



# RMAEC

## Policy & Procedure Manual

### 2019



In cooperation with the Colorado Asphalt Pavement Association,  
the Colorado Department of Transportation, and the  
Federal Highway Administration





The RMAEC would like to thank you for reading and becoming familiar with the Policy and Procedure Manual. We will enforce the policies and procedures stated in the manual.

Our goal is to provide an efficient certification program. We believe a strong certification program strengthens our industry technicians, resulting in a positive impact on our industry.

We appreciate your assistance in circulating this information to your technicians and to your key personnel.

As always, if you have any questions or comments, please feel free to contact us.

Sincerely,

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## **Introduction and History**

The Rocky Mountain Asphalt Education Center (RMAEC) was founded in 1996 as the "Education and Certification Arm" for the Colorado Asphalt Pavement Association (CAPA). In addition to facilitating the Laboratory for Certification of Asphalt Technicians (LabCAT) Program, the RMAEC offers educational seminars for City and County Agencies, Contractors, and Consultants. Most seminars are held in the RMAEC class room; however, there are opportunities to customize employee training days at your company location.

The LabCAT Program was developed to increase the proficiency of asphalt technicians, improve the reliability of testing, increase the quality of asphalt paving materials purchased by owner-agencies, and respond to the Federal-Aid Projects. The program is a partnership between the Colorado Department of Transportation (CDOT), CAPA, and the Federal Highway Administration (FHWA). A joint Board of Directors consisting of CAPA, CDOT, FHWA and Industry Representatives provide direction to the program.

Since 1996, all asphalt technicians working on CDOT projects where Process Control and Owner Acceptance (PC/OA) specifications are used, are required to hold certification through the LabCAT Program. Certification through LabCAT is also required by some local agencies. These include, but are not inclusive to, The Metropolitan Government Pavement Engineers Council (MGPEC), City of Greeley, and the Pikes Peak Regional Transportation Authority (PPRTA). LabCAT is a NICET equivalent for those testing asphalt and related materials at Denver International Airport.

Technicians testing for certification must be proficient in each of the field and laboratory tests required for materials acceptance in conjunction with the CDOT PC/OA specifications. The field and laboratory testing is based on the current references to the CDOT Field Materials Manual (FMM), CDOT Laboratory Manual of Test Procedures (CP-L), and the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Transportation Materials and Methods of Sampling where applicable.

## **LabCAT Certification Levels**

Level A – Laydown Operations

Level B – Plant Materials Control

Level C – Volumetric and Stability

Level C minus Design – Volumetrics and Superpave Gyratory Compaction

Level E – Aggregate

Level I - Asphalt Paving Materials Inspector

## **Certification Fees.**

Level	CAPA Member or CDOT	Non-Member
ABC	\$650	1200
AB	\$500	\$910
A	\$200	\$420
B	\$300	\$510
C	\$250	\$490
C minus Design	\$250	\$490
E	\$280	\$535
APM Inspector	\$250	\$400

## **Registration – Levels A, B, C, C minus Design, and E.**

Registration forms are available on the Technician Registration page on the CAPA website, [www.co-asphalt.com](http://www.co-asphalt.com). Print both the Technician Registration and Technician Prerequisite Form. Submit the forms via: email: [rmaec@co-asphalt.com](mailto:rmaec@co-asphalt.com), fax: (303) 741-6146, or USPS. You may also request forms by calling Diane at (303) 741-6148 ext. 154.

### **Technician Registration Form**

This form allows you to request your session date, check the level(s) you will be testing for, and provide billing information.

Upon receiving your registration request, the RMAEC will email a registration confirmation. If you do not receive confirmation within 48 hours, please contact the RMAEC at (303)741-6148 ext. 154.

Registration must be completed prior to the registration close date. Registration closes the Wednesday prior to the session start date.

### **Technician Prerequisite Form**

Technicians are required to pre-qualify for their initial certification by level. The Prerequisite Form is a qualifying document which provides a format for required signatures. Individuals signing this form are documenting the testing technician's readiness and qualification for certification.

