

OKLAHOMA DEPARTMENT OF TRANSPORTATION
APPROVAL PROCEDURE
FOR
HYDRAULIC CEMENT
(SPECIFICATION REFERENCE 701.02)

GENERAL: Hydraulic Cement products will be accepted only if having an unexpired listing on ODOT's Approved Products List. Field acceptance will be in accordance with the Field Acceptance Method, indicated by the code adjacent to the product listing.

If there is any change in Company name, ownership, operation, or major processes, the ODOT Materials Division Engineer must be immediately informed to evaluate the continued listing of the product(s).

All products are subject to sampling at the job site and/or at the manufacturing facility. Products that do not perform adequately or are otherwise found to be non-compliant with requirements may be removed from the Approved Products List at any time. Once removed, the product will not be re-listed or approved for use until such time that adherence to the requirements can be verified and the product has undergone satisfactory performance evaluation.

PRODUCT APPROVAL: Request for approval of cement shall be the responsibility of a domestic cement manufacturer. The Department may conduct an on-site inspection of the Manufacturer's facility and laboratory during the approval process. Approval will require a written request from the manufacturer to the ODOT Materials Division Engineer, which shall include the following:

- (A) A letter from the domestic Manufacturer requesting placement on the Oklahoma Department of Transportation's Approved Products List. This letter should include the types of cement the manufacturer produces and is requesting to be placed on the list.
- (B) Submit a 1 gal. (4 liter) split sample of each cement type the manufacturer is requesting to be placed on the Approved Products List. Submit to the department a copy of the test results of all applicable AASHTO or ASTM tests for the sample(s).
- (C) A detailed Quality System Manual (QSM). The QSM shall incorporate a comprehensive record keeping system, to include:
 - Manufacturer's quality statement.
 - Written policy or mission statement
 - Manufacturing facility and products.
 - Facility address, telephone number and email address.
 - Detailed directions to the manufacturer's facility.
 - Types of cement produced at the facility.
 - Include detailed information on any foreign cement or clinker imported by the domestic manufacturer.
 - Quality control system roles and responsibilities.
 - Quality control (QC) organization
 - QC manager
 - QC technicians
 - QC personnel qualifications and responsibilities
 - Production personnel responsibilities for quality.
 - Quality control laboratory qualifications.

- Documentation of routine *Cement and Concrete Reference Laboratory* (CCRL-NIST) inspection and proficiency samples including a copy of the most recent inspection and sample results.
 - Is the laboratory accredited by the *AASHTO Materials Reference Laboratory* (AMRL), as outlined in AASHTO R-18.
 - Is the laboratory certified by the International Organization for Standardization (ISO), as outlined in ISO 9001.
- Pre-production materials control.
 - Constituent material types and sources of supply.
 - Visual inspection of materials.
 - Control and testing of constituent materials.
 - Constituent material storage
 - Quality control during production.
 - Random and/or selective sampling plan.
 - Sample identification system.
 - Standard QC sampling and testing methods (AASHTO, ASTM, other).
 - The manufacturer shall supply quality control limits for ODOT approval. The QC limits should be based on the manufacturer's normal variation from production targets and be within the tolerances of AASHTO M 85, M 240, or ASTM C 1157, and shall control variability within a level acceptable to the Department.
 - QC sample storage and retention procedures.
 - QC test result reporting.
 - Use of control charts (if used).
 - Statistical analysis of test results.
 - A minimum of high, low, mean and standard deviation.
 - Resolution of Non-conforming Test results.
 - Post-production QC activities.
 - Storage, shipping and handling of finished cement products.
 - Handling of QC records.
 - Retention of records and product traceability.
 - Product certification.
- (D) A list of other state DOT's that have these same facility products on their Approved Products List. List contact information for state DOT's.

Upon Oklahoma Department of Transportation approval of the Quality System Manual, quality control limits, and reconciliation of any testing differences between the two laboratories, the Manufacturer will agree in writing to the requirements specified in the *Manufacturer's Quality Control Agreement for Hydraulic Cement*, (attached). The Manufacturer's products will be placed on the Department's Approved Products List after the Quality Control Agreement has been signed by both parties.

Revision 3/5/2015: Changed all instances of "ODOT Materials Engineer" to "ODOT Materials & Research Division Engineer". Changed division name in left part of header from "Materials Division" to "Materials & Research Division". Changed all instances of "Approved Materials List" to "Approved Products List".

Revision 6/23/2016: Changed all instances of "ODOT Materials & Research Division Engineer" to "ODOT Materials Division Engineer". Changed division name in left part of header from "Materials & Research Division" to "Materials Division".

