

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
CEMENTITIOUS MATERIAL PREQUALIFICATION PROGRAM**

4/26/17



This Cementitious Material Prequalification Program establishes procedures to ensure that cementitious material meets the requirements in Section 90 of Caltrans Standard Specifications.

Per Section 90-2.01 (Cementitious Materials) of the Standard Specifications, all cementitious materials must be on the Authorized Materials List prior to being used on Caltrans projects.

NOTE : Rapid-strength non-portland hydraulic cements do not fall under the scope of this list and should continue to be sampled and shipped per the requirements of SSP 40-020.

REFERENCE DOCUMENTS

- Caltrans Standard Specification Section 90: “Portland Cement Concrete”

DEFINITIONS

Definitions provided in this section are for clarifying terms used within this document.

- *Laboratory* – a facility that provides testing.
 - Supplier’s Laboratory – the supplier’s cementitious materials testing facility. This laboratory will coordinate the supplier’s quality control and specification compliance testing. The supplier may contract out this work. Only laboratories that are participants in the CCRL on-site inspection and proficiency sample program and are accredited from the AASHTO Accreditation Program are recognized as approved laboratories for this program. Accreditation must be valid for the cementitious material(s) being supplied to the Department. The Department will periodically verify that the laboratory is maintaining AASHTO Accreditation by viewing the online directory on www.amrl.net.
 - Transportation Laboratory – the Department's Office of Structural Materials laboratory, or established laboratories of the various Districts of the Department, or other laboratories authorized by the Department to test materials and work involved in the contract. Any Department laboratory or Department authorized laboratory shall maintain AASHTO Accreditation for testing of cementitious materials for chemical and physical properties.
- *Quality Control (QC) Testing* – testing as described in the supplier’s quality control plan. QC control tests and frequency shall be determined by the supplier. The supplier is responsible for conducting QC testing.
- *Source* – the point of origin of a material. This includes, for example, cement plants and power plants (production facility). In a case where a supplier owns more than one source, each individual facility will be considered a separate source.

- *Supplier* – an entity manufacturing or distributing cementitious materials for use on a Caltrans project.
- *Terminal or distribution center* – facility where bulk quantities of cementitious material are stockpiled for distribution. This may include warehouse facilities, barges or ship storage facilities. If any modification, blending, or commingling of cementitious materials from different sources is made at a terminal (or distribution center), that terminal or distribution center will be the source. If no materials modifications are made at a terminal site, the source remains the production facility and all quality control is performed at the production facility. Terminals or distribution centers where cementitious material is stockpiled from sources outside the US (non-domestic) shall maintain records of quality control testing from the supplier’s laboratory. Although quality control may be performed at a production facility outside the US, all stockpiled material received in the state of California must be tested (before use by the Department) by a laboratory in a manner that conforms to the requirements of this program. The laboratory performing this testing must participate in the CCRL on-site inspection and proficiency sample program and must be accredited from the AASHTO Accreditation Program for testing the cementitious material(s) being supplied to the Department.

APPLICATION FOR A SUPPLIER OF CEMENTITIOUS MATERIAL (AUTHORIZED MATERIALS LIST)

The supplier must submit the following items to Caltrans Transportation Laboratory, Attention: Thien Thach, Cementitious Material Qualification, 5900 Folsom Boulevard, Sacramento, CA, 95819-4612, email – thien.thach@dot.ca.gov (Attention Cementitious Material Qualification):

- **An application for each cementitious material to appear on the list**
 - Send documentation providing information about each material, its production facility, supplier contacts and laboratory accreditation. A preformatted document meeting these requirements can be found at http://www.dot.ca.gov/hq/esc/approved_products_list/pdf/cementitious_form.pdf
- **MSDS for each material supplied**
- **Six months of prior mill certifications showing Section 90 and applicable ASTM specification compliance for each material in request**
- **Cementitious material samples**
 - Sample cementitious material product(s) from production line or storage facility for initial testing in the same manner that you sample for quality control.
 - Split cementitious material product(s) into 2 samples each [supplier’s sample(s) and Caltrans’ sample(s)] of at least 9 pounds each. Supplier’s split of the sample(s) should be tested by the supplier’s quality control laboratory. Caltrans’ split of the sample(s) should be sent to the Department’s Transportation Laboratory for testing to the following:

Attention: Thien Thach, Cementitious Material Qualification, 5900 Folsom Boulevard, Sacramento, CA, 95819-4612.

- Submit sample(s) in airtight containers marked with material type, supplier name, and sample date on the container along with the request letter.
- Test results of the supplier's portion of the sample(s) should be sent to Caltrans (at the address listed above) within 15 days after completion of all testing of the sample.
- Results of the Department's split sample testing will be sent to the respective supplier within 15 days after completion of all testing of the sample.

If submission requirements are met, the material(s) will be added to the Department's Authorized Materials List.

CEMENTITIOUS MATERIAL REQUIREMENTS

- Cementitious Material must conform to the requirements of Section 90 of Caltrans Standard Specifications.
- Raw or calcined natural pozzolan should meet all requirements given in ASTM C618. Further, raw or calcined natural pozzolan should also meet the requirement of effectiveness in controlling alkali-silica reactivity (ASR) as described in Table 3: Supplementary Optional Physical Requirements of ASTM C618. The test method to be used in this requirement is given in ASTM C311 (Section 32). The amount of raw or calcined natural pozzolan to be used in the test mixture will be 25% by mass of the cementitious materials.

MAINTAINING AUTHORIZED STATUS OF CEMENTITIOUS MATERIALS

To maintain the authorized status of a cementitious material, the supplier must submit the following:

Quarterly Requirements

Within 45 days of the end of the quarter, for each material supplied:

- A summary of compliance testing results (monthly mill certification data) shall be submitted. Results must be submitted by email to thien.thach@dot.ca.gov in (1) a secure pdf format and (2) a Department approved excel spreadsheet available at http://www.dot.ca.gov/hq/esc/approved_products_list/
- A document certifying that all material supplied to the Department during the quarter conformed to Department specifications.
- A letter outlining any changes in production quality control or quality control testing that may have occurred since the last submittal period for each facility of the supplier. Include any information about changes to the facility and/or the supplier's quality control program.

Annual Requirements

Annually, the supplier must submit the following test samples and results:

- A split sample of the supplier's cementitious material(s) sampled once each subsequent year after obtaining qualification status - submitted in that year within 15 days of the beginning of the month of original qualification. Caltrans' split of the sample(s) should be sent to the Department's Transportation Laboratory for testing. Supplier's split of the sample(s) should be tested by the supplier's quality control laboratory and results should be forwarded to the Department within 15 days after completion of all testing of the sample. Caltrans' split of the sample and the suppliers' test results should be sent to the following address:

Attention: Thien Thach, Cementitious Material Qualification, 5900 Folsom Boulevard,
Sacramento, CA, 95819-4612.

Results of the Department's split sample testing will be sent to the respective supplier within 15 days after completion of all testing of the sample

Failure to meet any of the reporting requirements listed above may result in removal from the Authorized Materials List.

Independent Sampling and Testing

The Department maintains the right to visit a facility at any time and sample or witness sampling of each material supplied for testing by the Department. The Department will coordinate with facilities for on-site visits. Samples, if tested, must conform to relevant specifications.

- If a sample fails to conform to the relevant specifications, a letter will be sent informing the supplier of the failure. The supplier must submit an explanation of the corrective action taken to address the non-conforming result.