

## AUTHORIZATION REQUIREMENTS AND ACCEPTANCE CRITERIA FOR PRODUCERS OF LIME FOR USE IN SOIL STABILIZATION AND AGGREGATE LIME TREATMENT IN HMA

**General:** Lime used for soil stabilization (Section 24-2) or aggregate lime treatment (Section 39-2) in hot mix asphalt (HMA) must be supplied by a California Department of Transportation (Caltrans) authorized producer and plant listed on the Authorized Material Lists (AML). This acceptance criteria pertains to quicklime and hydrated lime, either from high calcium or dolomitic sources. The procedures below outline the authorization criteria requirements for:

1. Including a new product into an AML.
2. Renewing the authorization period for an existing product.

### **New Product Authorization Criteria:**

Follow the procedure below if you have a new product not currently on the AML for Quicklime or Hydrated Lime.

The Manufacturer/Supplier shall provide the following in their submittal package:

1. AML Submittal Form (TL-9502)
2. Letter of intent specifying the following:
  - a. Management and quality control contact for the plant and their contact information (name, address phone, and e-mail information).
  - b. Information about the lime plant, including address, source of lime, and brief production history (Identify storage facilities and number of kilns, including capacity).
  - c. Information about the producer's/plant's quality control program. Specify the process that will be used if test results do not demonstrate compliance with the specifications.
3. MSDS for lime product.
4. One year of quality control tests results.
5. Lime Samples – Sample lime from the production line or storage facility for verification testing in the same manner that you sample for quality control.
  - a. Split lime into 3 samples of at least 1 pound each. One sample must be tested by the producer's quality control laboratory. The other two samples shall be sent to the Transportation Laboratory. One sample will be used for testing and the other to retain for dispute resolution.

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- b. Submit samples in airtight containers marked with lime type, producer name, sample date, plant location, and unique sample number on the container.
6. QC test results for the tests listed in Tables 1 and 2 on the producer's portion of the split sample.

Send lime samples to:

Caltrans Transportation Laboratory  
Attention: Richard Wilmshurst, Producers of Lime Qualification  
5900 Folsom Boulevard  
Sacramento, CA 95819-4612

Table 1. Lime Quality

Quality Characteristic	Test Method	Requirement
Available calcium and Magnesium oxide (min, %)	ASTM C25	High calcium quicklime: CaO > 90 Dolomitic quicklime: CaO > 55 and CaO + MgO > 90
Loss on ignition (max, %)	ASTM C25	7 (total loss) 5 (carbon dioxide) 2 (free moisture)
Slaking rate	ASTM C110	30° C rise in 8 minutes

Note: In addition to Table 1, hydrated lime must meet the following requirement when tested under ASTM C25:

Unhydrated Calcium and Magnesium Oxides  $\leq 5.0\%$

A 0.5 lb. sample of lime dry-sieved in a mechanical shaker for 10 minutes  $\pm 30$  seconds must comply with the percentage passing for the sieve shown in the following table:

Table 2. Lime Gradation

Sieve size	Percentage passing
3/8"	98-100

Please submit your completed submittal packages through the Product Evaluation Program by e-mail sent to <new.products@dot.ca.gov> with the subject line: Producers of Lime Qualification.

The Department will test the split sample to verify the producer's data. After the submittal has been reviewed and Department verification testing has been completed, the Department will issue an acceptance notification valid for up to five (5) years or a rejection notification.

## **Reauthorization of Existing Products:**

Follow the procedure below if you have an existing product on the AML that is approaching the end of its Acceptance Period, when any changes in production, quality control or quality control testing have occurred, or when requested by the Department.

To maintain an existing product on the AML, the Manufacturer/Supplier shall provide the following in their reauthorization package:

1. Letter outlining any changes in production, quality control or quality control testing that may have occurred during the previous year. Include new information about lime plant and/or the producer's quality control program.
2. Lime Samples – Sample lime from the production line or storage facility for verification testing in the same manner that you sample for quality control.
  - a. Split lime into 3 samples of at least 1 pound each. One sample must be tested by the producer's quality control laboratory. The other two samples shall be sent to the Transportation Laboratory. One sample will be used for testing and the other to retain for dispute resolution.
  - b. Submit samples in airtight containers marked with lime type, producer name, sample date, plant location, and unique sample number on the container.
3. Test results for the tests listed in Tables 1 and 2 on the producer's portion of the split sample.

Please submit your completed submittal packages to the AML Administrator via e-mail sent to <Richard.Wilmshurst@dot.ca.gov> with the subject line: Producers of Lime Qualification. Submittals must be received no later than 90 days before the end of the Acceptance Period.

## **Project Samples**

Samples received at the Transportation Laboratory from projects will be tested for compliance to the project specifications. Composite samples or averaging

test results from storage units containing products from different sources is not permitted. When the engineer is notified of a non-compliance, the producer will also be notified. It is the producer's responsibility to resolve any issues of non-compliance with the Transportation Laboratory and the Engineer. Failure to comply with project specifications more than three (3) times in any 12-month period will result in having the producer removed from the list of Caltrans Authorized Lime Producers for 12 months. In cases of dispute between the Department and the producer, the Chief of Materials Engineering and Testing Services will outline a dispute resolution process.

### **Questions**

If you have any questions regarding this document, please contact Richard Wilmschurst by phone at (916) 227-7041 or via e-mail sent to <Richard.Wilmschurst@dot.ca.gov>.

**Please allow up to 90 days for all evaluations once sample is received.**

Note: Caltrans reserves the right to remove a product from the Authorized Materials List at any time