

North Dakota Department of Transportation Qualified Laboratory Program

The Federal Highway Administration (FHWA) as per 23 CFR, Subpart B, requires all acceptance testing, independent assurance testing, and dispute resolution testing be performed by a qualified laboratory. The requirement went into effect June 29, 2000, and applies to projects on the National Highway System (NHS). A qualified laboratory is defined as a laboratory that is accredited by the AASHTO Accreditation Program or a comparable laboratory accreditation program approved by the FHWA. The goal of the program is to ensure equipment used for testing is uniform and will provide consistent results.

The Materials and Research division has the overall responsibility for administering the program.

Testing Equipment: All testing equipment shall be calibrated to assure uniformity of the equipment and to provide more uniform results. The Independent Assurance testing will be used to monitor uniformity of the testing equipment and test procedures. Each entity is responsible for maintenance and repair of their testing equipment and that it is in working order.

Requirements: The following is required for equipment identified by the NDDOT Materials and Research division:

The equipment calibrated at the frequency shown in the Equipment Calibration and Verification Lists.

The equipment calibrated according to the Verification/Calibration Procedures.

The calibration results recorded on the Equipment Calibration Records forms.

Equipment Calibration Records shall be retained for a period of 3 years.

Equipment not meeting requirements shall not be used for testing.

Responsibility: Qualifications for laboratories are identified with two different definitions depending on the type of testing being done.

- I. A laboratory qualified for Independent Assurance (IA) or dispute resolution is defined as a laboratory that is accredited by the American Association of State Highway Testing Officials (AASHTO) accreditation program or a comparable laboratory accreditation program approved by the FHWA. This applies only to State central laboratories, consultants performing IA, and consultants used in dispute resolution.

- II. A laboratory qualified for conducting acceptance testing is defined as a laboratory that is capable as defined by appropriate programs established by the State Highway Agency (SHA). As a minimum the qualification program shall include provisions for checking test equipment and the laboratory shall keep records of calibration checks.
 1. Materials and Research Division:
 - a) Equipment calibration frequencies, procedures, and records

 2. District Materials:
 - a) Calibrate district laboratory and field laboratory equipment
 - b) Maintain equipment inventory
 - c) Maintain equipment calibration records
 - d) Assure contractor, consultant, or others' equipment is calibrated prior to use
 - e) Review contractor, consultant, or entities' records
 - f) Authority to check contractor, consultant, or entities' equipment at any time

 3. Contractor, Consultant, or other entities:
 - a) Calibrate their test equipment prior to use on project
 - b) Maintain inventory of their equipment
 - c) Maintain their equipment calibration records
 - d) Have copy of current equipment calibration records on project site
 - e) Cooperate in the inspection of their equipment and records

 4. Individual:
 - a) Keep well-maintained and clean equipment and work area
 - b) Assure equipment has been calibrated and in good working order

For additional information about the Qualified Laboratory Program contact:

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**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
INDEPENDENT ASSURANCE & ACCEPTANCE TESTING
EQUIPMENT CALIBRATION AND VERIFICATION LIST**

MAY 9, 2002

BITUMINOUS MATERIALS TESTING

APPARATUS	REQUIREMENT	INDEPENDENT ASSURANCE CALIBRATION & VERIFICATION FREQUENCY	ACCEPTANCE TESTING CALIBRATION & VERIFICATION FREQUENCY	TEST METHOD	PROCEDURE NUMBER
Marshall Breaking Head	Check critical dimensions	12 mo.	12 mo.	T 245	18
Marshall Proving Ring/Load Cell	Calibrate	12 mo.	12 mo.	T 245	47
Marshall Molds	Check critical dimensions	12 mo.	24 mo.	T 245	20
Marshall Hammer - Manual	Check critical dimensions and weight of hammer	36 mo.	36 mo.	T 245	21
Mechanical Marshall Hammer Correlation	Calibrate	36 mo.	36 mo.	T 245	21A
Ovens	Verify settings	12 mo.	prior to use on proj.		2
Balances and Scales	Verify	12 mo.	12 mo.	M 231	47
Thermometers	Calibrate	12 mo.	prior to use on proj.		37
Vacuum System	Check pressure	12 mo.	12 mo.	T 209	23
Mechanical Shaker (Thoroughness)	Check sieving thoroughness	12 mo. Permanent Locations	24 mo. Permanent Locations	T 27	40
Sieves					
Coarse	Check physical condition	12 mo.	12 mo.	M 92	1
Fine	Check physical condition	12 mo.	12 mo.	M 92	1
Water Bath	Check Temperature	6 mo.	prior to use on proj.	T 205 & T 245	22
Gyratory Compactor, molds, base plate & ram plate	Calibrate	6 mo.	6 mo.	T 312	44

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CONCRETE MATERIALS TESTING

APPARATUS	REQUIREMENT	INDEPENDENT ASSURANCE CALIBRATION & VERIFICATION FREQUENCY	ACCEPTANCE TESTING CALIBRATION & VERIFICATION FREQUENCY	TEST METHOD	PROCEDURE NUMBER
Air Meter (Type A)	Calibrate	prior to use on proj.	prior to use on proj.	T 152	42
Air Meter (Type B)	Calibrate	prior to use on proj.	prior to use on proj.	T 152	43
Balances and Scales	Verify	12 mo.	12 mo.	M 231	47
Compression Machine Bearing Blocks	Verify depart. from plane	12 mo.	12 mo.	T 22	17
Compression Testing Machine	Verify	12 mo.	12 mo.	T 22	47
Computerized Profilograph Model CS8200	Calibrate	prior to use on proj.	prior to use on proj.	ASTM E 1274	50
Concrete Cylinder Molds (Single Use)	Check dimensions	Each shipment	Each shipment	M 205	45
Pathway Van	Calibrate	12 mo.	12 mo.	ASTM E 950	51
Slump Cones	Check critical dimensions	12 mo.	prior to use on proj.	T 119	38
Unit Weight Measures	Calibrate	12 mo.	12 mo.	T 121 & T 19	46

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MAY 7, 2002

SOIL AND AGGREGATE TESTING

Soil & Aggregate APPARATUS	REQUIREMENT	INDEPENDENT ASSURANCE CALIBRATION & VERIFICATION FREQUENCY	ACCEPTANCE TESTING CALIBRATION & VERIFICATION FREQUENCY	TEST METHOD	PROCEDURE NUMBER
Balances and Scales	Verify.	12 mo.	12 mo.	M 231	47
Caliper	Calibrate	24 mo.	24 mo.	Various	36
Grooving Tool	Check critical dimensions	12 mo.	12 mo.	T 89	9, 9A
LA Abrasion Machine	Check RPM & critical dimensions	24 mo.	24 mo.	T 96, C 131	3
Liquid Limit Device	Check wear & critical dimensions.	12 mo.	12 mo.	T 89	8
Manual Hammer (Proctor)	Check weight & critical dimensions.	12 mo.	12 mo.	T 99 & T 180	6
Mechanical Rammer (Proctor)	Check weight & critical dimensions	12 mo.	12 mo.	T 99, T 180	6A
Mechanical Shakers (Thoroughness)	Check sieving thoroughness.	12 mo. Permanent Locations	24 mo. Permanent Locations	T 27	40
Molds (Proctor)	Check critical dimensions.	12 mo.	12 mo.	T 99 & T 180	7
Ovens	Verify temperature settings.	12 mo.	prior to use on proj.		2
Rubber Balloon Volume Measure	Calibrate	12 mo.	12 mo.	D 2167	55
Sand Equivalent	Check critical dimensions & weight	12 mo.	12 mo.	T 176	39

Soil & Aggregate APPARATUS	REQUIREMENT	INDEPENDENT ASSURANCE CALIBRATION & VERIFICATION FREQUENCY	ACCEPTANCE TESTING CALIBRATION & VERIFICATION FREQUENCY	TEST METHOD	PROCEDURE NUMBER
Sieves					
Fine	Check physical condition.	12 mo.	12 mo.	M 92	1
Coarse	Check physical condition.	12 mo.	12 mo.	M 92	1
Specific Gravity Conical Mold & Tamper	Check critical weights & dimensions	24 mo.	24 mo.	T 84	4
Specific Gravity Flasks	Calibrate	12 mo.	12 mo.	T 84	49
Specific Gravity Apparatus (Coarse Agg)	Check critical dimensions.	12 mo.	12 mo.	T 85	48
Straightedge	Check critical dimensions & planeness of edge	6 mo.	6 mo.	T 99 & T 180	11
Thermometers	Calibrate	12 mo.	prior to use on proj.	T 88, T 100	37