Florida Department of Transportation

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STEPHANIE KOPELOUSOS
SECRETARY

April 16, 2007

Dr. Leslie McCarthy, PhD, P.E.
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 971
Proposed Specification: 9710303 – Traffic Marking Materials

Dear Dr. McCarthy:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Traffic Marking Materials.

These changes are to correct bad references in the specification.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Signature on file

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/sh
Attachment
cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

TRAFFIC MARKING MATERIALS.
(REV 4-13-07)

SUBARTICLE 971-3.3 (Page 865) is deleted and the following substituted:

971-3.3 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Density	ASTM D 1475	13.5 ± 1.4 lb/gal	-
Consistency at 77ºF	ASTM D 562	80 KU	100 KU
Fineness of Grind	ASTM D 1210	2(HS)	3(HS)
Dry Opacity at 5 mils WFT	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	~~961~~*971*-~~10.6.3~~*3.3.2*	Pass	-

971-3.3.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified by Section 710, the material shall set to bear traffic in not more than two minutes.

971-3.3.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 500 g weights 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 50 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/lx·m^2 and 250 mcd/lx·m^2. The retroreflectance of the white and yellow pavement markings at the end of the six month service life shall not be less than 150 mcd/lx·m^2.

971-3.4 Packaging and Labeling: The traffic paint shall be placed in 55 gallon open-end steel drums with a re-usable multi-seal sponge gasket. No more than 50 gallons of material shall be placed in any drum to allow for expansion during transport and storage.

SUBARTICLE 971-4.3 (Pages 866 and 867) is deleted and the following substituted:

971-4.3 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Density	ASTM D 1475	13.5 ± 0.37 lb/gal	N/A
Consistency at 170ºF	ASTM D 562	80 KU	100 KU
Fineness of Grind	ASTM D 1210	2 (HS)	3(HS)
Dry Opacity at 5 mils WFT	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	~~961~~*971*-~~10.6.3~~*4.3.2*	Pass	-

971-4.3.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified by Section 710, the material shall set to bear traffic in not more than two minutes.

971-4.3.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 1.1 lb weights 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 0.178 oz per plate.

971-4.3.3 Retroreflectivity: The white and yellow pavement markings shall attain an initial retroreflectance of not less than 300 mcd/lx·m^2 and 250 mcd/lx·m^2, respectively. The retroreflectance of the white and yellow pavement markings at the end of the six month service life shall not be less than 150 mcd/lx·m^2.

971-4.4 Application Properties: Application properties shall meet the requirements of Section 710.

971-4.5 Packaging and Labeling: The traffic paint shall be placed in 55 gallon open-end steel drums with a re-usable multi-seal sponge gasket. No more than 50 gallons of material shall be placed in any drum to allow for expansion during transport and storage.

SUBARTICLE 971-9.6 (of the Supplemental Specifications) is deleted and the following substituted:

971-9.6 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Dry Opacity*	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	971-~~12.6.3~~*9.6.2*	Pass	-
*When applied at manufacturer's recommended dry film thickness.			

971-9.6.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified, the material shall set to bear traffic in not more than two minutes.

971-9.6.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 1.1 lb weights 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 0.178 ounce per plate.

971-9.6.3 Retroreflectivity: The white and yellow pavement markings shall attain an initial retroreflectance of not less than 450 mcd/lx·m^2 and not less than 350 mcd/lx·m^2, respectively. The retroreflectance of the white and yellow pavement markings at the end of the three year service life shall not be less than 150 mcd/lx·m^2.

TRAFFIC MARKING MATERIALS.
(REV 4-13-07)

SUBARTICLE 971-3.3 (Page 865) is deleted and the following substituted:

971-3.3 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Density	ASTM D 1475	13.5 ± 1.4 lb/gal	-
Consistency at 77ºF	ASTM D 562	80 KU	100 KU
Fineness of Grind	ASTM D 1210	2(HS)	3(HS)
Dry Opacity at 5 mils WFT	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	971-3.3.2	Pass	-

971-3.3.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified by Section 710, the material shall set to bear traffic in not more than two minutes.

971-3.3.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 500 g weights 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 50 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/lx·m^2 and 250 mcd/lx·m^2. The retroreflectance of the white and yellow pavement markings at the end of the six month service life shall not be less than 150 mcd/lx·m^2.

971-3.4 Packaging and Labeling: The traffic paint shall be placed in 55 gallon open-end steel drums with a re-usable multi-seal sponge gasket. No more than 50 gallons of material shall be placed in any drum to allow for expansion during transport and storage.

SUBARTICLE 971-4.3 (Pages 866 and 867) is deleted and the following substituted:

971-4.3 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Density	ASTM D 1475	13.5 ± 0.37 lb/gal	N/A
Consistency at 170ºF	ASTM D 562	80 KU	100 KU
Fineness of Grind	ASTM D 1210	2 (HS)	3(HS)
Dry Opacity at 5 mils WFT	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	971-4.3.2	Pass	-

971-4.3.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified by Section 710, the material shall set to bear traffic in not more than two minutes.

971-4.3.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 1.1 lb weights 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 0.178 oz per plate.

971-4.3.3 Retroreflectivity: The white and yellow pavement markings shall attain an initial retroreflectance of not less than 300 mcd/lx·m^2 and 250 mcd/lx·m^2, respectively. The retroreflectance of the white and yellow pavement markings at the end of the six month service life shall not be less than 150 mcd/lx·m^2.

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SUBARTICLE 971-9.6 (of the Supplemental Specifications) is deleted and the following substituted:

971-9.6 Physical Requirements: The material shall meet the following criteria:

Property	Test Method	Minimum	Maximum
Dry Opacity*	Fed Std 141a Method 4121	0.96	-
Bleed Ratio	Fed Spec TT-P-85D	0.95	-
Flexibility	Fed Spec TT-P-115D	Pass	-
Abrasion Resistance	971-9.6.2	Pass	-
*When applied at manufacturer's recommended dry film thickness.			

971-9.6.1 Set To Bear Traffic Time: When applied at the temperatures and thickness specified, the material shall set to bear traffic in not more than two minutes.

971-9.6.2 Abrasion Resistance: Test four samples per LOT using a Taber Abrader. The paint shall be applied to specimen plates using a drawdown blade having a clearance of 26 mils. Air dry each sample for 30 minutes and bake at 220ºF for 18 hours. Clean with a soft brush and weigh each sample. Abrade samples for 1,000 cycles with 1.1 lb weights 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 0.178 ounce per plate.

971-9.6.3 Retroreflectivity: The white and yellow pavement markings shall attain an initial retroreflectance of not less than 450 mcd/lx·m^2 and not less than 350 mcd/lx·m^2, respectively. The retroreflectance of the white and yellow pavement markings at the end of the three year service life shall not be less than 150 mcd/lx·m^2.