*Required prerequisites include; testing experience, verification of proficiency in laboratory procedures and a liability release.*

## **Certification Prerequisites: Levels A, B, C, C minus Design, and E**

- Testing Experience for Levels ABCE  
A minimum of 60 days of continuous asphalt materials testing is required. Accumulation of time is not allowed. As indicated in CDOT FMM CP 10, inexperienced technicians (less than one year of documented experience) performing asphalt materials testing should consider successful completion of the "Introduction to PC/OA Testing" course offered by the RMAEC.
- Verification of Proficiency in Colorado Procedure-Laboratory  
The verifying technician signing this section must have current LabCAT certification in the level(s) he/she is verifying. This prerequisite is to ensure the testing technician has prior experience in the test procedures. The prerequisite is waived if the testing technician has been previously LabCAT certified in the requested level.

Please note: Certification sessions are not to be used as a platform for training. Falsification of the testing technician's experience or proficiency in the laboratory procedures may result in the verifying technician losing his/her certification.

- Liability Release  
The testing technician documents he/she has read and agrees to the RMAEC release of liability.

## **Certification Session Formats**

- Standard  
The standard certification format is structured for the technician who is certifying for the first time in the requested level, or for the technician who is re-certifying, and would benefit from review. The standard program begins with classroom presentations which describe each of the laboratory procedures and their purpose. Technicians are then given a closed book written exam. Following successful completion of the written exam the technician is required to demonstrate proficiency in each laboratory procedure required by level.

Proficiency demonstrations are conducted before a qualified volunteer proctor and are closed book.

- **Streamline**  
The streamline re-certification format is reserved for the technician who has previously been certified in the requested level. The streamline session moves at an accelerated pace. Classroom presentations of the laboratory procedures are not included. Technicians are given a brief review of laboratory procedure changes which may have occurred over the previous three years. Technicians are then given a closed book written exam. Following successful completion of the written exam the technician is required to verbalize laboratory procedures to demonstrate proficiency. Proficiency demonstrations are conducted before a qualified volunteer proctor and are closed book.
- **Proctor Incentive Re-certification (PIR)**  
The PIR format is reserved for technicians who have volunteered their time by assisting as a laboratory proctor for the LabCAT Program. Technicians who meet the eligibility requirements will be allowed to waive their laboratory procedure demonstrations for re-certification. The written exam testing is still required and is closed book.

**Written Exam (Test 1) Levels A, B, C, C minus Design, and E**

- Written exams are closed book. No personal notes are allowed during testing.
- Before beginning the written exam, the instructor will distribute copies of the CDOT procedures per level. These handouts are for quick reference. Please be prepared, as all written exams are timed.
- Handouts will be collected at the completion of the written exams.
- Each level of the written exams is divided into sections. A score of 70% or higher must be achieved per section, with an overall score of 80% or higher to pass the written exam portion of certification.

**Written Exam Re-Test (Test 2) Levels A, B, C, C minus Design, and E**

- If any section of the written exam score is less than 70%, the technician will be advised.
- Re-testing the failed section is allowed only if the total number of failed sections per level does not exceed the maximum. The maximum number of failed sections per level is as follows:

Level	Number of Failed Sections Allowed
A	2 sections
B	2 sections
C	1 section
C minus Design	0 sections
Level E	4 sections

- The technician will be allowed to **briefly review** the failed section of Test 1. The instructor will not coach the technician regarding the failed questions. Test 2, will be immediately administered.
- If the technician fails Test 2, e.g. “an overall score of less than 80%”, he/she will not be allowed to continue the certification process or proceed to the laboratory portion of certification. The technician must re-register for certification. Please note: If the technician fails Test 2, and is not allowed to continue, the entire registration fee is still due.

### **Written Exam Re-Test Fees**

Written exam re-test fees for Test 2, are \$25 per level.

### **Laboratory Procedure Proficiency Test (Trial 1 and Trial 2)**

- The laboratory procedure proficiency tests are closed book. Technicians will be required to independently demonstrate proficiency in each laboratory procedure. Additional training or coaching by the laboratory exam proctor will not be allowed.
- Laboratory procedures are graded either pass or fail.
- If the technician does not pass the first attempt (Trial 1), a second attempt (Trial 2) is allowed.

### **Laboratory Procedure Proficiency Re-Test**

- If both Trial 1 and Trial 2 of the laboratory procedure test is failed, the technician will be advised. If the technician is eligible to re-test, a one-on-one re-test session between the technician and the instructor will be scheduled for a later date.
- The technician may re-test the failed procedure if the total number of failed procedures is within the listed parameters:

<b>Level</b>	<b>Number of Failed Procedures Allowed</b>
A	1
B	2
C	1
C minus	0
Level E	2

- **Laboratory Procedure Re-Test Fees**

Laboratory procedure re-test fees are \$150 per level.

