

DMS-4620

Slag Cement

Effective Date: **July 2023**



1. DESCRIPTION

This Specification establishes requirements and test methods for slag cement and the Slag Cement Quality Monitoring Program (SCQMP). Slag cement is finely ground, glassy granular material formed when molten blast-furnace slag is rapidly chilled.

2. UNITS OF MEASUREMENTS

The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.

3. MATERIAL PRODUCER LIST

The **Materials and Tests** Division (**MTD**) maintains the Material Producer List (MPL) of all materials conforming to the requirements of this Specification. Materials appearing on the MPL, entitled "[Slag Cement](#)," require no further sampling and testing before use, unless deemed necessary by the Project Engineer or **MTD**.

4. BIDDERS' AND SUPPLIERS' REQUIREMENTS

In most cases, slag cement must be pre-qualified and accepted into the **Slag Cement Quality Monitoring Program (SCQMP)** in accordance with the requirements listed in Article 5., "Qualification Procedure," of this Specification.

Use of qualified product does not relieve the Contractor of the responsibility to provide product that meets this Specification. The Department may inspect or test material at any time and reject any material that does not meet the specifications.

In cases when slag cement not on the SCQMP must be used for a specific project, the Department will test the slag cement for compliance with Article 7., "Material Requirements," of this Specification before the material is allowed on the project. Submit **one** sample at least **1 gal.** in size, corresponding mill certificates, and Safety Data Sheets to the Texas Department of Transportation, **Materials and Tests Division, Laboratory Building, 6230 E. Stassney Ln., Austin, TX 78744.**

5. QUALIFICATION PROCEDURE

- 5.1. **Qualification Request.** Submit a **written** request **on company letterhead** for evaluation under DMS-4620 to DMS_Prequal@txdot.gov.

Include the following information in the request:

- company name;
- physical and mailing addresses;
- contact person, phone number, and email address;

- six mo. of physical and chemical producer data meeting ASTM C989, Grade 100 requirements; and
- producer's quality control (QC) program.

5.2. **Sampling and Testing.** Schedule sampling at the mutual convenience of the Department and the producer. Sampling and testing will be in accordance with the requirements of ASTM C 989. All materials for qualification will be at no cost to the Department.

For slag cement not on the SCQMP, the Department will sample the material during the course of a project to ensure continued specification compliance.

For slag cement on the SCQMP or approved for a specific project, the Department reserves the right to conduct random sampling of materials for testing and to perform random audits of test reports. Department representatives may sample material from the plant, terminal, transportation containers, and concrete plants to verify compliance with Article 7., of this Specification.

5.3. **Criteria for Acceptance.** The producer or supplier must have a facility with a minimum storage capacity of 1,000 tons. The producer or supplier must have a laboratory of its own, or one contracted, that the Cement and Concrete Reference Laboratory (CCRL) inspects and approves to perform all tests required in Article 7.

5.4. **Evaluation.** MTD will notify prospective bidders and suppliers after completion of material evaluation.

5.4.1. **Qualification.** If approved for Department use, MTD will accept the material to the SCQMP and add it to the MPL. To remain on the SCQMP, producers must submit monthly mill certificates certifying that the slag cement meets the requirements of ASTM C 989, Grade 100 or better.

Report changes in the composition or in the production process of any material to MTD. Significant changes reported by the producer, as determined by MTD, may require a re-evaluation of performance. The Department reserves the right to conduct whatever tests it deems necessary to identify a qualified material and determine if there is a change in the composition, manufacturing process, or quality that may affect its durability or performance. In case of variance, the Department's tests will govern.

5.4.2. **Failure.** Producers not qualified under this Specification may not furnish materials for use on Department projects.

Producers failing to qualify may submit a request for re-evaluation after 12 mo. have elapsed from the date of the original request. MTD may modify this time limit at its discretion. In the request for re-evaluation, document the cause of the issue and corrective action taken.

The Department normally bears the costs of sampling and testing; however, the producer will bear the costs associated with materials failing to conform to the requirements of this Specification. MTD will assess this cost at the time of testing and amounts due will be billed to the producer.

6. QUALITY MONITORING

6.1. **Reporting Requirements.** For each slag cement on the SCQMP, submit:

- a 1-Gal sample of cement sampled in accordance with [Tex-300-D](#);
- mill Certificates and monthly test reports that will be submitted electronically to the following: MTD_TxDOTCementMillCerts@txdot.gov

For slag cement on the SCQMP or approved for a specific project, producers will submit monthly samples at the beginning of each month for all certified cements. Monthly QM samples should be received by the 15th of each month.

- 6.2. **Periodic Evaluation.** The Department reserves the right to conduct random sampling and testing of qualified materials to verify performance and Specification compliance and to perform random audits of documentation. Department representatives may sample material from the manufacturing plant, the project site, and the warehouse.

Failure of materials to comply with the requirements of this Specification as a result of periodic evaluation may be cause for removal of those materials from the MPL. In case of variance, the Department's tests will govern.

- 6.3. **Disqualification.** Causes for disqualification and removal from the SCQMP and the MPL may include, but are not limited to:

- failure to provide slag cement to a Department project for a period of 1 year,
- failure to meet the reporting requirements of the SCQMP,
- falsification of documentation,
- failure of 2 consecutive samples to meet the requirements of this Specification, or
- producer has unpaid charges for failing samples.

MTD will remove disqualified producers from the MPL and will not allow submission of material for re-qualification for 12 mo., at the discretion of the Department.

- 6.4. **Re-Qualification.** Once the disqualification period established by MTD has elapsed, producers disqualified and removed from the MPL may begin the re-qualification process by submitting a request in accordance with Article 5., including additional documentation identifying the cause of the problem and corrective action taken. The re-qualification process will then follow all subsequent Sections of Article 5.

The Department normally bears the costs of sampling and testing; however, the disqualified producer will bear the costs associated with re-qualification. MTD will assess this cost at the time of re-evaluation and amounts due will be billed to the producer.

7. MATERIAL REQUIREMENTS

All slag cement must meet the requirements of ASTM C989, Grade 100 or better.

8. ARCHIVED VERSIONS

Archived versions are available.