PURPOSE: To establish uniform procedures for certification of laboratories for quality control and quality assurance testing of structural concrete.

1. LABORATORY CERTIFICATION REQUIREMENTS

1.1. All laboratories testing structural concrete produced for State Aid projects must be fully equipped to perform the required tests. Laboratory certification shall consist of proof of technician certification and inspection of equipment. All such equipment must meet the requirements of Mississippi Department of Transportation's (MDOT) specified test methods. Technicians shall demonstrate compressive strength test method, AASHTO T 22, and specific gravity of aggregates, AASHTO T84 and 85.

1.2. This procedure is for certification of all laboratories performing testing for State Aid projects.

1.3. Certification is good for three (3) years.

2. EQUIPMENT INSPECTION

2.1. The laboratory shall be equipped, calibrated, and inspected, prior to the production of concrete.

2.2. Laboratory inspection will be performed by personnel from the MDOT Central Laboratory.

2.3. Equipment is to be checked for compliance to AASHTO and ASTM specifications, as applicable. Inspection of the laboratory is as follows:

2.3.1. AASHTO T 2, Sampling Aggregates

Sampling Container (wheelbarrow)

2.3.2. AASHTO T 119, Slump of Hydraulic Cement Concrete

Dimensions and cleanliness of the slump cone.
Length of tamping rod.
Scoop
Measuring Device

2.3.3. AASHTO T 19, Bulk Density ("Unit Weight") and voids in Aggregate

Dimensions, planeness, calibration for unit weight measure.
Scale Calibration
Strike off plate
Scoop and rod

2.3.4. AASHTO T 23, Making and Curing concrete Test Specimens in the Field

Certification of Cylinder Molds
Scoop and Rod
Curing Box

2.3.5. AASHTO T 152, Air Content of Freshly Mixed Concrete by Pressure Method
AASHTO T 196, Air Content of Freshly Mixed Concrete by the Volumetric Method

Dimension and calibration of air content meter.
Scoop, mallet and rod.

2.3.6. ASTM C 1064, Temperature of Freshly Mixed Portland Cement Concrete

Thermometers Calibration Documentation

2.3.7. AASHTO T 248, Reducing Field Samples of Aggregate to Testing Size

Sample splitter and/or quartering cloth.

2.3.8. AASHTO T 27, Sieve Analysis of Fine and Coarse Aggregates

Conditions of sieve.
Balance calibration documentation.

2.3.9. AASHTO T 255, Total Moisture Content of Aggregate by Drying

Drying oven or hot plate.
Balance calibration documentation.

2.3.10. AASHTO T 231, Capping Cylindrical Concrete Specimens

Dimensions and flatness of the capping plate.
Temperature of the melting pot.
Certification of capping material or neoprene pads.
Method in place for counting usage of neoprene pads.

2.3.11. AASHTO T22, Compressive Strength of Cylindrical Concrete Specimens

Calibration of compression machine.
Levelness, planeness of bearing and extrusion plates.
Temperature controlling device for curing tank.
Circulation system for curing tank.

2.3.12. AASHTO T 84, Specific Gravity and Absorption of Fine Aggregate

Cone and tamper dimensions.
Temperature conditioning equipment.
Pycnometer or Le Chatelier flask dimensions.
Balance calibration documentation.

2.3.13. AASHTO T 85, Specific Gravity and Absorption of Coarse Aggregate

Basket and suspension equipment.
Temperature conditioning equipment.
Balance calibration documentation.

2.3.14. AASHTO T 126, Making and Curing Concrete Test Specimens in the Laboratory

Concrete Mixer
Scale Calibration