

VERMONT AGENCY OF TRANSPORTATION

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

Guidance Document

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Purpose:

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

Applicability:

The Agency will endeavor to approve only those cement and mineral admixture sources which are known or expected to supply materials, directly or indirectly, for use on Agency projects.

Definition of an Approved Cement or Mineral Admixture Source:

A cement or mineral admixture source is approved for use on Agency projects when the Agency has determined that the source will supply materials for VTrans projects, and 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 cement 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 cement 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>

Cement and Mineral Admixture Source Approval Process:

The following details the steps needed for a cement 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 past approval and source is 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 seeking approval of 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.

2. The Manufacturer of cement 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 cement 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. The Manufacturer will send the mill certifications, completed form, and the material sample to the Central Materials Lab in Berlin, VT. The mill certifications and completed form may be transmitted electronically. 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;

Dustin Hill
Cement Lab Technician, VAOT
Email: dustin.hill@vermont.gov
Phone: (802) 828-6940
Cell: (802) 279-5212

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 materials monthly, or every production period.

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 15th of the following calendar year.

Responsibilities:

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

Cement or Mineral Admixture Producer; Responsible for ensuring that all pertinent information needed to be considered for cement 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 materials 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.

APPENDIX A

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: _____

CHEMICAL RESULTS (T-105)

PHYSICAL RESULTS

All tests are AASHTO unless otherwise stated

Silica (SiO₂) _____ %
 Calcium (CaO) _____ %
 Alumina (Al₂O₃) _____ %
 Iron Oxide (Fe₂O₃) _____ %
 Al-Iron Oxide Ratio: (Al₂O₃ / Fe₂O₃) _____ %
 Magnesium (MgO) _____ %
 Sulfur Trioxide (SO₃) _____ %
 Loss on Ignition _____ %
 Insoluble Residue _____ %
 Tricalcium Aluminate (C₃A) _____ %
 Sodium Oxide (Na₂O) _____ %
 Potassium Oxide (K₂O) _____ %
 Alkalis (Na₂O + 0.658K₂O) _____ %
 Tricalcium Silicate (C₃S) _____ %
 Optimum SO₃ (ASTM C-563) _____ %
 Expansion in water (ASTM C-1038) _____ %

Air Content (T-137) _____ %
 *A.C. Mixing Water _____ %
 Fineness - Blaine (T-153) _____ m²/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) _____ %

Required: Provide contact information for a company that will use your material on VTrans projects:

Name: _____ Email: _____ Phone #: _____

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: