



Oregon Department of Transportation Central Materials Laboratory Application for Laboratory Certification

Fields on this form will not expand. If you have additional information,
please send as a separate document to [ODOT Lab Certification](#).

Lab Number

Print Form

Send by E-mail

Laboratory Name

Laboratory Owner

Laboratory Mailing Address (include street address, city, state, zip)

Laboratory Phone Number

Laboratory Fax Number

Laboratory Location (include street address, city, state, zip)

Laboratory Manager

Laboratory Manager E-mail Address

Name of ODOT Construction Project

Project Manager Name

Project Manager E-mail Address

When would you like your on-site lab inspection? (specify time frame)

SECTION 1 Embankment Test Methods	Test Number	Place a ✓ to indicate desired classification
Specific gravity and absorption of fine aggregate	AASHTO T 84	☐
Specific gravity and absorption of coarse aggregate.	AASHTO T 85	☐
Moisture density relations of soils using a 2.5kg rammer and a 305mm drop	AASHTO T 99	☐
Moisture density relations of soil using a 4.54kg rammer and a 457mm drop	AASHTO T 180	☐
Determination of moisture in soils by means of calcium carbide gas pressure moisture tester	AASHTO T 217	☐

SECTION 2 Aggregate Test Methods	Test Number	Place a ✓ to indicate desired classification
Presence of wood waste in produced aggregates	ODOT TM 225	☐
Evaluating cleanness of cover coat material	ODOT TM 227	☐
Determination of flat and elongated material in coarse aggregates	ODOT TM 229	☐
Bulk density ("unit weight") and voids in aggregate	AASHTO T 19	☐
Sieve analysis of fine and coarse aggregates, including wet sieve	AASHTO T 27 & T 11	☐
Plastic fines in graded aggregates and soils by the use of the sand equivalent test	AASHTO T 176	☐
Total moisture content of aggregate by drying	AASHTO T 255	☐
Determining the percentage of fracture in coarse aggregate	AASHTO T 335	☐
Reducing samples of aggregate to testing size	AASHTO R 76	☐

SECTION 3 Concrete Test Methods	Test Number	Place a ✓ to indicate desired classification
Compressive strength of cylindrical concrete specimens	AASHTO T 22	☐
Making and curing concrete test specimens in the field	AASHTO R 100	☐
Slump of hydraulic cement concrete	AASHTO T 119	☐
Mass per cubic meter, yield and air content of concrete	AASHTO T 121	☐
Air content of freshly mixed concrete by the pressure method	AASHTO T 152	☐
Capping cylindrical concrete specimens	AASHTO T 231	☐
Temperature of freshly mixed portland cement concrete	AASHTO T 309	☐
Moist cabinets, moist rooms, and water storage tanks used in the testing of hydraulic cements and concretes	AASHTO M 201	☐
Sampling fresh mixed concrete	WAQTC TM 2	☐
Concrete shrinkage	ASTM C 157	☐

SECTION 4 Asphalt Test Methods	Test Number	Place a ✓ to indicate desired classification
Preparing and determining the density of hot mix asphalt (HMA) specimens by means of the superpave gyratory compactor	ODOT TM 326	☐
Mechanical analysis of extracted aggregate	AASHTO T 30	☐
Bulk specific gravity of compacted bituminous mixtures	AASHTO T 166	☐
Theoretical maximum specific gravity and density of bituminous paving mixtures	AASHTO T 209	☐
Preparation of field compacted Marshall specimens	AASHTO T 245	☐
Resistance to deformation of bituminous mixtures by means of Hveem Stabilometer	AASHTO T 246	☐
Preparation of test specimens of bituminous mixtures by means of California kneading compactor	AASHTO T 247	☐
Resistance of compacted asphalt mixture to moisture induced damage	AASHTO T 283	☐
Determining the asphalt binder content of hot mix asphalt (HMA) by the ignition method	AASHTO T 308	☐
Moisture content of bituminous mixes by oven	AASHTO T 329	☐

