

Certification and Training

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District 61 Training*

Topics We'll Cover

- *Certification Area Updates for Department and Non Department*
 - Department and Non Dept. Requirements
 - New and Revised Courses
- *Proposed Sampling Procedures for HMA*
- *Revised Testing Procedures for PCC*
- *Training Strategy for SiteManager™
Materials Management (SMM)*

Certification Areas

- Embankment & Base Course Inspection Technician (\$800.00 to enroll)
- Four prerequisite courses/written exams
 - Excavation and Embankment Inspection (*Revised*)
 - Base Course Inspection (*In Revision*)
 - Density Testing for Embankment & Bases/Video
 - Basic Pipe Installation
 - Can include Authorized Density Tester
 - Performance Evaluation on TR 401
- Written Specialty Area Examination (In Revision *Blue Book Specs*)
- Six Months Documented Experience
- Performance Evaluation
- Recertification Written Exam Every 5 Years

Certification Areas

- Structural Concrete Inspection Certification (\$800.00 to enroll)
- Four prerequisite courses/written exams
 - Structural Concrete, Volume 1
 - Structural Concrete, Volume 2
 - PCC Plant Inspection
 - Sampling and Testing Plastic Concrete
- Written Specialty Area Examination
- Six Months Documented Experience
- Performance Evaluation
- Recertification Written Exam Every 5 Years

Certification Areas

- PCC Paving Inspection Certification (\$800.00 to enroll)
- Four prerequisite courses/written exams
 - PCC Paving Inspection
 - PCC Plant Inspection
 - Sampling and Testing Plastic Concrete
 - 25' California Type Profilograph Operator (Exam/video/performance)
 - 25' California Type Profilograph Evaluator (Exam/video/performance)
- Written Specialty Area Examination (*Blue Book Specs*)
- Six Months Documented Experience
- Performance Evaluation
- Recertification Written Exam Every 5 Years

Certification Areas

- Asphaltic Concrete Paving Inspection (\$800.00 to enroll)
- Four prerequisite courses/written exams
 - Asphalt Paving, Volume 1 (*Revised*)
 - Asphalt Paving, Volume 2 (*Revision*)
 - Checking Automated Profilers (*New*)
 - Operating Automated Profilers (*New*)
- Written Specialty Area Examination (*Blue Book Specs*)
- Six Months Documented Experience
- Performance Evaluation
- Recertification Written Exam Every 5 Years

Certification Areas

- Asphaltic Concrete Plant Inspection (\$800.00 to enroll)
- Three prerequisite courses/written exams
 - Basic Asphalt Plant Inspection (*Revised*)
 - In-House SuperPave Modules (*New*)
 - SUPERPAVE MIX DESIGN AND ANALYSIS
 - SUPERPAVE HMAC MATERIALS OVERVIEW
 - SUPERPAVE HMAC DESIGN AND VALIDATION OVERVIEW
 - SUPERPAVE HMAC VOLUMETRICS
 - SUPERPAVE HMAC MIX DESIGN STEPS AND APPROVAL
 - SUPERPAVE HMAC QUALITY CONTROL AND ACCEPTANCE
 - SUPERPAVE HMAC AGGREGATE PROPERTIES
 - SUPERPAVE HMAC GYRATORY COMPACTION
 - SUPERPAVE WATER SUSCEPTIBILITY OF ASPHALT MIXTURES

-OR-

Approved Equivalent SP from accredited entity , i.e., NCAT or Asphalt Institute


- Written Specialty Area Examination (*Blue Book Specs*)
- Six Months Documented Experience
- Performance Evaluation
- Recertification Written Exam Every 5 Years

Certification Areas - Non Department

- **Concrete Technician (\$800.00 to enroll)**
 - PCC Plant Inspection
 - Sampling and Testing Plastic Concrete
 - Written Specialty Area Examination (*Blue Book Specs*)
 - Six Months Documented Experience
 - Performance Evaluation
 - Recertification Written Exam Every 5 Years
- **Authorized Field Tester (\$120.00 to Enroll)**
 - Sampling and Testing Plastic Concrete
 - Performance Evaluation
 - No Experience Necessary
 - Indefinite
- **Authorized Density Tester**
 - Density Testing for Embankment & Bases/Video
 - Performance Evaluation
 - No Experience Necessary
 - Indefinite