OKLAHOMA DEPARTMENT OF TRANSPORTATION
MANUFACTURER'S QUALITY CONTROL AGREEMENT
FOR
HYDRAULIC CEMENT
(SPECIFICATION REFERENCE 701.02)

To assure the approval and acceptance of Hydraulic cement for use on Oklahoma Department of Transportation (hereinafter called "the Department") projects, _____
Manufacturer's Name _____, at _____ *Manufacturer's Location* _____, (hereinafter called "the Manufacturer") regarding all cement(s) which it supplies for use on such projects, agrees to:

- (A) Maintain Quality Control as established by the Manufacturer and approved by the Department in accordance with the Manufacturer's Quality System Manual (QSM).
- (B) Make all test records available for inspection by the Department's personnel or authorized representatives. Such records to be maintained by the Manufacturer for a period of not less than five (5) years. Copies of any or all test records shall be furnished to the Department upon request.
- (C) Furnish the Department a monthly report of high, low, mean and standard deviation values for all items in the QC limits list. Include a disposition statement for all cement products not meeting specified limits. The manufacturer's approved QC limits are attached to and become a part of this agreement. Any changes made to the Manufacturer's QC limits are to be approved in writing by the Department prior to implementation and will be considered an amendment to this agreement.
- (D) Submit a split sample for testing every three (3) months. (The Department reserves the right to vary the split testing frequency based on the laboratories level of quality from monthly to semiannually.) The sample should be approximately 1 gal. (4 liters) in size. The sample shall be submitted within ten (10) days of sampling and should represent actual production material. It shall be accompanied by the manufacturer's test results for that sample. The test results should include all of the test procedures in the manufacturer's quality control limits list. When required by the manufacturer's quality control limits or specification, submit an amended report with twenty eight (28) day compressive strength test results. The Department should be notified in writing when the manufacturer does not produce or will not ship a specific type of cement to the Department for use. During this time period no sampling or reporting will be required for these types of cement. When production or shipping resumes, the manufacturer shall notify the Department and provide samples.
- (E) Allow the Department access to the Manufacturer's facilities. The Manufacturer shall allow the Oklahoma Department of Transportation inspectors, or their agents, to enter any manufacturing plant or quality control laboratory, unannounced, to observe the manufacturing process, review QC inspection, testing and associated records, obtain samples for comparison testing, or to inspect QC testing facilities.
- (F) Be accredited by the AASHTO Materials Reference Laboratory (AMRL) or be International Organization for Standardization (ISO) 9001 certified for all applicable procedures. Failure to achieve AMRL accreditation or ISO certification within two years of this agreement will be considered noncompliance. Provide test sample and inspection records and copies of reports, including any deficiency correspondence, to the Department's authorized representative for review.

- (G) Provide certification with each shipment that the products:
- Were produced in compliance with this Agreement.
 - Are the identical products appearing on the Approved Products List as a result of this Agreement.
 - Meet the requirements of AASHTO M 85, M 240, or ASTM C 1157, whichever is applicable.

Each approved product covered by this Agreement shall be identified by a unique coded name to indicate both material type and Producer / Supplier (P/S) code. The complete coded name will be entered into the Department's construction management database and publicly displayed as the "Product Name" on the Approved Products List precisely as follows:

Examples:

Type I (P/S m00009)

Type I(PM) (P/S m00009)

The manufacturer shall provide the required certification by listing the product name on the shipping documents in precisely the same complete coded manner as shown above. This may be part of the printed form or stamped on the form.

For product recognition within the Department, the complete coded name should also be used whenever submitting reports, samples or otherwise referencing these products as being covered by this Agreement and/or the identical products included on the Approved Products List.

- (H) Maintain cement product quality and integrity throughout storage, transport, and delivery to terminus.

Approval may be withdrawn at any time the Manufacturer is found to be in noncompliance with this written agreement, when comparison testing between the two laboratories shows continuing unresolved differences, and/or when samples taken at the project indicate noncompliance with the quality control limits as stated in the attachment to this agreement. Products may be removed from the Approved Products List if the Department deems that a unacceptably long period of time has expired without any shipments of production material for use on Department projects.

If there is any change in Company name, ownership, operation, or major processes, the ODOT Materials Division Engineer must be immediately informed to evaluate the continued listing of the product(s).

This agreement will remain in effect until cancelled by either party.

**OKLAHOMA DEPARTMENT OF TRANSPORTATION
MANUFACTURER'S QUALITY CONTROL AGREEMENT
FOR
HYDRAULIC CEMENT
(SPECIFICATION REFERENCE 701.02)**

ENDORSEMENT OF AGREEMENT

Manufacturer: _____

BY: _____ (Signature) _____ (Typed or Printed Name)

TITLE: _____ DATE: _____

APPROVED:

OKLAHOMA DEPARTMENT OF TRANSPORTATION

BY: _____
Matt Romero, P.E., Materials Division Engineer

DATE: _____

Revision 3/5/2015: Changed all instances of “Materials Engineer” to “Materials & Research Division Engineer”. Changed division name in left part of header from “Materials Division” to “Materials & Research Division”. Changed all instances of “Approved Materials List” to “Approved Products List”. Changed name of Materials & Research Division Engineer, shown underneath the line labeled “BY” and near the bottom of the Endorsement of Agreement sheet (page 3 or 4), from “Reynolds H. Toney” to “Scott Seiter”.

Revision 6/23/2016: Changed all instances of “Materials & Research Division Engineer” to “Materials Division Engineer”. Changed division name in left part of header from “Materials & Research Division” to “Materials Division”.

Revision 5/4/2018: Changed person name and title, shown underneath the line labeled “BY” and near the bottom of the Endorsement of Agreement sheet (page 3 or 4), from “Scott Seiter, P.E., Materials Division Engineer” to “Kenny Seward, P.E., Assistant Materials Division Engineer”.

Revision 9/21/2018: Changed person name and title, shown underneath the line labeled “BY” and near the bottom of the Endorsement of Agreement sheet (page 3 or 4), from “Kenny Seward, P.E., Assistant Materials Division Engineer” to “Matt Romero, P.E., Materials Division Engineer”.