EQUIPMENT CHECKLIST

Embankment – Section 1a

☐	Within Spec	T 84 – Specific Gravity & Absorption of Fine Aggregates
	☐	An electronic balance with a min. 1500g cap., readable to 0.1g
	☐	A volumetric flask with a 500ml capacity
	☐	A metal cone mold (40 +/- 3mm inside diameter @ the top, 90mm +/- 3mm inside diameter at the bottom, 75mm +/- 3mm height and 0.8mm min. thickness)
	☐	A metal tamper (340g +/- 15g with a tamping face 25mm +/- 3mm in diameter)
	☐	Oven capable of maintaining 110° +/- 5°C
	☐	Ability to maintain water temperature at 23.0° +/- 1.7° C

☐	Within Spec	T 85 – Specific Gravity & Absorption of Coarse Aggregates
	☐	An electronic balance with a min. cap. of 5kg, readable to 1g
	☐	A water bath container with an overflow device
	☐	A 4.75 mm (No. 4) sieve, 2.36mm (No. 8) sieve
	☐	Suspension apparatus
	☐	Sample container (wire basket of 3.35mm or smaller mesh, with a cap. of 4 to 7L for aggregate of 37.5mm max, larger basket for larger aggregate)
	☐	Oven capable of maintaining 110° +/- 5°C
	☐	Ability to maintain water temp at 23.0° +/- 1.7°

☐	Within Spec	T 99 – Moisture Density Relations of Soils Using a 2.5kg Rammer and a 305mm Drop
	☐	An electronic balance with a 12kg cap., readable to 5g
	☐	An electronic balance with a 2kg cap., readable to 0.1g
	☐	A 101.6mm (4") and 152.4mm (6") cylindrical metal mold with a detachable collar
	☐	A 2.5kg (5.5 lbs) rammer with a 305mm (12") drop
	☐	Sample extruder for removing the compacted specimen from the mold quickly and with little disturbance
	☐	Oven capable of maintaining 110° +/- 5°C
	☐	A steel straight edge at least 250mm (10") long, having one beveled edge
	☐	A 4.75mm (No. 4) sieve for methods A & B, and a 19.0mm (3/4") sieve for methods C & D
	☐	A compaction base (200 lbs min.)
	☐	Mechanical compactor – Certificate of Calibration required annually Expiration:

EQUIPMENT CHECKLIST

Embankment – Section 1b

☐	Within Spec	T 180 – Moisture Density Relations of Soils Using a 4.54kg Rammer and a 457mm Drop
	☐	An electronic balance with a 12kg cap., readable to 5g
	☐	An electronic balance with a 2kg cap., readable to 0.1g
	☐	A 101.6mm (4") and 152.4mm (6") cylindrical metal mold with a detachable collar
	☐	A 4.54kg (10 lbs) rammer with a 457mm (18") drop
	☐	Sample extruder for removing the compacted specimen from the mold quickly and with little disturbance
	☐	Oven capable of maintaining 110° +/- 5°C
	☐	A steel straight edge at least 250mm (10") long, having one beveled edge
	☐	A 4.75mm (No. 4) sieve for methods A & B, and a 19.0mm (3/40147) sieve for methods C & D
	☐	A compaction base (200 lbs min.)
	☐	Mechanical compactor – Certificate of Calibration required annually. Expiration:

☐	Within Spec	T 217 – Determination of Moisture in Soils by Means of Calcium Carbide Gas Pressure Moisture Checker
	☐	A calcium carbide pressure moisture tester with a 20g or 26g capacity
	☐	Balance as provided by the manufacturer with a pan and cradle
	☐	Two 1.25" steel balls
	☐	Cleaning brush
	☐	Calcium carbide reagent
	☐	Scoop for measuring the calcium carbide reagent
	☐	10g or 13g weight
	☐	Gauge accurate to 0.2%
	☐	An electronic balance with a minimum capacity of 2kg, readable to 0.1g

EQUIPMENT CHECKLIST

Aggregate – Section 2a

☐	Within Spec	TM 225 – Presence of Wood Waste in Produced Aggregates
	☐	Sample splitter or quartering cloth
	☐	An electronic balance readable to 0.1g with the cap. to meet the minimum masses
	☐	Drying source operated per T 255
	☐	Container of size to permit covering the sample with 76.2mm (3") to 101.6mm (4") of water
	☐	U.S. Standard Sieve sizes: No. 40, No. 200