Certification Information

<http://www.ltrc.lsu.edu/certification.html>



ADMINISTRATIVE MANUAL
LA DOTD
INSPECTOR/TECHNICIAN
TRAINING AND CERTIFICATION



LTRC

- **Policy & Procedures**
- **QC/QA Qualifications**
- **Reciprocity Requirements for Industry**
 - *ACI Concrete Field Technician - Grade 1*, good for our Authorized Field Tester and Experience requirements for Concrete Technician
 - Other external credentials to be approved by Certification Committee
- **Fees**

What's New in HMA?



What's New?

- **Sampling HMA from the RDWY**
 - Random
 - **Sampling Shovel with Up-turned Sides Required!**
 - **Sampled at the Front Hopper of the MTV**
 - **Sampled at the Loading Conveyor Discharge of the MTV (Pile on the surface and captured in a Wheelbarrow)**
 - **Sampled at the Paver Screed**

Sampling from the Front Hopper of the MTV

-Minimum Frequency

- 1/Sub-lot
- Random Numbers
- Equipment Needed
 - Metal Wheelbarrow
 - Gallon Cans
 - Sampling Shovel



Sampling from the Front Hopper of the MTV



Front Hopper of the MTV - Issues



- Is it Safe?
- Segregation in corners
- Segregation on the sides
- Does the method of loading the truck influence the amount of segregation at the end-dump?

Sampling from the Load Conveyor Discharge (Pile on the Surface and in the Wheelbarrow)

- **Minimum Frequency**

- 1/Sub-lot

- Random Numbers

- Equipment Needed

- Metal Wheelbarrow

- Gallon Cans

- Sampling Shovel



Sampling from the Load Conveyor Discharge (Pile)



Sampling from the Load Conveyor Discharge (Wheelbarrow)



Sampling from the Load Conveyor Discharge (Wheelbarrow)

- Issues



- Is it Safe?
- Is pile segregated?
- Sample could include contamination if taken at the bottom?
- Can large aggregates bounce out of the wheelbarrow?
- Is the mix segregated streaming from the chute?

Sampling at the Paver Screed

- **Minimum Frequency**
 - 1/Sub-lot
 - Random Numbers
 - **Equipment Needed**
 - Metal Wheelbarrow
 - Gallon Cans
 - Sampling Shovel



Sampling at the Paver Screed - Issues



- **Is it Safe?**
- **Sample Idle or in motion?**
- **Do we have the room to take the sample?**
 - From traffic
 - From the trailing edge
 - Augers up or down?

What's New With PCC?



Slump & Air of Fresh Concrete



TR 202, Air Content of Freshly Mixed Concrete, Method A&B (Rev. 08/08)

TR 207, Slump of PCC (Rev. 08/08)



TR 202 –Method A, Roll-A-Meter



~~Old Scope~~ New Scope

This method of test covers the procedure for determining the air content of freshly mixed concrete with a slump of 1 in. (25 mm) or greater by determining the volumetric

1. This method of test covers the procedure for determining the air content of freshly mixed concrete with a slump of 1 in. (25 mm) or greater by determining the volumetric displacement of air with water after thorough agitation.

for concrete with aggregate absorption of 4.0% or greater.

Note A-2: ASTM C173-07 may be used in lieu of this method.

