

Kentucky Method 64-323-0~~86~~

Revised ~~3/3/06~~02/22/08

Supersedes 64-323-0~~64~~

Dated ~~10/18/04~~03/03/06

## QUALIFICATION PROCESS FOR PRODUCERS OF READY MIX CONCRETE

### 1. DESCRIPTION -

- 1.1 Ready Mix Concrete includes but is not limited to suppliers producing plastic concrete to a Kentucky Transportation Cabinet (KYTC) project.

### 2. SCOPE –

- 2.1 This method covers the qualification requirements of ready mix concrete facilities to assure that adequate measures are taken during production to consistently produce high quality concrete.
- 2.2 This method will be used on all KYTC projects with 250 cubic yards or more. This yardage is a total for all bid items including all incidental concrete.
- 2.3 This method does not purport to address all of the safety concerns, or any associated with its use. It is the responsibility of the user of this method to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

### 3. BASIC REQUIREMENTS –

- 3.1 The plant must maintain or have ready access to an approved testing facility for the purpose of quality control (QC) testing.
- 3.2 Concrete Plant Application.
- 3.3 Qualified production plants must have at least one qualified Quality Control (QC) Technician. The qualified QC Technician must be certified as an ACI Level I Concrete Technician, KRMCA Level II Technician and a Qualified Concrete Aggregate Technician or KYTC Qualified Aggregate Technician. One technician having all qualifications or several technicians having individual qualifications may fulfill this requirement. If an independent or aggregate supplier's lab is utilized, for aggregate testing, the aggregate technician must be an employee of that laboratory and be a KYTC Qualified Aggregate Technician. The concrete technician(s) must be employed by the concrete company and at the plant location during batching operations for KYTC projects.

- 3.4 All ingredient materials must be from an approved source on KYTC's List of Approved Materials.
4. APPROVED TESTING FACILITY –
- 4.1 This program requires all tests to be conducted at facilities approved by the KYTC. Each producer must establish and maintain its own KYTC qualified laboratory for the performance of QC testing, or the KYTC will consider a producer's request to utilize an approved independent laboratory. If an aggregate supplier's or independent laboratory is utilized it must be inspected and approved by the KYTC and have qualified personnel employed. The equipment required for an approved laboratory shall be sufficient to perform the required tests referenced in the applicable AASHTO Standards, ASTM Standards, **Kentucky Methods**, and the current Kentucky Standard Specifications for Road and Bridge Construction that detail the production of concrete. The producer will be responsible for calibration of testing equipment and must maintain records on instrument calibration at the plant/laboratory. The KYTC will require a demonstration of the equipment and procedures.
5. QC TECHNICIAN –
- 5.1 All plastic concrete samples must be taken and tested by an ACI Level I Concrete Technician. All aggregate samples must be taken and tested by a Qualified Concrete Aggregate Technician or KYTC Qualified Aggregate Technician. All mix design submittals and changes must be submitted by a KRMCA Level II Technician employed by the company. The designated QC technician(s) will be responsible for the overall QC at the plant. The KYTC will require a demonstration of the equipment and procedures used by the technician(s).
6. PLANT QUALIFICATION PROCESS –
- 6.1 Submit a Concrete Plant Application for qualification to DIRECTOR, DIVISION OF MATERIALS, 1227 WILKINSON BOULEVARD, FRANKFORT, KY 40601-1226.
- 6.2 After submittal and approval of the application, KYTC personnel will schedule an on-site inspection. The on-site inspection will verify that the Producer maintains or has access to all the required testing and production equipment and that at least one qualified technician is on-site and will be present when material is being produced under this program. The testing facilities and equipment are subject to inspection. If either the Producer or the Laboratory does not meet KYTC requirements, the Producer will be informed of the deficiencies in writing. Once the deficiencies have been

addressed, the Producer may again submit a request for qualification in writing to the Director of the Division of Materials.

7. QUALIFICATION FOR PARTICIPATION IN THE PROGRAM –

- 7.1 If the KYTC has approved the Producer's plant and the on-site inspection confirms that the initial program requirements have been met, the KYTC will issue a letter qualifying the plant for participation in the program for one year. At least once a year the Division will conduct on-site inspections and if all requirements are continuing to be met, the plant will be re-qualified for participation in the program for that year. Random in-depth inspections and materials sampling may be conducted at any time by the KYTC to verify compliance with the program requirements. Failure to perform all of the program requirements will result in disqualification of the Producer.