☐	Within Spec	TM 227 – Evaluating Cleanness of Cover Coat Material
	☐	An electronic balance readable to 1g
	☐	A funnel to hold nested No. 10 and No. 200 sieves and neck down to rest in a 500ml graduate
	☐	U.S. Standard Sieve sizes: No. 10, No. 200
	☐	Plastic wide-mouth one gallon jars with lids
	☐	Sand equivalent cylinder, rubber stopper and timer
	☐	Graduated cylinders of 10ml & 500ml cap.
	☐	Sand equivalent stock solution
	☐	Splitter or quartering cloth
	☐	Syringe or spray attachment
	☐	Oven capable of maintaining 110° +/- 5°C
	☐	Distilled or demineralized water
	☐	Test temperature 18°-28°C

☐	Within Spec	TM 229 – Determination of Flat and Elongated Material in Coarse Aggregate
	☐	An electronic balance readable to 0.1g with the cap. to meet the minimum masses
	☐	Proportional caliper measuring device meeting the requirements of ASTM D 4791-95 and approved by the Agency

☐	Within Spec	T 19 – Bulk Density ("Unit Weight") and Voids in Aggregate
	☐	An electronic balance readable to 0.1g with the cap. to meet the minimum masses
	☐	Tamping rod 15.9mm (5/8") x 609.6mm (24") with a hemispherical tip
	☐	Measure appropriate for the aggregate size being tested (see test method)
	☐	A strike-off plate of glass at least 0.25" thick and at least 1" greater than the post, and chassis or pump grease

☐	Within Spec	T 27/11 – Sieve Analysis of Fine and Coarse Aggregate, including Wet Sieve
	☐	An electronic balance readable to 0.1g with the cap. to meet the minimum masses
	☐	U.S. Standard Sieve sizes: various sizes per ODOT Specifications
	☐	Mechanical sieve shaker
	☐	Suitable drying source per T 255
	☐	Splitter per T 248

EQUIPMENT CHECKLIST

Aggregate – Section 2b

☐	Within Spec	T 176 – Plastic Fines in Graded Aggregates and Soils by the Use of the Sand Equivalent Test
	☐	Graduated plastic cylinder
	☐	Rubber stopper
	☐	Irrigator tube with two No. 60 drill holes at end
	☐	Weighted foot weighing 1000g +/-5g
	☐	Siphon assembly with a one-gallon bottle on a shelf 36" +/- 1" above the working surface
	☐	85ml measuring can
	☐	Wide-mouth funnel
	☐	Quartering cloth
	☐	Straight edge or spatula
	☐	timer reading in minutes and seconds
	☐	Stock calcium chloride solution
	☐	Working solution in a work area, with both A/C and heat to maintain working solution at a temperature of 72° +/- 5°F
	☐	U.S. Standard Sieve: No. 4
	☐	Calibrated thermometer readable to 0.1°C

☐	Within Spec	T 255 – Total Moisture Content of Aggregate by Drying
	☐	An electronic balance readable to 0.1g
	☐	Containers capable of being sealed
	☐	Thermometer with a range to 205°C (401°F)
	☐	At least one of the following: Oven capable of 110° +/- 5°C OR Propane burner, hot plate, fry pan or any other device that will dry the sample without altering the material being dried.

☐	Within Spec	T 335 – Determining the Percentage of Fracture in Coarse Aggregate
	☐	An electronic balance readable to 0.1g with the cap to meet the minimum masses
	☐	U.S. Standard Sieve sizes: 37.5mm (1½"), 25.0mm (1"), 19mm (¾"), 12.5mm (½"), 9.5mm (3/8"), 6.3mm (¼"), 4.75mm (#4), 2.36mm (#8), 2.0mm (#10)
	☐	Splitter as per T 248

☐	Within Spec	R 76 – Reducing Samples of Aggregates to Testing Size
	☐	Mechanical sample splitter
	☐	Quartering cloth

