

**KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, 2015 EDITION**

SECTION 1404

LIQUID MEMBRANE FORMING COMPOUNDS

1404.1 DESCRIPTION

This specification covers liquid membrane forming compounds (also referred to as concrete curing compounds) suitable for spraying on horizontal and vertical concrete surfaces to retard the loss of water during the early hardening period and subsequent curing period.

1404.2 REQUIREMENTS

a. Provide liquid membrane forming compound that complies with ASTM C 309 for Type 1-D, clear or translucent with fugitive dye, or Type 2, white pigmented compound.

b. Type 2 white pigmented compound will be further classified into Type 2 (Wax Based) and Type 2 (Other). This is to allow specifying of wax-based compound for certain applications where a bond breaker is desired. Either formulation base may be supplied except when wax based is specified.

c. Do not allow water-emulsion based material to freeze. Material that has been subjected to freezing temperatures will be rejected.

1404.3 TEST METHODS

Test materials in accordance with ASTM C 309. Fingerprinting and screening of verification samples by infrared spectroscopy is done according to ASTM E 1252.

Water emulsion-based material is not subject to the long-term settling test by the freeze thaw cycling method.

Wax-based material for Cement Treated Base (CTB) with the following exceptions:

Moisture Loss, kg/sq m (max.).....	0.60
Daylight Reflectance (min.)	50%

1404.4 PREQUALIFICATION

Submit two 1-quart samples of material and a copy of the manufacturer's test results on samples of the same lot of material to the Engineer of Tests. Include a copy of the Material Safety Data Sheet (MSDS). For Type 2 white pigmented compounds, include a statement regarding whether the formulation is wax based or other, unless it is specifically addressed in the MSDS.

Samples will be tested for compliance with this specification. The manufacturer will be notified of the test results on the samples submitted.

Results of tests from the AASHTO National Transportation Product Evaluation Program (NTPEP) will be accepted in lieu of the sample requested above. Include the most recent NTPEP test report along with the other documentation requested. Include evidence that the product being offered is identical to the one reported in the NTPEP report.

Manufacturers whose products comply with this specification will be placed on a prequalified list. Manufacturers will remain on the list as long as the results of verification samples and performance in the field are satisfactory. Any changes in formulation will require re-submittal for prequalification testing.

Effective March 1, 2020, all liquid membrane forming compounds must be listed with the NTPEP. To be NTPEP listed by March 1, 2020, product testing must have occurred in 2017, 2018, or 2019. Retesting every three years as detailed in the NTPEP Concrete Curing Compounds (CCC) work plan is required to maintain prequalification. Failure to retest and a consequent removal from the NTPEP website will result in the product's removal from the list of

prequalified products. Follow the instructions on the NTPEP's website (www.ntpep.org) to participate in the CCC evaluation program.

1404.5 BASIS OF ACCEPTANCE

- a. Prequalification as required by **subsection 1404.4** above.
- b. Receipt and approval of a Type C certification as specified in **DIVISION 2600**.

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