

S-1 (3753) TYPE 1-D MEMBRANE CURING COMPOUND

(2011 Version) ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

Use when there is concrete on job (pavement, curb, gutter, sidewalk, barriers, lighting, signing, signals, etc.). (If the job is only signing, then see if there is any concrete on the details. If none is shown, then this write-up is not needed.) (This write-up is not needed for RC pipe.)

NEW WRITEUP 12/22/10

SP2005-262

The following is hereby added to the MnDOT Standard Specifications:

3753 TYPE 1-D MEMBRANE CURING COMPOUND

3753.1 SCOPE

Provide clear or translucent liquid membrane forming curing compounds with a Type 1-D fugitive dye for spray application on portland cement colored or stamped surfaces, where a finished white surface would mask the decorative finished concrete surface when exposed to the air.

3753.2 REQUIREMENTS

A General

Provide membrane curing compound meeting the following requirements:

- All membrane-curing compounds pre-approved by the Department before use. The most current approved lots and batches with product expiration dates are available from the Approved Products list,
- Meets the requirements of the MnDOT Curing Compound Manufacturer Approval Program, as listed in the MnDOT Approved Products List, including pre-testing of materials by the manufacturer,
- Meets the requirements of ASTM C 309, Type 1-D Curing Compound, and
- The Engineer will not allow the use of curing compound that is over 1 year from the manufacture date.

The Contractor may use Type 1-D curing compound in other concrete applications as approved by the Engineer or as shown on the Special Provisions. Use of any other Type 1 curing compound is at the discretion of the Engineer in conjunction with the Concrete Engineer.

3753.3 SAMPLING AND TESTING

Provide samples for testing meeting the requirements of the Schedule of Materials Control.

Test the material at an application rate of 200 sq. ft. per gal [**5 sq. m per L**].

S-2 (3754) POLY-ALPHA METHYLSTYRENE (AMS) MEMBRANE CURING COMPOUND

(2011 Version) ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

Use when there is concrete on job (pavement, curb, gutter, sidewalk, barriers, lighting, signing, signals, etc.). (If the job is only signing, then see if there is any concrete on the details. If none is shown, then this write-up is not needed.) (This write-up is not needed for RC pipe.)

REVISED AND RENUMBERED 12/22/10

SP2005-263

MnDOT 3754 is hereby deleted and replaced with the following:

3754 POLY-ALPHA METHYLSTYRENE (AMS) MEMBRANE CURING COMPOUND

3754.1 SCOPE

Provide poly-alpha methylstyrene liquid membrane curing compounds for spray application on portland cement concrete surfaces exposed to the air.

3754.2 REQUIREMENTS

Provide membrane-curing compound meeting the following requirements:

- (1) All membrane-curing compounds pre-approved by the Department before use. The most current approved lots and batches with product expiration dates are available from the Approved Products list.
- (2) Meets the requirements of the MnDOT Curing Compound Manufacturer Approval Program, including pre-testing of all materials by the manufacturer.
- (3) Meets the requirements of ASTM C 309 for the type required by the Contract.
- (4) The Engineer will not allow the use of curing compound that is over 1 year from the manufacture date.
- (5) White pigmented Type 2, Class B.
- (6) Resin is 100 percent poly-alpha methylstyrene.

Table 3754-1 Requirements for 3754 AMS Curing Compound	
Properties	Range
Total solids, % by weight of compound	≥ 42
% reflectance in 72 h (ASTM E 1347)	≥ 65
Loss of Water, kg/sq. m in 24 h (ASTM C 156)	≤ 0.15
Loss of Water, kg/sq. m in 72 h (ASTM C 156)	≤ 0.40
Settling Test, ml/100 ml in 72 h*	≤ 2
V.O.C. Content, g/L	≤ 350
Infrared Spectrum, vehicle	100% α methylstyrene
* Test in accordance with the method on file at the Materials Laboratory.	
Match the infrared scan for the dried vehicle from the curing compound to the infrared scan on file at the Materials Laboratory	

3754.3 SAMPLING AND TESTING

Provide samples for testing meeting the requirements of the Schedule of Materials Control.

Test the material at an application rate of 200 sq. ft per gal [**5 sq. m per L**].

S-3 (3755) LINSEED OIL MEMBRANE CURING COMPOUND

(2011 Version) ◀DO NOT REMOVE THIS. IT NEEDS TO STAY IN FOR THE CONTRACTORS.

Use when there is concrete on job (pavement, curb, gutter, sidewalk, barriers, lighting, signing, signals, etc.). (If the job is only signing, then see if there is any concrete on the details. If none is shown, then this write-up is not needed.) (This write-up is not needed for RC pipe.)

NEW WRITEUP 12/22/10

SP2005-264

The following is hereby added to the MnDOT Standard Specifications:

3755 LINSEED OIL MEMBRANE CURING COMPOUND

3755.1 SCOPE

Provide extreme service white pigmented, heavy bodied linseed oil emulsion for application as a membrane cure and sealer.

3755.2**REQUIREMENTS**

Provide membrane curing compounds meeting the following requirements:

- (1) All membrane-curing compounds pre-approved by the Department before use. The most current approved lots and batches with product expiration dates are available from the Approved Products list.
- (2) Meets the requirements of the MnDOT Curing Compound Manufacturer Approval Program, including pre-testing of materials by the manufacturer,
- (3) Composed of a blend of boiled linseed oil and high viscosity, heavy bodied linseed oil emulsified in a water solution meeting the requirements of ASTM C 309, Type 2, except the Department will waive the drying time,
- (4) The Engineer will not allow the use of curing compound that is over 1 year from the manufacture date,
- (5) Sprayable at temperatures of at least 40° F [4° C], and
- (6) Chemical requirements in accordance with the following table:

Material Requirements	Percent by Weight
Oil phase (50% ± 4% by volume):	
Boiled linseed oil	80
Z-8 viscosity linseed oil	20
Water phase (50% ± 4% by volume)	100