8. SAMPLING AND TESTING PROCEDURES –

- 8.1 PRODUCER'S QC - The Producer's QC samples are intended for use by the Producer to monitor the quality of material being produced and shipped.

8.1.1 SPECIFICATIONS - The Producer is to perform all applicable sampling and testing in accordance with the current Specifications

8.1.2 COMPARISON TESTING – Samples of materials taken by KYTC personnel during plant visits may be split with half of the sample being tested by the Producer and half of the sample tested by KYTC.

8.2 PRODUCTION –

8.2.1 Check, record and file all test results obtained during concrete production and provide to the Transportation Cabinet upon request.

8.3 SAMPLING/CERTIFICATION FREQUENCIES -

8.3.1 Sampling and Testing:

Coarse Aggregate, Fine Aggregate – At a minimum, sample weekly and test according to KY Specifications for gradation and minus 200 wash test. Fine aggregates will not require a minus 200 wash test.

Slump/Spread, Temperature, Cylinders, Air Content and Unit Weight – At a minimum, the first unit and at least every 100 cubic

yards. Note: Pavement concrete will be sampled and tested at first unit and every 500 cubic yards thereafter for each day's production (does not include JCP 24/48/72). Test according to the applicable ASTM or Kentucky Methods.

Moisture Contents – At a minimum, once per day **before production begins** and any time a difference in moisture is seen in the mix or the aggregates. Test according to Kentucky Method 64-306.

#### 8.3.2 Certifications:

Obtain certifications for each shipment of Cement, Fly Ash, Admixtures (Mineral and Chemical), and all incidental items. Maintain certification files for a minimum of three (3) years at the production facility or a central location. Review certification statements to insure that all KY Specifications are met prior to use of these materials in any KYTC mixes.

#### 8.3.3 Record Keeping:

Provide sample of forms used to record inspections and test results.

### 9. TEST FAILURE RESOLUTION –

- 9.1 Tests performed on materials prior to production, during production and post-production will be required to meet all of the applicable specifications and references found in the Specifications. Separate and identify materials or products that do not comply with Specifications. If an aggregate sample fails, retest immediately. If the retest fails, reject or remove all failing material from stockpiles or bins. Test the next two loads of aggregate and if they pass, return to the standard frequencies. If either sample fails, continue rejecting the material and test until two consecutive loads pass.

### 10. SAMPLE IDENTIFICATION AND RECORD KEEPING –

- 10.1 Identify Producer's QC samples with consecutive numbers. {QC1, QC2, etc.} Number the samples consecutively for the entire calendar year.
- 10.2 Retain QC data and material certifications for at least three (3) years. Make all data available to the KYTC for review upon request.
- 10.3 Include identifications on all QC test reports.

11. DIVISION QA PROCEDURES –

11.1 Quality Assurance Samples – The KYTC’s QA samples are intended to verify the project specifications. Ingredient materials will be sampled at the plant for KYTC projects and tested for conformance to the KYTC standard specifications. Samples will be taken according to the Materials Field Sampling Manual. If QA samples fail, there will be a potential price deduction and an investigation will be performed.

11.2 The KYTC may sample incoming material during in-depth plant visits for testing and evaluation. The material sampled does not have to be material that is incorporated into products produced for the KYTC. KYTC will observe the technicians testing procedures to evaluate their ability to perform the required tests.

11.3 Resolution procedures will be in accordance with section 113.07 of the Kentucky Standard Specifications.

12. DISQUALIFICATION OF PRODUCERS – Producers that are qualified under these requirements will be disqualified and not permitted to supply products to KYTC projects if the following occurs.

12.1 During any inspection by Division personnel, the production facility is not following the approved process.

12.2 The producer has falsified QC Records.

12.3 Production records indicate that the facility is accepting materials that do not meet the minimum specification requirements.

12.4 The producer supplies products that do not meet the minimum specification requirements and fails to notify the KYTC and take the appropriate corrective actions.

APPROVED

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DIRECTOR  
DIVISION OF MATERIALS

DATE

02/22/08

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Director, Division of Materials

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