

**VERMONT AGENCY OF TRANSPORTATION**

**APPROVED MATERIAL SOURCE  
– CEMENTITIOUS AND MINERAL  
ADMIXTURES**

**Guidance Document**

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**Purpose:**

This guide defines the process the Agency will employ to approve cementitious and mineral admixture sources for use on Agency projects.

**Definition of an Approved Cementitious or Mineral Admixture Source:**

A cementitious or mineral admixture source is approved for use on Agency projects when the Agency has determined that the source is capable of producing materials that are in conformance with the requirements detailed in the current edition of the Vermont Agency of Transportation’s Standard Specifications for Construction. Approval of a cementitious or mineral admixture source does not imply acceptance of any materials originating from that source.

**Approved Cementitious Source List (ACSL) :**

The Approved Cementitious Source List (ACSL) is a list of cementitious and mineral admixture sources that the Agency has approved for use on Agency projects. This list will provide the following information for each approved source;

Source Name	Source Location
Approved Material Type(s)	Applicable VTrans Specification
Date of Approval	Date of Expiration

This list will be amended as necessary to add new sources to the list as they become approved. The ACSL will be published on the VTrans Materials section webpage: <https://vtrans.vermont.gov/highway/construct-material/test-cert/struct-concrete> .

**Cementitious and Mineral Admixture Source Approval Process:**

The following details the steps needed for a cementitious or mineral admixture source to become approved, whether a first time source approval or a previously approved source. The timeframe for approval may differ as detailed below.

Source categories are as follows:

- New Source:** No historical data from a past approval and source are not on current list
- Existing Source:** Source has historical data from a past approval and/or the source is currently on the list

**Submittal Process:**

Manufacturer is required to complete each of the steps below;

1. If submitting to approve a new source, the Manufacturer must provide the 10 most recent mill certifications. If 10 mill certifications are not available, provide as many consecutive mill certifications as can be obtained. These may be sent to the contact information below via mail or email.
2. The Manufacturer of cementitious and/or mineral admixture source, whether new or existing, will fill out the “TEST CERTIFICATION FOR CEMENTITIOUS MATERIALS” form located in Appendix A.

3. For cementitious approval, the Manufacturer will provide a representative split sample of material of at least 20 pounds. For mineral admixture approval, the Manufacturer will provide a representative split sample of at least 20 pounds of both the mineral admixture as well as the reference cement that was used to generate the mill certification test results.
4. For silica fume approval, no physical sample will be required. Silica Fume shall be approved through the Agency's Approved Product List.
5. The Manufacturer will send the completed form and the material sample to the Central Materials Lab in Berlin, VT. The address and contact information are below:

Vermont Agency of Transportation  
Construction and Materials Bureau  
2178 Airport Road, Building B.  
Berlin, VT 05641-8628

Inquiries may be directed to:

Structural Concrete Unit  
Email: [AOT.HWYCONMATMaterialsConcreteUnit@vermont.gov](mailto:AOT.HWYCONMATMaterialsConcreteUnit@vermont.gov)

**Approval Process:**

1. Mill certifications and material samples are evaluated by VTrans for conformance with the applicable sections of the current edition of the Vermont Agency of Transportation's Standard Specifications for Construction. In addition, mill certification test results may be compared with Agency-generated test results. If everything is found to be conforming, then the source is approved and added to the ACSL.
2. Once approved and placed on the ACSL, each approved source will receive an expiration date (month/year). For an existing source, the expiration date will be updated, and a notification of approval sent. For new and existing sources, the notice of approval will come via email to the contact information provided on the request form.
3. Once approved, the Manufacturer should send Mill Certifications for the approved products monthly, or every production period.
4. If the test results do not meet the requirements of the Standard Specifications for Construction, and/or the values do not compare with the mill certification results, the Agency will determine if the source will be denied, or if additional investigation and testing will occur.

**Timeframe:**

1. New source approval requests will require a minimum of 4 weeks for processing.
2. Existing source reapproval requests will require a minimum of 4 weeks for processing. Existing source reapproval requests must be received by the Agency no later than March 1 of each calendar year to avoid delays in processing.
3. The Agency will set the expiration date for each approved source that accounts for the level of risk presented by a given material source. By default, the expiration date for an approved source is set as April 15<sup>th</sup> of the following calendar year.

