

SECTION 115 MATERIALS CERTIFICATION SCHOOLS PROGRAM

The Materials Certification Schools (MCS) Program is offered by the Virginia Department of Transportation (VDOT) for individuals who wish to receive training and certification in the areas of Concrete, Asphalt Concrete, Soils, Aggregate, Pavement Marking, Slurry Surfacing and Surface Treatment. The goal is to provide on-going training in materials technology for industry and VDOT employees for the purpose of providing a competent workforce. These workers are involved in the production, utilization, acceptance, testing and inspection of materials used in the Commonwealth's transportation infrastructure.

To attain this goal the Certification Programs objectives are:

Provide technical training to VDOT and industry personnel.

Enhance the teamwork and efficiency of VDOT, Industry, Municipalities, Testing/Inspection Agencies, and Consultants by training all individuals together.

Support VDOT's Construction and Maintenance Programs through provision of appropriate training.

Support VDOT's Quality Control and Quality Assurance Programs.

Sec. 115.01 Specification Requirements

VDOT specifications require that the Contractor have present during the production, placement and testing of some materials a Certified Materials Technician. The following activities and the corresponding technicians summarize these specifications. Refer to the Virginia Department of Transportation Road and Bridge Specifications or the project contract documents for the actual specifications.

1. The production of Central Mix Aggregate requires the presence of a Certified Aggregate Plant Technician.
2. The production of Hot Mix Asphalt (HMA) requires the presence of a Certified Asphalt Plant Technician. Development and adjustment of HMA mix designs requires a Certified Asphalt Mix Design Technician.
3. The production of Concrete requires the presence of a Certified Concrete Plant Technician or Certified Concrete Batcher. Development and adjustments of concrete mix designs must be performed by a Certified Concrete Plant Technician.
4. The placement of HMA requires the presence of a Certified Asphalt Field Technician where more than 100 tons of material is placed in a single location.
5. The placement of Slurry Surfacing requires the presence of a Certified Slurry Surfacing Technician.
6. The placement of Concrete requires the presence of a Certified Concrete Field Technician.
7. The placement of pavement markings requires the presence of a Certified Pavement Marking Technician.

8. The placement of Surface Treatment requires the presence of a Certified Surface Treatment Technician.

Sec. 115.02 Certification Application

All candidates for Certification in the VDOT Materials Certification *Schools* Program must read and sign an Application for Certification found in Appendix E.

Sec. 115.03 Certification Titles

School	Certification Title
Asphalt Field	Asphalt Field Technician
Slurry Surfacing	Slurry Surfacing Technician
Surface Treatment	Surface Treatment Technician
Asphalt Plant (Level I)	Asphalt Plant Technician
<u>Asphalt Plant Mix Design (Level II)</u>	Aggregate Properties Technician
<u>Asphalt Plant Mix Design (Level II)</u>	Asphalt Mix Design Technician
Concrete Field	Concrete Field Technician
Concrete Plant	Concrete Plant Technician
Central Mix Aggregate Plant	Central Mix Aggregate Technician
Soils and Aggregate Field	Soils Compaction Technician
Pavement Marking	Pavement Marking Technician

Sec. 115.04 Steps Required for Certification

To obtain certification in a selected program, the applicant has a choice of two procedures. The first procedure would be to attend a full school in the area they wish to become certified, pass a written examination and successfully complete a Proficiency Examination if required.

Approximately 2 – 3 weeks after passing the written examination, grades will be posted in VDOT University. Upon successfully passing the written exam, a Proficiency Examination must be completed. Every certification class with the exception of Concrete Plant, Slurry Surfacing and Surface Treatment has a hands-on Proficiency Examination. The Concrete Plant Proficiency Examination is in the form of a written examination.

The individual has until December 31st of the year in which they passed the written examination to successfully complete the Proficiency Examination. After successfully completing the Proficiency

Examination, a Certification will be awarded. The Certification is valid for five years. The Certification card has the expiration date printed on it. Expiration is five years from December 31st of the school year that the individual attended class. Students may print their own certification cards from VDOT University. The web address is: <https://VirtualCampus.VDOT.Virginia.gov/External>.

If an individual attended a full school, and fails the written exam or the Proficiency Evaluation they may retake the part, or parts failed, **ONE TIME ONLY**. This must be done before December 31st of the current school year. After December 31st the individual must come back to the full school and pay the full fee again.

The second procedure for obtaining Certification is as a Self-Study student. The individual would take the examination and any required Proficiency Evaluation without attending a full school. The full course fee still applies. If the student fails to pass either examination on the first attempt, he/she must pay the full course fee and attend a full school in the area they wish to become certified prior to retesting.

The Certification belongs to the individual, not their employer. Upon change of employment or location, the Materials Certification Schools Staff should be notified to update the student's record.

