

**AUTHORIZATION REQUIREMENTS AND ACCEPTANCE CRITERIA FOR  
CONCRETE ADMIXTURES**

The Concrete Admixtures Prequalification Program establishes procedures to ensure that chemical admixtures and air-entraining admixtures meet the performance and acceptance criteria and that all concrete admixtures must be on the Authorized Materials List (AML) prior to being used on Caltrans projects.

**1. Reference Documents:**

- A. 2022 Caltrans Standard Specifications Section 90-1.02E: "Admixtures."
- B. ASTM C260: Standard Specification for Air-Entraining Admixtures for Concrete.
- C. ASTM C494: Standard Specification for Chemical Admixtures for Concrete.

**2. Definitions:**

- A. Supplier – an entity manufacturing or distributing concrete admixtures for use in a Caltrans project.
- B. Supplier's Laboratory – the supplier's concrete admixtures testing facility. This laboratory will verify the supplier's quality control and specification compliance testing. The supplier may contract out this work.
- C. Transportation Laboratory – the Department's Materials Engineering and Testing Services (METS) laboratories.

**3. For new products, the supplier will provide the following:**

- A. Letter of intent specifying the type of product, applications, and contact information.
- B. Authorized Material List Submittal Form TL-9502. For more information, please follow the link: <<https://dot.ca.gov/programs/engineering-services/product-evaluation-program>>
- C. Manufacturer's product data sheet.
- D. Safety Data Sheet.
- E. Test results showing compliance with applicable standards (ASTM C260 for air-entraining admixtures, ASTM C494 for non-air-entraining admixtures).
- F. Infrared (IR) curve of the admixture.
- G. When directed to do so, send a quart sample of the material for our testing to:

# CALIFORNIA DEPARTMENT OF TRANSPORTATION



Transportation Laboratory  
Attention: Rachael Chavez  
Concrete Admixtures Prequalification Program – Chemical Testing  
Branch  
5900 Folsom Boulevard  
Sacramento, CA 95819

- H. Please allow up to 90 days for evaluation of samples once received.
- I. Once it is determined that the admixture meets the acceptance criteria, it will be posted in the Department's Authorized Materials List website and the supplier will be notified.
- J. The authorization of concrete admixtures is valid for up to 5 years from the date it is placed on the AML.
- K. The Department reserves the right to sample, test, and remove the product from the AML at any time.

## 4. Performance and acceptance criteria:

- A. Concrete admixtures must contain < 1% chlorides.
- B. For air-entraining admixtures, products must show compliance to ASTM C260 section 4 "General Requirements" as well as the criteria in Table 1 "Physical Requirements"
- C. For chemical admixtures, products must show compliance to ASTM C494 section 5 "General Requirements" as well as the criteria in Table 1 "Physical Requirements"
- D. Lithium nitrate admixtures must be in an aqueous solution that complies with the following:
  - i) Lithium nitrate as  $\text{LiNO}_3$  must be  $30 \pm 0.5$  percent by weight
  - ii) Sulfate as  $\text{SO}_4$  must be less than 1,000 ppm
  - iii) Chloride as  $\text{Cl}$  must be less than 1,000 ppm
  - iv) Alkalis as  $\text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$  must be less than 1,000 ppm

## 5. Reauthorization:

- A. The supplier must submit a reauthorization request for each product at least 60 calendar days prior to the reauthorization date.
- B. Send a letter confirming that the concrete admixture and the manufacturing process has not changed since the last submittal.

Failure to submit a renewal request at least 60 days in advance may result in an authorized material expiring before the product submittal can be reviewed and re-authorized.

If you have any questions about the Concrete Admixtures Authorization Criteria, contact the Concrete Materials Testing Branch, Rachael Chavez at (916) 227-0388 or <[rachael.chavez@dot.ca.gov](mailto:rachael.chavez@dot.ca.gov)>.

For technical questions regarding the use of concrete admixtures contact the Concrete Materials Testing Branch, Ashkan Bozorgzad at (916) 817-0785 or <[ashkan.bozorgzad@dot.ca.gov](mailto:ashkan.bozorgzad@dot.ca.gov)>.