- If the maximum number is exceeded, the technician is not allowed to continue the certification process, however the entire registration fee is still due. The technician must re-register for certification.

### **Level A – Laydown**

Technicians responsible for sampling and conducting compaction tests on asphalt materials at the laydown site are required by CDOT to have this certification.

*Prerequisites: Level A*

- Required prerequisites: Please reference the section: “Certification Prerequisites” on page 2 of this manual.
- Recommended prerequisites: Basis reading and math skills, one paving season in construction or in an asphalt testing laboratory, successful completion of a training course in the safe use and handling of portable nuclear gauges.

*Overview (standard session format).* Each section will be described including the purpose of the test and application of the test data.

Quality Control	Tester Responsibilities
Random Sampling of Materials	CP 75
Sampling of Aggregates	CP 30

Sampling of Asphalt	CP 41
Bulk Specific Gravity of Pavement Cores Method B and C	CP 44 Method B and C
Compaction Test Section	CP 82
In-Place Density by Nuclear Method	CP 81

### **Level B - Plant Materials Control**

Technicians responsible for materials process control at the asphalt plant are required by CDOT to have this certification.

#### *Prerequisites: Level B*

- Required prerequisites: Please reference the section: “Certification Prerequisites” on page 2 of this manual.
- Current Level A certification.
- Recommended prerequisites: Basis reading and math skills, one paving season in construction or in an asphalt testing laboratory, successful completion of a training course in the safe use and handling of portable nuclear gauges.

*Overview (standard session format).* Each section will be described including the purpose of the test and application of the test data.

Verification of Laboratory Equipment	CP 76, CP-L 5101
Reducing Field Samples to Testing Size	CP 55
Bulk Specific Gravity of Lab Compacted Specimen Method A	CP 44 Method A
Theoretical Maximum Specific Gravity (Rice)	CP 51
Asphalt Content by Ignition Method	CP-L 5120
Determination of Moisture Content of Asphalt	CP 43
Asphalt Content by Nuclear Method	CP 85
Reducing Aggregate Samples to Testing Size	CP 32
-200 Wash and Sieve Analysis of Aggregate	CP 31, T 11, T 27

### **Level C – Volumetrics and Stability**

Technicians responsible for determining asphalt mixture volumetric and strength characteristics at the asphalt plant are required by CDOT to have this certification.

#### *Prerequisites: Level C*

- Required prerequisites: Please reference the section: “Certification Prerequisites” on page 2 of this manual.
- Current Level AB certification.
- Recommended prerequisites: Basis reading and math skills, one paving season in construction or in an asphalt testing laboratory, successful completion of a training course in the safe use and handling of portable nuclear gauges.

*Overview (standard session format).* Each section will be described including the purpose of the test and application of the test data.

Mixture Volumetrics	Properties, CP 48
Superpave Gyrotory Compaction	CP-L 5115
Hveem Stability	CP-L 5106
Resistance to Moisture Induced Damage (Lottman)	CP-L 5109



### **Level C minus Design**

Technicians responsible for determining asphalt mixture volumetric and gyratory compaction are required by CDOT to have this certification.

#### *Prerequisites: Level C minus Design*

- Required prerequisites: Please reference the section: “Certification Prerequisites” on page 2 of this manual.
- Current Level AB certification.
- Recommended prerequisites: Basis reading and math skills, one paving season in construction or in an asphalt testing laboratory, successful completion of a training course in the safe use and handling of portable nuclear gauges.

*Overview (standard session format).* Each section will be described including the purpose of the test and application of the test data.

Mixture Volumetrics	Properties, CP 48
Superpave Gyratory Compaction	CP-L 5115

Technicians registered for Level C minus Design will benefit from the entire classroom presentation. All four elements; Volumetrics, Gyratory, Stability & Lottman, will remain in the presentation to promote general knowledge and awareness of the laboratory procedures. However, the written exam and laboratory procedure testing will consist of Volumetrics and Gyratory CP-L 5115 only.

### **Level E – Aggregates**

Technicians responsible for determining aggregate characteristics for the use in asphalt designs are required by CDOT to have this certification.

#### *Prerequisites: Level E*

- Required prerequisites: Please reference the section: “Certification Prerequisites” on page 2 of this manual.
- Recommended prerequisites: Basis reading and math skills, one paving season in construction or in an asphalt testing laboratory, successful completion of a training course in the safe use and handling of portable nuclear gauges.

