
DMS-4675

Cementitious Grouts and Mortars for Miscellaneous Applications



Effective Date: **July 2023**

1. DESCRIPTION

This Specification governs the pre-qualification procedure, **quality assurance**, packaging, and material properties of cementitious grouts and mortars used for miscellaneous **structural** applications. These applications include but are not limited to:

- grouting precast member connections,
- grouting anchor bolts and dowels,
- grouting lateral connectors for prestressed beams,
- bearing seat build ups, and
- jointing of concrete pipe and box culverts with mortar.

The grouts and mortars governed by this Specification are not suitable for encapsulating post-tensioning strands. Refer to [DMS-4670](#), "Grouts for Post-Tensioning," for the material requirements for post-tensioning grout material.

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 "[Cementitious Grouts and Mortars for Miscellaneous Applications](#)," require no further sampling and testing unless deemed necessary by the Project Engineer or **MTD**.

4. BIDDERS' AND SUPPLIERS' REQUIREMENTS

The Department will only purchase or allow on projects those products listed by producer and product code or designation shown on the MPL.

Use of pre-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.

5. PRE-QUALIFICATION PROCEDURE

5.1. **Pre-Qualification Request.** Submit a **written** request **on company letter head** for evaluation under DMS-4675 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;
- material type (grout or mortar);
- technical data sheets typically accompanying the product with printed instructions for mixing, application, placing, curing, and shelf life;
- list of all possible package types and available sizes;
- independent laboratory test report from a laboratory audited and inspected by the Cement and Concrete Reference Laboratory containing test results and certifying compliance of the product with this Specification. Test reports older than 1 yr. must be accompanied by a notarized certification stating that there has been no alteration of the product since originally tested by the independent laboratory.

5.2. **Pre-Qualification Sample.** Submit a sample of adequate size to complete testing to the Texas Department of Transportation, Laboratory Building, 6230 E. Stassney Lane, Austin, TX 78744.

Include the following with the sample:

- manufacturer's certification that the material contains no added chlorides; and
- current safety data sheet (SDS) that complies with OSHA Hazard Communication Standard 29 CFR 1910.1200.

Submit all materials for pre-qualification at no cost to the Department.

5.3. **Evaluation.** The Department reserves the right to perform any or all of the tests specified as a check on the tests reported by the manufacturer. In the case of any variance, the Department's tests will govern. MTD will notify prospective bidders and suppliers after completion of material evaluation.

5.3.1. **Qualification.** If approved for Department use, MTD will add the material to the MPL.

Report changes in the composition or in the manufacturing 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 pre-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.

5.3.2. **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 for failing to meet the requirements of this Specification and corrective action taken. Include an independent laboratory test report from a laboratory audited and inspected by the Cement and Concrete Reference Laboratory (CCRL) containing test results and certifying compliance of the corrected material with this Specification. 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 and any re-evaluation testing. MTD will assess this cost at the time of testing and amounts due will be billed to the producer.

6. QUALITY ASSURANCE

The Department reserves the right to randomly sample and evaluate pre-qualified materials for conformance with this Specification and to perform random audits of documentation. Department representatives may sample material from the manufacturing plant, the project site, and the warehouse. The Department may also request samples for evaluation at any time from the producer.

- 6.1. **Periodic Evaluation.** The Department reserves the right to conduct periodic evaluations on pre-qualified products. Pre-qualified products must meet the requirements of Article 8, "Material Requirements", as applicable, to maintain pre-qualified status. The Department reserves the right to conduct any or all of the tests listed in Article 8 for the approved designation during a periodic evaluation.
- 6.2. **Failure.** 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 MPL may include, but are not limited to:
- falsification of documentation,
 - producer fails to report any change in material composition or manufacturing process to MTD,
 - producer does not provide the Department with samples for periodic evaluations when requested
 - material fails to meet the requirements of this Specification as a result of periodic evaluation, 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 Section 5.1, "Pre-Qualification Request," 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, "Pre-Qualification Procedure."
- 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-qualification and amounts due will be billed to the producer.

7. PACKAGING AND SHIPPING REQUIREMENTS

- 7.1. **Bags.** Pre-package grout or mortar in plastic lined or coated bags.
- 7.2. **Labeling.** Grout or mortar bags must indicate the following:
- brand name,
 - date of manufacture,
 - lot number, and
 - mixing instructions.

8. MATERIAL REQUIREMENTS

Products must not contain metallic formulations or chlorides. Additives to pre-packaged materials are not allowed.

The material requirements and test methods listed in Tables 1 and 2 are for laboratory testing only. Field testing may require different tests or specimen sizes or geometries.

- 8.1. **Grouts.** Provide pre-packaged flowable or fluid grout that is self-consolidating. Pre-packaged grouts must conform to ASTM C1107 and meet the additional material requirements stated in Table 1. Where there is conflict between ASTM C1107 and the requirements listed in Table 1, the requirements of this Specification govern. Additionally, the Department will only allow extension of a grout mixture with pea gravel if recommended by the manufacturer.

Table 1
Material Requirements of Cementitious Grout

Property	Requirement	Test Method
Consistency Flowable Fluid	125–145% 10–30 s	ASTM C1437 ¹ ASTM C939
Setting time Initial set Final set	2.5–6.0 hr. 4.0–8.0 hr.	ASTM C191
Volume change	0.0–0.3% expansion at 24 hr. and 28 days	ASTM C1090 ²
Modulus of Elasticity	Informational ³	ASTM C469
Compressive strength, Min	3,000 psi at 1 day 4,000 psi at 3 days 5,800 psi at 28 days	Tex-442-A
Bulk Resistivity, Min	10.4 kohm-cm at 28 days	ASTM C1876

1. As modified by ASTM C827
2. Modified to include verification at only 24 hr. and 28 days.
3. There are no property requirements for this test. MTD will test for this property and report it on the MPL for material selection purposes.

8.2. **Mortars.** Pre-packaged products used for reinforced concrete pipe and culvert joints and bearing seat build-ups must meet the material requirements stated in Table 2. Pre-packaged cementitious grouts containing aggregate and meeting plastic consistency requirements as defined by ASTM C1107 may be considered for this category as well.

Table 2
Material Requirements of Cementitious Mortars

Property	Requirement	Test Method
Compressive strength, Min	3,600 psi at 28 days	ASTM C109
Bulk Resistivity, Min	10.4 kΩ-cm at 28 days	ASTM C1876

9. ARCHIVED VERSIONS

9.1. Archived versions are available