EQUIPMENT CHECKLIST

Concrete – Section 3a

☐	Within Spec	T 22 – Compressive Strength of Cylindrical Concrete Specimens
☐		Certificate of Calibration for the compression testing machine, interval of every 12 months
☐		Spherically seated upper bearing block plane to .001", bottom bearing block at least 0.9" thick, plane to .001"
☐		Load indicator of sufficient length to reach the graduation marks equipped with a zero adjustment
☐		The specimen shall be loaded at the rate of 20-50 psi/second (1000 pounds/second is a good rate)
☐		Neoprene cap bottoms plane to .002"
☐		Measuring device to measure cylinder dia. readable to .25mm - .01 inches
☐		Note: Neoprene caps are not a substitute for bearing plates. Neoprene pads shall not test more than 100 cylinders* min. dia. = 6.18" or 4.12" *If dia. is >13mm of specimen dia. then concentric circles are required

☐	Within Spec	R 100 – Making and Curing Concrete Test Specimens in Field
☐		Single use 6" x 12" plastic cylinder molds
☐		Tamping rod 5/8" x 24" with a hemispherical tip
☐		Single use 4" x 8" plastic cylinder molds
☐		Tamping rod 3/8" x 12" with a hemispherical tip
☐		Rubber mallet weighing 1.25lbs +/- 0.5lbs
☐		Scoop
☐		Trowel or float
☐		A Coleman type cooler capable of holding water
☐		Thermometer capable of registering min/max temperatures during the initial cure

☐	Within Spec	T 119 – Slump of Hydraulic Cement Concrete
☐		A slump cone free from dents and interior protrusions
☐		Tamping rod 5/8" x 24" with a hemispherical tip
☐		A level, rigid, non-absorbent base to set the slump cone on
☐		Scoop
☐		Tape measure

EQUIPMENT CHECKLIST

Concrete – Section 3b

☐	Within Spec	T 152 – Air Content of Freshly Mixed Concrete by the Pressure Method
	☐	A pressure type B air meter
	☐	Tamping rod 5/8" x 24" with a hemispherical tip
	☐	Rubber mallet weighing 1.25lbs +/- 0.5lbs
	☐	Scoop
	☐	A strike-off plate of glass or acrylic at least 1/2" thick or a steel plate at least 1/4" thick, all with a length and width of at least 2" greater than the pot
	☐	Rubber syringe
	☐	Calibration device / brass calibration vessel
	☐	Calibration log (every 3 months)

☐	Within Spec	T 121 – Mass Per Cubic Meter, Yield and Air Content of Concrete
	☐	A platform type scale accurate to 0.3% of the mass required
	☐	The post from a pressure type air meter
	☐	Tamping rod 5/8" x 24" with a hemispherical tip
	☐	Rubber mallet weighing 1.25lbs +/- 0.5lbs
	☐	Scoop
	☐	A strike-off plate of glass or acrylic at least 1/2" thick or a steel plate at least 1/4" thick, all with a length and width of at least 2" greater than the pot
	☐	Calibration record log (once a year)

☐	Within Spec	T 231 – Capping Cylindrical Concrete Specimens
	☐	Alignment device such as guide bars or bulls-eye level
	☐	Cube mold with a cover plate to determine the compressive strength of the capping compound
	☐	Capping compound shall be maintained at 129°C to 143°C when capping cylinders
	☐	Caps should be approximately 1/8" to 5/16" thick
	☐	Caps shall be plane to .002" checked daily
	☐	Capping compound break log
	☐	Bearing blocks that meet T 106

EQUIPMENT CHECKLIST

Concrete – Section 3c

☐	Within Spec	C 157 – Concrete Shrinkage
	☐	The air in the room shall be maintained at a temperature of 73° +/- 3°F
	☐	The relative humidity shall be maintained at a temperature of 50° +/- 4%
	☐	The air movement past all specimens shall be such that the rate of evaporation is 77 +/- 30 mL/24 hours from an atmometer or 13 +/- 5 mL/24 hours from a 400-mL Griffin low-form beaker filled to ¾ inch from the top
	☐	The room shall be equipped with a means of measuring and recording wet and dry bulb temperatures continuously
	☐	M 201 Concrete Curing Water bath and dry curing racks required

☐	Within Spec	T 309 – Temperature of Freshly Mixed Portland Cement Concrete
	☐	Container – Non-absorptive material, large enough to provide a minimum of 75mm (3") of concrete in all directions
	☐	Thermometer readable to 0.5°C (1°F)
	☐	Reference thermometer readable to 0.2°C (0.5°F) and a report of calibration / verification to ASTM E77