*Overview (standard session format).* Each section will be described including the purpose of the test and application of the test data.

Sampling of Aggregates	CP 30
Reducing Aggregate Samples to Testing Size	CP 32
-200 Wash and Sieve Analysis	CP 31, T 11, T 27
Specific Gravity and Absorption of Fine Aggregate	T 84
Specific Gravity and Absorption Of Course Aggregate	T 85
Toughness (LA Abrasion)	T 96
Micro-Deval	CP-L 4211
Plasticity Index	T 90
Soundness	T 104
Clay Lumps and Friable Particles in Aggregate	T 112
Sand Equivalent (Clay Content)	CP 37
Uncompacted Void Content of Fine Aggregate (FAA)	T 304
Fractured Faces	CP 45
Flat and Elongated Particles	D 4791

## **Registration – Asphalt Paving Materials (APM) Inspector**

Registration forms are available on the APM Inspector page on the CAPA website, [www.co-asphalt.com](http://www.co-asphalt.com). Print the APM Inspector Registration & Prerequisite Form. Submit the form via: email: [rmaec@co-asphalt.com](mailto:rmaec@co-asphalt.com), fax: (303) 741-6146, or USPS. You may also request forms by calling Diane at (303) 741-6148 ext. 154.

### **APM Inspector Registration & Prerequisite Form**

This dual-purpose form allows you to request your session date, provide billing information, and document your certification prerequisites.

Upon receiving your registration, the RMAEC will email a registration confirmation. If you do not receive confirmation within 48 hours, please contact the RMAEC at (303)741-6148 ext. 154.

Registration must be completed prior to the registration close date. Registration closes the Wednesday prior to the session start date.

#### *Prerequisites: APM Inspector*

Inspectors are required to pre-qualify for their initial certification. Required prerequisites include:

- Inspection / Work Experience  
A minimum of 6 months' experience in Laydown operations, with a minimum of 60 days performing Inspector responsibilities.
- Understanding of Inspection Elements  
Specifications, Surface Preparation, Materials Transfer, Sampling of Asphalt Mixtures, Paving Operations, Compaction Process, High Speed Inertial Profiling, and Mat Defects.
- LabCAT Level A – Laydown Certification  
Level A certification may be current or expired.

#### *Overview (standard session)*

Reading Specification
Surface Preparation for Asphalt
Materials Transfer Vehicles
Sampling of Asphalt Mixtures
Paving Operations
Compaction
High Speed Profiler
Mat Defects

### **Written Exam (Test 1) APM Inspector**

- Written exams are closed book. No personal notes are allowed during testing.
- A score of 80% or higher must be obtained to pass.

### **Written Exam Re-Test (Test 2) APM Inspector**

- If Test 1 is less than 80%, the inspector will be advised.
- The inspector will be allowed to briefly review Test 1. The instructor will not coach the inspector regarding the failed questions. Test 2 will be immediately administered.
- If the inspector fails Test 2, he/she must re-register for certification. The full certification fee will be assessed. Please note: the entire registration is still due.

### **Written Exam Re-Test Fees**

Written exam re-test fees are \$25 per level.

### **RMAEC Cancellation / Reschedule Policy**

Registration closes at 2:00 p.m. on the Wednesday prior to the session start date. Cancellations or reschedules made after 2:00 p.m. on the Wednesday prior to the session start date may be assessed a \$100 cancellation/reschedule fee. Please notify the RMAEC at 303-741-6148 ext 154 to make registration changes or e-mail [rmaec@co-asphalt.com](mailto:rmaec@co-asphalt.com)

Testing technicians, HSP operators, and APM inspectors who do not attend a scheduled session and have not notified the RMAEC to cancel/reschedule, are subject to the full registration fee. No refunds will be given.

No refunds will be given if a tester begins a session and chooses not to complete the session on the scheduled day. An individual who chooses to leave a session will be considered “failing” and is subject to the full registration fee and any additional retest fees.

### **Cancellation Due to Inclement Weather**

The following applies to the LabCAT Program and all RMAEC Education Seminars. If impending weather is forecasted, participants should verify if the session will be held, or will be cancelled. Please call the RMAEC at 303-741-6148 ext. 154 (Diane) or ext. 153 (Cindy) to inquire about the status of the scheduled session.

