

# EXPECTED IMPLEMENTATION JANUARY 2012

## TRAFFIC MARKING MATERIALS.

(REV 7-5-11) (FA 7-18-11) (1-12)

SECTION 971-4 (of the Special Provision) is deleted and the following substituted:

### 971-4 Durable Waterborne Traffic Paint.

**971-4.1 General:** Durable waterborne traffic paints intended for use under this Specification shall include products that are single packaged and ready mixed. Upon curing, these materials shall produce an adherent, reflective pavement marking capable of resisting deformation by traffic. The manufacturer shall have the option of formulating the material according to his own specifications. However, the requirements delineated in this Specification and Section 710 shall apply regardless of the type of formulation used. The material shall be free from all skins, dirt and foreign objects.

### 971-4.2 Composition:

| Component  | Test Method | Criteria           |
|--|-------------|--------------------|
| Total Solids, by weight                              | ASTM D 2369 | 75% minimum        |
| Pigments, by weight                                  | ASTM D 3723 | 57% minimum        |
| Vehicle Solids, % of Vehicle*                        |             | 40% minimum        |
| TiO <sub>2</sub> , Type II Rutile (white paint only) | ASTM D 476  | 1.5 lb/gal minimum |
| Volatile Organic Content, (VOC)                      | ASTM D 3960 | 150 g/L maximum    |

\*Vehicle Solids % of Vehicle =  $\frac{\% \text{ total solids} - \% \text{ pigment}}{100 - \% \text{ pigment}}$   
Vehicle solids shall be 100% acrylic emulsion polymer.

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

| Property                  | Test Method         | Minimum           | Maximum |
|---------------------------|---------------------|-------------------|---------|
| Density                   | ASTM D 1475         | 13.5 ± 1.4 lb/gal | N/A     |
| Viscosity at 77°F         | ASTM D 562          | 80 KU             | 100 KU  |
| Fineness of Grind         | ASTM D 1210         | 3 (HS)            |         |
| Dry Opacity at 5 mils WFT | ASTM D 2805         | 0.92              | -       |
| Bleed Ratio               | ASTM D 969          | 0.95              | -       |
| Flexibility               | ASTM D 522 Method B | Pass              | -       |
| Abrasion Resistance       | 971-4.3.2           | Pass              | -       |

**971-4.3.1 Set To Bear Traffic Time:** The material shall set to bear traffic in not more than ten 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 220°F 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.

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**971-4.3.3 Retroreflectivity:** The white and yellow pavement markings shall attain an initial retroreflectance of not less than 300 mcd/lx·m<sup>2</sup> and 250 mcd/lx·m<sup>2</sup>, respectively. The retroreflectance of the white and yellow pavement markings at the end of the 18 month service life shall not be less than 150 mcd/lx·m<sup>2</sup>.

**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.

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