and as a result, 971-2.4 renumbered. Specification 546 Rumble Strips refers to section 971-6 and this section does not address preformed thermoplastic for rumble strips. Language was added in 971-6.1 to make a connection between the two specifications and state where to find rumble strips dimension requirements. Section 971-6.3 had editorial changes to remove unnecessary language. Cap Y requirement was added for white permanent tapes in 971-7.3 and all sub articles after 971-7.3 were renumbered.

### Justification:

To eliminate redundant information and add language to clarify where to find rumble strips physical requirements. Permanent tapes were not required to meet a particular Cap Y value but State Materials Office has investigated several projects where white materials with Cap Y lower than 55 are not providing enough contrast and daytime visibility when applied on concrete.

### 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

<b>Approved Product List</b>		No
<b>Construction Office</b>		No
<b>Maintenance Office</b>		No
<b>Materials Manual</b>		No
<b>Traffic Engineering Manual</b>		No

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

Yes. A requirement for the Luminance (Cap Y) improves safety and enhance mobility. Having sufficient luminance provides better daytime visibility and contrast with the roadway surface.

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

None

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

None

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

This requirement will require white permanent tapes to meet higher standard for brightness. The State Material Office will assess these materials during approval process and would be able to use this as reference if a problem arise at project level and an alleged deficiency is reported.

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

State Materials Office, Construction

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

Adding a min Cap Y value of 55 for white permanent tapes will guarantee District projects to have optimum daytime visibility and contrast when using black next to white on concrete roadways.

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

No

**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.

**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.