☐	Within Spec	M 201 – Moist Rooms
	☐	All openings shall be provided with tight fitting doors and windows
	☐	Room temperature shall be thermostatically controlled, maintaining a temperature of 73.4° +/- 3°F
	☐	All cylinders in storage shall have free water on entire surface area at all times
	☐	Moist rooms shall be equipped with a chart temperature recorder
	☐	Specimens shall not be exposed to dripping or running water

☐	Within Spec	M 201 – Water Tanks
	☐	The curing tank shall be made of non-corroding material
	☐	The water in the tank shall be maintained at 73.4° +/- 3°F, with automatic temperature controls for heating and cooling
	☐	The water in the tank shall be lime saturated
	☐	The curing tank shall be equipped with a chart temperature recorder
	☐	The curing tank shall be located in an area with air conditioning

☐	Within Spec	TM 2 – Sampling Freshly Mixed Concrete
	☐	Wheelbarrow
	☐	Plastic, canvas or burlap to cover the wheelbarrow
	☐	Shovel

EQUIPMENT CHECKLIST

Asphalt – Section 4a

☐	Within Spec	TM 326 – Preparation of Field Compacted Gyratory Specimens Determination of the Average G_{mb} for HMAC Volumetric Calculations
	☐	Specimen molds inside dia. 149.9mm to 150.0mm and be at least 250mm high and 7.5mm thick
	☐	Electronic balance with minimum cap of 6kg, readable to 0.1g
	☐	Oven capable of maintaining 176° +/- 3°C
	☐	Ram and base plate ground flat
	☐	Annual calibration certificate for calibration kit which includes; an angle jig assembly, 1, 2, 3, block and a load cell or proving ring Expiration:
	☐	Lab shall maintain ambient air temp of 74° +/- 20°F

☐	Within Spec	T 30 – Mechanical Analysis of Extracted Aggregate
	☐	An electronic balance readable to 0.1g with the cap. to meet the min. sample sizes
	☐	Sieves as per ODOT Specifications
	☐	Mechanical sieve shaker
	☐	Suitable drying equipment operated per AASHTO 255 (110° +/- 5°C)
	☐	Misc. containers and utensils

☐	Within Spec	T 166 – Bulk Specific Gravity of Compacted Bituminous Mixtures
	☐	An electronic balance with a minimum cap. of 5kg, readable to 0.1g
	☐	A water bath container with an overflow device
	☐	Thermometer with a minimum range of 19°-27°C (66°-80°F) graduated in 0.1°C (0.2°F)
	☐	Suspension apparatus with wire basket
	☐	Oven capable of maintaining 110° +/- 5°C (230° +/- 9°F)

☐	Within Spec	T 209 – Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
	☐	An electronic balance with a minimum cap. of 10kg, readable to 0.1g
	☐	A container of glass, metal or plastic, or a volumetric flask capable of holding a 2kg sample and withstanding a partial vacuum
	☐	Vacuum pump capable of maintaining a partial vacuum of 30mm Hg - 25mm Hg
	☐	Residual pressure manometer or vacuum gauge traceable to NIST
	☐	A glass, metal or plastic lid with a hose connection
	☐	Thermometer readable to 0.5°C
	☐	Timer or clock
	☐	Inline bleeder valve
	☐	Mechanical agitator
	☐	Oven capable of maintaining temperature +/- 5°C

Labs performing asphalt tests must have oven capacity of at least 16 cu. ft. minimum

