
LABORATORY QUALIFICATION PROGRAM

The District Materials Office will qualify the other laboratories and maintain records of the qualification for three years. The District Staff will check the following prior to qualifying a laboratory:

1. Establish the type of laboratory (Aggregate, Hot Mix Asphalt, **Soils Field**, PC Concrete).
2. Check for current manuals and test procedures covering the qualified testing.
3. Check the certification of the testing personnel.
4. Document that proper equipment is available to perform qualified testing.
5. Check documentation system.

Scheduling of the qualification review will be discussed with the laboratories seeking qualification. The District staff performing the qualification review should have the appropriate certification (**IM 213**) for the type of laboratory and tests being reviewed. The District Materials Engineer should be contacted for laboratories that have been qualified in other states. The District Materials Office may qualify a laboratory based on an acceptable qualification report and qualification program from another state transportation agency.

Table 1 and the pages following cover the list of items to be reviewed.

An oral close out on any deficiencies will be held with the testing personnel. Written notice will be sent within two weeks of the inspection. District personnel will re-inspect after correction of any deficiencies.

A form showing the laboratory type, the date qualified, and the expiration date will be issued by the District Materials Engineer.

The list of Qualified Laboratories will be maintained on a database accessible by authorized Materials Personnel.

NON-COMPLIANCE/DISPUTE RESOLUTION

A laboratory that does not meet the requirements of the IM is subject to elimination from the qualification program.

The office responsible for the qualification will resolve disputes concerning calibration and correlation of equipment. For disputes that cannot be resolved at the District level, the Central Materials Laboratory will be the final authority.

Table 1 - Laboratory Qualification Checklist

	Calib./Verif. √ Interval	Calib./Verif. Procedure
Tester Qualifications-Proper Iowa DOT certifications		
Current Test Procedures		
Current Calibration Procedures & Records		
Documentation of correlation results and corrective actions taken for previous construction season.		
Soils Field Laboratory		
Balances	12 months	Iowa 917
Sieves- wear, tear, size	12 months	
Mold, Base, and rammer condition	(a)	AASHTO T99
Aggregate Laboratory		
Balances	12 months	Iowa 917
Sieves- wear, tear, size, and opening size	12 months	Iowa 1506
Splitter- condition	12 months	(Visual)
Mechanical Shakers- condition (if used)	12 months	Iowa 1502
HMA Laboratory		
Balances- and water bath	12 months	Iowa 917
Sieves- wear, tear, size, and opening size	12 months	Iowa 1506
Splitter- condition	12 months	(Visual)
Mechanical Shakers- condition (if used)	12 months	Iowa 1502
Rice equipment- vacuum and flask	12 months	IM 350
Thermometers	12 months	Iowa 1607
Ovens- temperatures	12 months	Iowa 1501
Gyratory Compactor and molds	12 months	Iowa 1522
PCC Laboratory		
Balances	12 months	Iowa 917
Sieves- wear, tear, size, and opening size	12 months	Iowa 1506
Splitter- condition	12 months	(Visual)
Mechanical Shakers- condition (if used)	12 months	Iowa 1502
Air Meter	12 months	IM 318
Slump Cone and equipment-condition	12 months	
Flexural Strength Apparatus	12 months	Central Lab

(a) The mold, base or rammer should be checked if the condition warrants.

LABORATORY ITEMS

The following list contains, as a minimum, what is required for a qualified asphalt laboratory. The test equipment to perform each of the required tests is contained in the respective IM.

- Field Lab and Office [Suggested size 8 ft. x 44 ft. (2.4 m x 13.41 m)]. Locate the Field Lab so it is convenient to the plant, but outside the influence of plant vibration.

Air-conditioned
Personal computer
Phone
Fax machine
Copy Machine
Sample storage
Work table
Bulletin board
Water available to perform necessary testing
Desk and chair
Incidental spoon, trowels, pans, pails

- The personal computer shall be capable of running Iowa DOT programs. It is recommended to have at least Windows 2000 or newer software on the computer. Iowa DOT programs have been checked and are capable of running on Windows 2000 and newer software.

Removable storage device
Color monitor, VGA or better
Printer

- Diamond saw for cutting core lifts.
- Diamond core drill (minimum 4" diameter core).