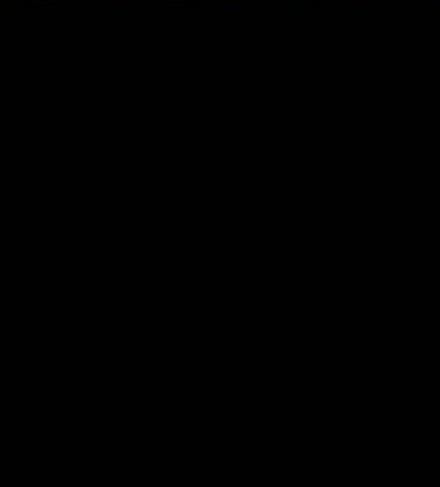
TR 202 –Method A, Roll-A-Meter



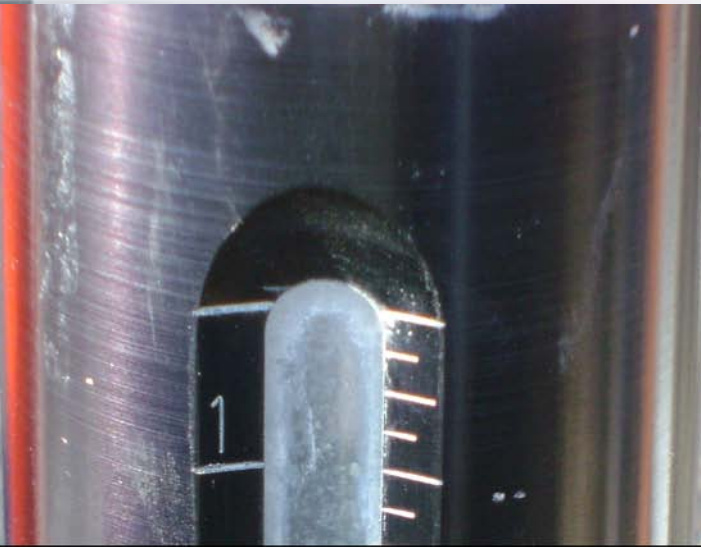
- *Other Significant Changes*
 - Apparatus
 - ***Allows the use of PVC/Fiberglass Meters***
 - Using the scoop, fill the bowl with mixed concrete in **two** equal layers

TR 202 – Method A, Roll-A-Meter - Changes

- 1st Layer, rod 25 times
- Tap 10-15 times **Mallet** – (with a rubber or rawhide head) with a mass approximately 1.25 ± 0.5 lb. (600 ± 200 g).
- 2nd Layer, rod 25 (Penetrating prior layer approximately 1 inch)
- Tap 10-15 times



TR 202 – Method A, Roll-A-Meter - Changes



- Make a direct reading of the liquid in the neck, reading to the bottom of the meniscus and estimate to the nearest (0.25%) of air.
- Round and report air content to the nearest 0.1%.

$$TA = R_1 + R_2$$

R_1 = reading directly in the neck, after the alcohol was added.

R_2 = number of cups filled with alcohol used.

$$R_1 = 2.25\%$$

$$R_2 = 3.0$$

$$\begin{aligned} TA &= 2.25\% + 3.0 \\ &= 5.25 = 5.2\% \end{aligned}$$

TR 202 –Method B, Pressure Meter



New Scope

Old Scope

This method of test covers the determination the air content of

1. This method of test covers the determination of the air content of freshly mixed concrete with a slump of less than 1 in. (25 mm) from observations of the change in volume of concrete with a change in pressure. A detailed procedure employing one type of apparatus is described. Apparatus of other designs have been developed and appropriate procedures have been prepared for use with such apparatus.

only be used for concrete containing aggregates with **absorption less than 4.0%**. If aggregate absorption is 4.0% or greater, use Method A. This method is **not applicable to concrete made with lightweight aggregates or air-cooled blast furnace slag.**

TR 202 –Method B, Pressure Meter

- **Other Significant Changes**
 - *The aggregate correction factor must be determined for each portland cement concrete mix design, at the beginning of each project, or whenever there is a change in the aggregate properties.*



TR 207 – Slump of Fresh Concrete

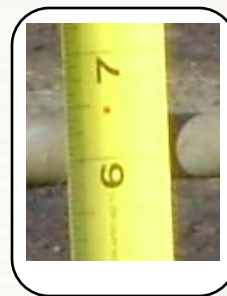
- **Scope Unchanged**
- **Raising the slump cone time changed from “Approximately 5 seconds” to 5 ± 2 seconds.**



TR 207 – Slump of Fresh Concrete

– Significant Difference:

Immediately measure the slump by determining the vertical difference between the top of the mold and the **displaced** center of the top surface of the specimen.



SMM Training Strategy

Questions?