**Responsibilities:**

VTrans; Responsible for implementing, maintaining, and updating the ACSL as well as responding to customer questions/inquiries.

Cementitious or Mineral Admixture Producer; Responsible for ensuring that all pertinent information needed to be considered for cementitious or mineral admixture source approval is provided to VTrans in the timeframes requested. Producers that wish to stay current on the ACSL shall be responsible for knowing their source(s) expiration date(s) and following these guidelines for reapproval.

Contractors; Responsible to provide the Agency with only Cementitious Products from sources that are listed on the ACSL and to utilize these materials only as allowed in the current edition of the Vermont Agency of Transportation's Standard Specifications for Construction.

**TEST CERTIFICATION FOR CEMENTITIOUS MATERIALS**

**VERMONT AGENCY OF TRANSPORTATION  
CONSTRUCTION & MATERIALS BUREAU  
2178 AIRPORT ROAD, UNIT B  
BERLIN, VT 05641-8628**

**Tel. (802) 828-6923 Fax. (802) 828-2792**

Manufacturer: \_\_\_\_\_ Mill: \_\_\_\_\_ Location: \_\_\_\_\_  
 Date Ground: \_\_\_\_\_ Quantity & Unit: \_\_\_\_\_ Silo / Lot # \_\_\_\_\_  
 Date Sampled: \_\_\_\_\_ Cert. Month: \_\_\_\_\_ Cement Type: \_\_\_\_\_  
 (TONS OR TONNES)

**CHEMICAL RESULTS (T-105)**

All tests are AASHTO unless otherwise stated

Silica (SiO<sub>2</sub>) \_\_\_\_\_ %  
 Calcium (CaO) \_\_\_\_\_ %  
 Alumina (Al<sub>2</sub>O<sub>3</sub>) \_\_\_\_\_ %  
 Iron Oxide (Fe<sub>2</sub>O<sub>3</sub>) \_\_\_\_\_ %  
 Al-Iron Oxide Ratio: (Al<sub>2</sub>O<sub>3</sub> / Fe<sub>2</sub>O<sub>3</sub>) \_\_\_\_\_ %  
 Magnesium (MgO) \_\_\_\_\_ %  
 Sulfur Trioxide (SO<sub>3</sub>) \_\_\_\_\_ %  
 Loss on Ignition \_\_\_\_\_ %  
 Insoluble Residue \_\_\_\_\_ %  
 Tricalcium Aluminate (C<sub>3</sub>A) \_\_\_\_\_ %  
 Sodium Oxide (Na<sub>2</sub>O) \_\_\_\_\_ %  
 Potassium Oxide (K<sub>2</sub>O) \_\_\_\_\_ %  
 Alkalis (Na<sub>2</sub>O + 0.658K<sub>2</sub>O) \_\_\_\_\_ %  
 Tricalcium Silicate (C<sub>3</sub>S) \_\_\_\_\_ %  
 Optimum SO<sub>3</sub> (ASTM C-563) \_\_\_\_\_ %  
 Expansion in water (ASTM C-1038) \_\_\_\_\_ %

**PHYSICAL RESULTS**

Air Content (T-137) \_\_\_\_\_ %  
 \*A.C. Mixing Water \_\_\_\_\_ %  
 Fineness - Blaine (T-153) \_\_\_\_\_ m<sup>2</sup>/kg  
 Soundness -Autoclave Exp. (T-107) \_\_\_\_\_ %  
 Normal Consistency Water \_\_\_\_\_ %  
 Compressive Strength (T-106)  
 Flow: \_\_\_\_\_  
 1 day (type III only): \_\_\_\_\_ psi  
 3 day: \_\_\_\_\_ psi  
 7 day: \_\_\_\_\_ psi  
 Time of Set - Gilmore (T 154)  
 Initial: \_\_\_\_\_ min  
 Final: \_\_\_\_\_ min.  
 Time of Set -Vicat (T 131)  
 Initial: \_\_\_\_\_ min  
 Final: \_\_\_\_\_ min.  
 False Set (ASTM C-451) \_\_\_\_\_ %

I hereby certify that the above information is correct to the best of my knowledge.

Authorized Signature: \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Name (Printed): \_\_\_\_\_  
**Authorized Signature:** Signature of a person having legal authority to bind the Company

For VTrans Use Only:		
Lab #:	Certification #:	Date Received: