

Chapter 6 - Laboratory Independent Verification Program

6.1 PERFORMANCE ASSESSMENT

Accurate test results are essential to a testing laboratory; therefore, our personnel and equipment are required to be verified. An independent assessment of our methods and equipment is performed through the AASHTO Accreditation Program (AAP). This program entails inspection by staffs from the AASHTO Materials Reference Laboratory (AMRL) and the Cement and Concrete Reference Laboratory (CCRL). In addition, the AMRL and CCRL send us proficiency samples to test, and our results are reported to them for evaluation.

After an inspection by AMRL or CCRL, any deficiencies noted shall be addressed so as to conform with required standards and standard test procedures.

When proficiency sample results are poor, an investigation will be made to determine the reasons. This investigation will include, but not be limited to, the following: review of work sheets and reporting documents; equipment check for deficiencies; scale check, if used; and a review of previous proficiency test results. The purpose is to attempt to identify the cause for deficient test results and to take corrective action as soon as possible. The determination shall kept on file for AMRL or CCRL review.

6.2 EQUIPMENT CALIBRATION, VERIFICATION AND CHECKING

The three tables below indicate testing equipment that must be calibrated, verified and checked in accordance with requirements set forth by the AASHTO Accreditation Program. Included are the frequency, range, procedure and method for tractability to the National Institute of Standards and Technology (NIST). To assure proper compliance with calibration, verification and checking requirements, a list based on these tables shall be maintained. It shall be detailed, include equipment numbers, and be used as a work document.

TABLE 1
EQUIPMENT TO BE CALIBRATED

	ASTM AND/OR AASHTO REFERENCE	FREQUENCY (Months)	PROCEDURE	TRACEABILITY to NIST
Analytical Balances	AASHTO Methods for Bituminous, Soils Aggregates	24	Calibration Performed by Outside Agency	Test Weights Calibrated by NIST
G.P. Balances Scales & Weights	AASHTO Methods for Bituminous, Soils, Aggregates	12	Calibration Performed by Outside Agency	Test Weights Calibrated by NIST
Mechanical Compactor (HMA)	AASHTO T 245	36	Calibrated to Give Results Comparable With the Hand Operated Hammer	Not Applicable
Mechanical Compactor	AASHTO T 180	12	Calibrated to Give Results Comparable With the Hand Operated Hammer	Not Applicable

TABLE 1 (Cont.)

EQUIPMENT TO BE CALIBRATED

	ASTM AND/OR AASHTO REFERENCE	FREQUENCY	PROCEDURE	TRACEABILITY to NIST
Pressure Air Meters	AASHTO T 152	36 Months	AASHTO T 152 (Section 4 Calibration of Apparatus)	Not Applicable
Saybolt Viscometers	AASHTO T 59	36 Months	AASHTO T 72 (Section 9)	AASHTO T 72 (Section 9)
Test Thermometers	AASHTO T 201 T 202 T 49 T 51	6 Months	ASTM E-77 (Section 9)	Calibrated and Compaired with Certified NIST Thermometers
Unit Weight Measures Scales	AASHTO T 19	12 Months	AASHTO T 19 (Section 8)	Not Applicable
Viscometers	AASHTO T 201 T 202	36 Months	Zeithfuchs Cross- arm Viscometer AASHTO T 201 (Section A3) Vacuum Capillary Viscometer	AASHTO T 201 (Section A3.2) AASHTO T 202 (Section A4.2) AASHTO T 202
Compression Testing Machines	AASHTO T 22 T 245	12 Months for Load Indications	Verification Performed by Outside Agency in Accordance with AAASHTO T 67	Proving Ring Verified by NIST for Contracted Firm

TABLE 2
EQUIPMENT TO BE CHECKED

	ASTM AND/OR AASHTO REFERENCE	CHECKING FOR	FREQUENCY (months)	PROCEDURE
Autoclave	AASHTO T 107	Heating Time, Temperature, Pressure, Cooling Time	24	Performed by CCRL AASHTO T 107 (Section 4.5)
Autoclave Safety Valve Agency	AASHTO T 84	Proper Relief of Pressure	6	Checked by Outside AASHTO T 107 (Section 6.4)
Conical Mold, Tamper	AASHTO T 84	Critical Dimensions	24	Performed by AMRL AASHTO T 84 (Section 4.3, 4.4)
Testing Equipment for Portland Cement	AASHTO T 106	Critical Dimensions	24	Performed by CCRL AASHTO T 106 (Section 3.4)
	T 137	Critical Dimensions	24	AASHTO T 137 (Section 5)
	T 131	Critical Dimensions	24	AASHTO T 131 (Section 3)
L.A. Machine	AASHTO T 96	RPM & Critical Dimensions	24	In-house procedure #42
Steel Spheres	T 96	Individual weight and Charge weight	24	In-house procedure #42
Mechanical Shakers	AASHTO T 27	Sieving Thoroughness	12	In-house procedure #45
Sulfate Oven	T 104	Rate of Evaporation	12	In-house procedure #44
Sulfate Soundness Containers	T 104	Physical Condition	12	In-house procedure #43
Sieves	All applicable	Physical condition and measure openings as required.	6	M-92 via applicable In-house procedures
Drying Ovens	All applicable	Verify Temperature Settings	4	Applicable in-house procedures
Manual Hammer	T 180	Weight and critical dimensions	12	In-house procedure #31
Molds	T 180	Critical dimensions	12	In-house procedure #32
Straight Edge	T 180	Planeness of edge	6	In-house procedure #33

Note: In-house procedures are maintained by the supervisor of the room where the equipment is located.