If a session must be cancelled for any reason other than inclement weather, the RMAEC will make every attempt to notify participants seventy-two hours prior to the start date.

If a session is cancelled, the registration will be transferred to a future session, providing one is available.

### **Certification Issue and Expiration Dates**

All certifications are valid for 3 years. The 3-year certification period begins with the first day of the certification session and expires YTD + 3 years.

### **Adding Certification Levels B, C, BC to current Level A or AB**

If a technician has a current Level A, or AB and would like to add Level B, C, or BC this may be done at any time during the three-year certification period of Level A. The added Level (s) expiration date will become the expiration date of Level A. Expiration dates are synchronized and will not stagger.

### **Grandfathering Certification**

To insure each certified technician is following the current state-of-the-practice as well as the consistency needed from agency to agency, public and private, no grandfathering of technician certifications will be granted.

### **Reciprocity**

The LabCAT Program is unique to Colorado Laboratory and Field tests. While certain tests conducted may be like other states or agencies, small differences may exist. Therefore, to insure knowledge of current CDOT Laboratory and Field tests no reciprocal certifications from other state programs will be accepted.

## **De-Certification Policy**

Certification is a privilege. This privilege may be revoked if in the opinion of the Director of Training, the LabCAT Instructor, and the LabCAT Board of Directors, a technician is judged to have knowingly committed acts which are detrimental to the integrity of the LabCAT Program or the construction industry in general. Acts which could result in the revocation of a technician's certification are:

- Falsification of a testing technician's experience and proficiency in the Laboratory Procedures may result in the verifying technician losing his/her certification.
- Falsification of Field or Process Control and Owner Acceptance tests results and/or records.
- Incompetence during performance of field or laboratory procedures, knowingly not adhering to the procedures required for testing.
- Cheating on LabCAT certification exams.
- Termination due to job incompetence.
- Criminal action while engaged in construction activities.
- Non-payment of LabCAT Program fees.

The LabCAT Program, Report of Improper Testing or Inspection Form must be completed and submitted to the LabCAT Director of Training. The Director of Training will notify the technician that a written complaint has been filed. The technician will be asked to submit a written response to the Director of Training regarding the complaint. If two written complaints concerning the same technician, detailing similar offenses, are received within a six-month period the technician may be required to submit documentation disputing or clarifying the complaints. The technician may be subject to review by the LabCAT Technical Committee and/or LabCAT Board of Directors. If three or more complaints are filed within a twelve-month period, the technician will be notified that his/her certification is being suspended until the complaints can be reviewed by the Director of Training, the LabCAT Technical Committee and/or the LabCAT Board of Directors. If upon review judgment is reached that revocation of certification privileges is warranted, the technician will receive written notification by a certified USPS letter. The technician will be allowed seven calendar days, within posting of the notification, to respond in writing. If during that time a written letter of protest is received, the LabCAT Board of Directors will review the case and if necessary a hearing will be scheduled within seven calendar days.

If no hearing is warranted based on the report and response from the technician, the technician will be notified of the final decision.

If no protest letter is received, it will be assumed by the LabCAT Director of Training, and the LabCAT Board of Directors, the technician does not protest the decision, and revocation will occur. The technician may apply for re-instatement at any time by submitting a formal request to the LabCAT Director of Training. Upon receipt, the LabCAT Director of Training will notify the technician of the re-instatement process. The re-instatement process may include any or all of the following:

- Review by the Director of Training, the LabCAT Technical Committee, the LabCAT Board of Directors, or designated representatives.
- \$150 re-instatement fee may be applied.

## **Complaints**

Any person wishing to register a complaint regarding a certification session, the LabCAT Instructor, a proctor, or an examination result, must do so in writing within thirty days of the event. The written complaint must be detailed and specific. The written complaint must be dated and bear the name and signature of the person making the complaint. All complaints will be addressed by the Director of Training, and the LabCAT Technical Committee, excluding any member(s) directly involved with the complaint. A recommendation will be presented to the LabCAT Board of Directors. All complaints will be answered in writing within sixty days of receipt and all decisions will be final.

**Continuing Education Units (CEU)/Professional Development Hours (PDH)**

CEU's/PDH'S are designed to measure participation in learning experiences other than academic credit courses. These do not satisfy any requirements toward a college degree. However, they do provide a permanent record for professional training. Each credit represents 8 hours of instruction. Please contact the RMAEC to request documentation.