

VIRGINIA DEPARTMENT OF TRANSPORTATION

MATERIALS DIVISION

MEMORANDUM

GENERAL SUBJECT: Notice of New Virginia Test Method (VTM) 141 Determining the Field Application Rate of Dry Additives in Stabilization Processes	NUMBER: MD 432-20
SPECIFIC SUBJECT: Incorporation of VTM-141 in Special Provision for Full Depth Reclamation	DATE: May 11, 2020
	SUPERSEDES:
APPROVED:	Charles A. Babish, PE State Materials Engineer Approved: _____

EFFECTIVE DATE

- This memorandum is effective May 18, 2020
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PURPOSE/NEED/SCOPE/REQUIREMENTS

- This Memorandum notifies the users of Full Depth Reclamation on VDOT projects that Virginia Test Method (VTM) 141 described herein has been developed to outline the process for determining the application rate of dry additives in the field during production.
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Changes are **Shaded**

PROCEDURES

Virginia Test Method – 141

*Determining the Field Application Rate of Dry Additives in Stabilization Processes –
(Pavement Design)*

April 10, 2020

1. **Scope**

This document describes the test method for determining the field application rate of dry additives by bulk transport, to include cement, lime, or fly ash, when mixed in-place for stabilization.

This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determines the applicability of regulatory limitations prior to use.

2. **Apparatus**

- 2.1. Balance – A balance accurate to ± 5.0 gram (0.01 pound) with capacity to adequately measure the mass of the sample.
- 2.2. Sampling Container – A metal pan, metal plate or canvas tarp with an area equal to one square yard (3 feet x 3 feet). The sides of the metal pan must be high enough to contain the entire additive spread without spilling.
- 2.3. Weighing Container – When a metal plate or canvas tarp is used, a container of sufficient size/volume shall be used to receive the stabilizing agent from the plate or tarp for weighing. The weighing container may be plastic or metal.

3. **Method A: Testing**

3.1. **Measurement using a metal pan**

- 3.1.1. Measure and record the mass of the empty pan. Record the mass to the nearest 0.01 pound.
- 3.1.2. Place the pan in front of the spreader.
- 3.1.3. After the stabilizing agent spreader has passed over the pan, reweigh the pan and its content. Record the mass to the nearest 0.01 pound.
- 3.1.4. Calculate the application rate as follows:

$$\text{Application Rate} = \frac{(A - B)}{C}$$

Application Rate: Reported as pounds/square yard (lbs/sy)

A = Mass of Pan and Content (lbs)

B = Mass of Empty Pan (lbs)

C = Area of Pan (sy). Should be 1 sy.

- 3.1.5. Report Application Rate to the nearest 0.1 lbs/sy.

3.2. **Measurement using 1 square yard metal plate or canvas tarp**

- 3.2.1. Measure and record the mass of the weighing container. Record the mass to the nearest 0.01 pound.
- 3.2.2. Place the plate or tarp in front of the spreader.
- 3.2.3. After the stabilizing agent spreader has passed over the plate or tarp, transfer the content to the weighing container. Care should be taken to not lose material during

- transfer.
- 3.2.4. Reweigh the weighing container and its content. Record the mass to the nearest 0.01 pound.
 - 3.2.5. Calculate the application rate using the equation in 3.1.4.
 - 3.2.6. Report Application Rate to the nearest 0.1 lbs/sy.
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NOTES

The VTM 141 can also be accessed by using the link below:

- <http://www.virginiadot.org/business/resources/Materials/bu-mat-VTMs.pdf>
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REFERENCES

COPY DISTRIBUTION:

Deputy Chief Engineer
Division Administrators
District Administrators
District Location & Design Engineers
District Construction Engineers
District Maintenance Engineers
District Bridge Engineers
District Traffic Engineers

VDOT Resident Engineers
Federal Highway Administration
Virginia Ready Mix Association
Precast Concrete Association of Virginia
Virginia Transportation Construction Alliance
Virginia Asphalt Association
American Concrete Paving Association Mid-Atlantic Chapter
Old Dominion Highway Contractors Association