EQUIPMENT CHECKLIST

Asphalt – Section 4b

☐	Within Spec	T 245 – Preparation of Field Compacted Marshal Specimens
☐		Mold cylinders, 4" dia. by 3" (mod ID 3.995 - 4.005) in height, base plates and extension collars
☐		Specimen extractor (dia. of disk at least 100mm, thickness not less than 12.7mm)
☐		Compaction hammer having a flat, circular face and a 4536g +/- 9g sliding weight with a free fall of 18" +/- .06"
☐		Compaction pedestal consisting of 8" x 8" x 18" wooden post capped with a 12" x 12" x 1" steel plate, post should be plumb and cap level
☐		The compaction pedestal shall be bolted to a concrete slab with min. dimensions of 12" x 24" x 8", placed on the ground. If mounted in a trailer, it shall be further supported by a load transfer device between the underside of the floor and the ground.
☐		Specimen mold holder shall hold the mold, collar and base plate securely
☐		Oven and hot plate for heating mix and molds
☐		Thermometer with a range from 50° to 400°F readable to 5°F
☐		An electronic balance with a min. 2kg cap. readable to 0.1g
☐		Table fan for cooling the Marshall specimens

☐	Within Spec	T 246 – Resistance to Deformation of Bituminous Mixtures by Hveem Stabilometer
☐		Hveem Stabilometer with current Certificate of Calibration, interval every 12 months Expiration:
☐		Calibration cylinder a hollow metal cylinder 101.6mm +/- 0.13mm OD by 100mm (MIN.)
☐		Metal follower 101.2mm dia. (max) by 125mm min.
☐		Compression testing machine with min. cap. of 4.5kN (10,000lbf) with a current Certificate of Calibration, interval every 12 months Expiration:
☐		Oven capable of maintaining 60° +/- 3°C

☐	Within Spec	T 247 – Preparation of Test Specimens of Bituminous Mixtures by Means of California Kneading Compactor
☐		California Kneading Compactor with a current Certificate of Calibration, interval every 12 months Expiration:
☐		Specimen molds and mold holder
☐		Oven capable of maintaining 110°C +/- 3°C
☐		Compression testing machine with min. cap of 222kN (50,000lbf) with a current Certificate of Calibration, interval every 12 months Expiration:
☐		Electronic balance 5k minimum capacity, readable to 0.1g
☐		Round nose steel rod, 9.5mm (3/8") in dia., 406mm (16") long
☐		Heavy paper disks, 102mm (4") in dia.
☐		Steel shim, 6.4mm (1/4") thick, 19mm (3/4") wide, 64mm (2.5") long
☐		A device for measuring the height of specimen to the nearest 0.3mm (0.01")

Labs performing asphalt tests must have oven capacity of at least 16 cu. ft. minimum

EQUIPMENT CHECKLIST

Asphalt – Section 4c

☐	Within Spec	T 283 – Resistance of Compacted Asphalt Mixtures to Moisture Induced Damage
	☐	Equipment from TM 325
	☐	An electronic balance with a min. cap. of 5kg, readable to 0.1g
	☐	Water bath and suspension apparatus from T 166
	☐	Water bath capable of maintaining 60° +/- 1°C (140° +/- 1.8°F)
	☐	Plastic film for wrapping, heavy-duty leak proof plastic bags
	☐	Forced air draft oven capable of maintaining a temperature of 60° +/- 1°C
	☐	Loading jack and ring dynamometer from T 245 or a mechanical or hydraulic testing machine from T 167
	☐	Certificate of Calibration for testing machine or proving ring, interval of every 12 months Expiration:

☐	Within Spec	T 308 – Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
	☐	Forced air ignition furnace, capable of maintaining the temperature at 578°C (1072°F)
	☐	A min. of two tempered stainless steel mesh or perforated baskets
	☐	One stainless steel catch pan large enough to hold sample trays
	☐	Oven capable of maintaining 125° +/- 5°C (257° +/- 9°F)
	☐	An electronic balance with a min. 8kg capacity, readable to 0.1g
	☐	Thermometer with a range of 50° to 500°F, readable to 5°F
	☐	Initial oven temperature of 538° +/- 20°C
	☐	Certificate of Calibration for the ignition furnace scales and temperature controls, interval of every 12 months Expiration:

☐	Within Spec	T 329 – Moisture Content of Bituminous Mixes by Oven
	☐	An electronic balance with a min. 2kg capacity, readable to 0.1g
	☐	An oven capable of maintaining a temperature of 163° +/- 14°C
	☐	Sample container, not affected by heat, of sufficient size to hold a sample of at least 1000g
	☐	Thermometer with a range from 50° to 500°F

Labs performing asphalt tests must have oven capacity of at least 16 cu. ft. minimum