

Oklahoma Department of Transportation (ODOT)
Procedure for Evaluation and Maintenance of Approved Products Listing

Product Category: **GGBF Slag (702.02)**
Material: **Ground Granulated Blast Furnace Slag (GGBFS)**

1. **Specification:** ODOT Standard 702.02
2. **Material Code & Description:** as follows:
 - 2.1 Material Code: qual014
 - 2.2 Description: GGBF Slag, Std 702.02
3. **Product Name Listing Method:**
Grade X (Producer/Supplier Code)
 - 3.1 Listings will include product grade, followed by P/S mXXXXX in parenthesis - indicating a unique code assigned to the specific Manufacturer
4. **Jurisdiction & Correspondence:** All correspondence concerning this listing should be directed to the following Jurisdiction:

ODOT Materials Division Engineer
Attention: Structural Materials Engineer
5201 N.E. 122nd Street, Building 4011
Edmond, OK 73013-8306
5. **Job Acceptance Requirements:** No job control samples or product certifications required. Satisfactory listing Field Acceptance Method 5001. If doubt exists on job, submit job control sample to Central Lab with complete explanation of doubt.
6. **Project Engineer's Requirements:** Project Engineers will be responsible to inspect and assure all products are verified and documented in accordance with the Field Acceptance Method
7. **Initial Product Qualification Requirements:**
Manufacturers wishing to have products evaluated for placement in this listing should follow procedures outlined in the attached "Approval Procedure for Ground Granulated Blast Furnace Slag (GGBFS)"
8. **Manufacturer's Maintenance Requirements:**
Manufacturers with products in this listing must comply with the requirements of the attached "Approval Procedure for Ground Granulated Blast Furnace Slag (GGBFS)" and "Manufacturer's Quality Control Agreement for Ground Granulated Blast Furnace Slag (GGBFS)".
9. **Mix Designer's Requirements:** Mix Designers specifying these types of products in their mix designs must specify only approved products, identifying Product Name (as listed including P/S Code) on mix designs.
10. **Supplier's Requirements:** Suppliers of these types of products must comply with the following:
 - 10.1 Supply only approved products to Department specification projects, identifying Product Name (as listed including P/S Code) on records with each shipment
 - 10.2 Include all Manufacturer's special handling or application instructions with each shipment
 - 10.3 Promptly report to the Jurisdiction (and Manufacturer if other than Supplier) any doubt about products or performance
11. **Contractor's Requirements:** Contractors using these types of products on Department specification projects must comply with the following:
 - 11.1 Purchase only approved products and use them in accordance with governing requirements
 - 11.2 Promptly report to the Supplier any doubt about products or performance
12. **Laboratory Testing:** Central Lab will conduct physical testing on initial qualification samples as well as routinely submitted split samples.
 - 12.1 Listed products are subject to random periodic verification testing by the Department. Said testing will be performed on samples obtained from Department project concerns.
13. **Reporting of Evaluation Results:** The Jurisdiction will report initial evaluation and physical testing results to the following:
 - 13.1 Manufacturer requesting the evaluation or submitting routine split samples
14. **Application of Evaluation Results:** The Department's initial evaluation results will be applied as follows:
 - 14.1 Satisfactory - products are added to this listing
 - 14.2 Unsatisfactory - products fail to be added to this listing and products are subject to a six (6) month waiting period for re-evaluation.
15. **Expiration of Products from Listing:** Products may be removed or expired from this listing for reasons detailed in the attached "Approval Procedure for Ground Granulated Blast Furnace Slag (GGBFS)" and "Manufacturer's Quality Control Agreement for Ground Granulated Blast Furnace Slag (GGBFS)".

Revision 3/16/2015: Changed "Approved Materials Listing" in document title to "Approved Products Listing". Changed "ODOT Materials Engineer", in the address of block of Section 4, to "ODOT Materials & Research Division Engineer".

Revision 6/23/2016: Changed "ODOT Materials & Research Division Engineer", in the address block of Section 4, to "ODOT Materials Division Engineer".

Revision 4/17/2020: Changed address of ODOT Materials Division Engineer, in the address block of Section 4, to address of new Materials Division building.

Revision 6/18/2020: Changed city of ODOT Materials Division Engineer address, in the address block of Section 4, from "Oklahoma City" to "Edmond".

OKLAHOMA DEPARTMENT OF TRANSPORTATION
APPROVAL PROCEDURE
FOR
GROUND GRANULATED BLAST FURNACE SLAG (GGBFS)
(SPECIFICATION REFERENCE 702.02)

GENERAL: Ground Granulated Blast Furnace Slag 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 GGBFS shall be the responsibility of a domestic GGBFS 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 grade of GGBFS the manufacturer produces and is requesting to be placed on the list.
 - Manufacturing facility and products.
 - Facility address, telephone number and email address.
 - Detailed directions to the manufacturer's facility.
 - Grades of GGBFS produced at the facility.
 - Include detailed information on all sources of slag both foreign and domestic.
- (B) Submit a 2-kg (5-lb) split sample of each GGBFS grade 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 ODOT tests for the sample(s).
- (C) A detailed statement of quality control activities. The QC statement shall incorporate a comprehensive record keeping system, to include:
 - Quality control during sampling and testing.
 - Random and/or selective sampling plan.
 - Sample identification system.
 - Standard QC sampling and testing methods (AASHTO, ASTM, other).
 - QC sample storage and retention procedures.
 - QC test result reporting.
 - Statistical analysis of test results.
 - A minimum of high, low and mean.
 - Resolution of Non-conforming Test results.

- Post-production QC activities.
 - Storage, shipping and handling of finished 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.

PRODUCT ACCEPTANCE: 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 Ground Granulated Blast Furnace Slag (GGBFS)*, (attached).

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
GROUND GRANULATED BLAST FURNACE SLAG (GGBFS)
(SPECIFICATION REFERENCE 702.02)

To assure the approval and acceptance of Ground Granulated Blast Furnace Slag for use on Oklahoma Department of Transportation (hereinafter called "the Department") projects, **Manufacturer** , at **Location** , (hereinafter called "the Manufacturer") regarding all GGBFS 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 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 and mean values for all physical and chemical requirements listed in the current AASHTO M302 or ODOT standard specifications. Include a disposition statement for all GGBFS products not meeting the specified AASHTO or ODOT limits.
- (D) Submit a split sample for testing every three (3) months. (The Department reserves the right to vary the split sample testing frequency based on the manufacturers level of quality from monthly to annually.) The sample should be approximately 2-kg (5-lb) 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 listed in AASHTO or ODOT's standard specifications. Submit an amended report with twenty eight (28) day Slag Activity Index test results. The Department should be notified in writing when the manufacturer does not produce or will not ship a specific grade of GGBFS to the Department for use. During this time period no sampling or reporting will be required for these grades of GGBFS. 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. This access may or may not be supervised by the manufacturer at their option.
- (F) Provide certification with each shipment to the purchaser that products:
- were produced in compliance with this Agreement and
 - are the identical products appearing on the Approved Products List as a result of this Agreement.

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:

Example:

Grade 120 (P/S m00009)

Grade 120 (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.

For universal 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.

- (G)** Maintain Ground Granulated Blast Furnace Slag 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 AASHTO and ODOT standard specifications. 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
 GROUND GRANULATED BLAST FURNACE SLAG (GGBFS)
 (SPECIFICATION REFERENCE 702.02)**

ENDORSEMENT OF AGREEMENT

Manufacturer: _____ Manufacturer's Name, at Location, (P/S m00009)

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 Research 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, 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”.