Iowa Department of Transportation

MATERIALS LABORATORY QUALIFICATION PROGRAM

Laboratory Inspection - per Materials Instructional Memorandum 208

Company Name: _____

Laboratory name: _____

Laboratory type: Aggregate HMA PCC (Circle one)

Laboratory location: _____

Laboratory contact person: _____

Laboratory technician: Certification number: Expires:

Current manuals and written test procedures available? _____

Current calibration procedures and records? _____

Documentation of correlation results and corrective actions taken for previous construction season? _____

Proper equipment available to perform qualified testing? _____

Other remarks: _____

Date of inspection: _____ Qualification expiration date: _____

Inspection performed by: _____

Print name

Sign name

Inspection received by: _____

Print name

Sign name

District Number _____

cc: Materials Engineer, Contractor/Producer, Ames, File



Iowa Department of Transportation

AGGREGATE LABORATORY INSPECTION QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____
Certified Technician: _____ Certification No: _____

Balances	(Iowa Test Method 917)	Yes	No
	Updated balance calibration records available?	_____	_____
	Check balance using 500 gm & 1000 gm calibrated weights?	_____	_____
	Is balance accurate to 0.1%?	_____	_____

Sieves	(Iowa Test Method 1506)		
	Is there adequate correlation history to qualify?	_____	_____
	Were go/no-go gauges used to check accuracy?	_____	_____
	Are the sieves in good condition (no loose frames, holes, or tears)?	_____	_____

Splitter			
	Is the splitter in good condition?	_____	_____
	(i.e., missing shuts, cracked welds, or leaking seams)		

Shaker	(Iowa Test Method 1502)		
	Is shaker apparatus secure and level?	_____	_____

Scale			
	Are the laboratory weights used for routine calibrations accurate?	_____	_____
	(Use 0.1% difference from our calibrated weights as standard.)		

Comments _____

cc: Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____
Date Inspected: _____



Iowa Department of Transportation

**HMA LABORATORY INSPECTION
QUALITY CONTROL CHECKLIST**

Contractor/Producer: _____ Location: _____

Certified Technician: _____ Certification No.: _____

Thermometers (IM 321, IM 325, IM 325G, IM 350) **Yes** **No**

Thermometer Calibration and Documentation available? _____

Temperature of check: _____ (25 deg C or 135 deg C)

State reference thermometer _____

Contractor reference thermometer _____

Difference _____

Rice Pycnometer (IM 350)

Calibration chart and/or documentation available? _____

Equipment achieves between 25.5 and 30mm of mercury vacuum? _____

Mercury is free of bubbles? _____

Gyratory/Marshall Compactor (IM 325/IM 325G)

Calibration documentation available? _____

Is equipment generally clean? _____

Documentation of annual mold measurements? _____

Ovens (IM 325/IM 325G)

Documentation of temperature checks? _____

General condition satisfactory? _____

Do all parts work as intended? _____

Water Bath (IM 321)

Temperature? _____

Correlation

Correlation results available for previous year? _____

Comments: _____

NOTE: HMA labs must also qualify as an aggregate lab.

cc: Materials Engineer **Inspected By:** _____

Contractor/Producer _____

Ames **Date Inspected:** _____

File _____



Iowa Department of Transportation

READY MIX/PCC PAVING LABS QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____

Certified Technician: _____ Certification No: _____

Inspection Checklist Items:

Air Meter	(IM 318)	Yes	No
Check meter using approved 5% pugs.		_____	_____
Is air meter clean?		_____	_____
Proper rod and mallet.		_____	_____
Slump Cone	(IM 317)		
Interior of cone free of dents or projections.		_____	_____
5/8" by 24" tamping rod.		_____	_____
Rigid, nonabsorbent base.		_____	_____
Equipment clean and free of hardened concrete.		_____	_____
Beam Breaker	(IM 316)		
Current annual calibration sheet		_____	_____
Equipment clean.		_____	_____
Beam Molds	(IM 328)		
Molds clean and free of dents		_____	_____
General condition of molds good.		_____	_____

Comments _____

NOTE: PCC labs must also qualify as an aggregate lab.

cc: Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____

Date Inspected: _____



Iowa Department of Transportation

SOILS FIELD LABORATORY INSPECTION QUALITY CONTROL CHECKLIST

Contractor/Producer: _____ Location: _____
Certified Technician: _____ Certification No: _____

Balances

(Iowa Test Method 917)

Yes

No

Updated balance calibration records available? _____

Check balance using 500 gm & 1000 gm calibrated weights? _____

Is balance accurate to 0.1%? _____

Sieves

Are the sieves in good condition (no loose frames, holes, or tears)? _____

Mold, Base, and Rammer (AASHTO T99)

Are they in good condition. Mold round and the base flat? _____

If not, check the dimensions for out-of-tolerance. _____

Rigid Foundation

Do they have a concrete pad or floor or other rigid foundation to compact the specimen on? _____

Comments _____

cc: Materials Engineer
Contractor/Producer
Ames
File

Inspected By: _____

Date Inspected: _____