Proficiency Examination Requirements

Materials Certification Title	School	Proficiency Requirements	Contact Information
Aggregate Properties	Asphalt Plant Mix Design Level II	ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19	MCS Program Office
Asphalt Field Technician	Asphalt Field	VTM-6, VTM-22, VTM-76, Stratified Random Numbering	MCS Program Office
Asphalt Plant Technician	Asphalt Plant (Level I)	AASHTO T30, AASHTO T166, AASHTO T209, AASHTO T269, AASHTO T312, VTM-102	MCS Program Office
Asphalt Plant Mix Design Technician	Asphalt Plant Mix Design (Level II)	ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19, AASHTO T30, AASHTO T312, VTM-102, AASHTO T209, AASHTO T166, AASHTO T283	MCS Program Office
Central Mix Aggregate Technician	Central Mix Aggregate Plant	AASHTO T2, AASHTO T11, AASHTO T19, AASHTO T27, AASHTO T248, AASHTO T255, AASHTO T89, AASHTO T90	MCS Program Office
Concrete Field Technician	Concrete Field	ACI Concrete Field Level I (ASTM C172, ASTM C1064, ASTM C143, ASTM C31, ASTM C231, ASTM C173, ASTM C138)	Virginia Ready-Mix Concrete Association (VRMCA) (434) 977-3716
Concrete Plant Technician	Concrete Plant	Written proficiency examination required.	MCS Program Office
Pavement Marking Technician	Pavement Marking	VTM-94	MCS Program Office
Slurry Surfacing Technician	Slurry Surfacing	No proficiency examination required	No proficiency examination required
Soils Compaction Technician	Soils and Aggregate Compaction	AASHTO T217, VTM-10, VTM-12, MARTCP SA-1.3	MCS Program Office
Surface Treatment Technician	Surface Treatment	No proficiency examination required	No proficiency examination required

Sec. 115.05 Recertification

In order to recertify, technicians must complete an on-line Recertification Program and a Proficiency Evaluation in the particular subject area prior to their certification expiration date; this should be done some time during the last year of their current certification period.

Refer to the **Recertification Requirements** table on the following page for the specific requirement for each certification.

It is the responsibility of the individual to complete the appropriate recertification requirements prior to the expiration of their certifications.

Recertification Requirements

Materials Certification Title	School	Online Recertification Course Requirement	Proficiency Requirements	Contact Information
Aggregate Properties	Asphalt Plant Mix Design Level II	Yes	ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19	MCS Program Office
Asphalt Field Technician	Asphalt Field	Yes	VTM-6, VTM-22, VTM-76, Stratified Random Numbering	MCS Program Office
Asphalt Plant Technician	Asphalt Plant (Level I)	Yes	AASHTO T30, AASHTO T166, AASHTO T209, AASHTO T269, AASHTO T312, VTM-102	MCS Program Office
Asphalt Plant Mix Design Technician	Asphalt Plant Mix Design (Level II)	Yes	ASTM D4791, ASTM D5821, AASHTO T176, AASHTO T304, AASHTO T84, AASHTO T85, AASHTO T19, AASHTO T30, AASHTO T312, VTM-102, AASHTO T209, AASHTO T166, AASHTO T283	MCS Program Office
Central Mix Aggregate Technician	Central Mix Aggregate Plant	Yes	AASHTO T2, AASHTO T11, AASHTO T19, AASHTO T27, AASHTO T248, AASHTO T255, AASHTO T89, AASHTO T90	MCS Program Office
Concrete Field Technician	Concrete Field	Yes	ACI Concrete Field Level I (ASTM C172, ASTM C1064, ASTM C143, ASTM C31, ASTM C231, ASTM C173, ASTM C138)	Virginia Ready-Mix Concrete Association (VRMCA) (434) 977-3716
Concrete Plant Technician	Concrete Plant	Yes	Written proficiency examination required.	MCS Program Office
Pavement Marking Technician	Pavement Marking	Yes	VTM-94 Done online	MCS Program Office
Slurry Surfacing Technician	Slurry Surfacing	Yes	No proficiency examination required.	No proficiency examination required
Soils Compaction Technician	Soils and Aggregate Compaction	Yes	AASHTO T217, VTM-10, VTM-12, MARTCP SA-1.3	MCS Program Office
Surface Treatment Technician	Surface Treatment	Yes	No proficiency examination required.	No proficiency examination required

Sec. 115.06 Extensions

Extension of certifications will be considered on a case by case basis and approved by the State Materials Engineer.

Sec. 115.07 Suspension of Certification

Certification is deemed to be a privilege that has been earned by an individual and may be suspended at any time if, in the opinion of the VDOT Technician Certification Review Board, an individual is thought to have knowingly committed acts that are detrimental to the integrity of the Certification Program or to the industry in general. All cases of potential certification suspension will be reviewed by the VDOT Technician Certification Review Board and they will recommend to the State Materials Engineer any action deemed appropriate. The State Materials Engineer will then make the final decision on what action will be taken, if any. The VDOT Technician Certification Review Board will be comprised of the following:

- The District Materials Engineer or designee (from District in which the incident occurs)
- The District Construction Engineer or designee (from District in which the incident occurs)
- The Materials Certification Schools Program Manager or designee

A suspension will be for a definitive amount of time as deemed appropriate based on the nature and severity of the infraction. Any individual who has their certification suspended will have to attend the appropriate Certification School and pass all required examinations to have their certification reinstated.

Acts that may result in suspension of certification include, but are not limited to the following:

- Falsification of field or quality control tests results and/or records
- Submitting false information that can be used for field or quality control test results
- Failure to perform specified duties
- Failure to follow appropriate testing or sampling procedures
- Display of any dishonest behavior during certification or re-certification

Any suspected inappropriate actions by an individual should be reported to the District Materials Engineer (DME) in the District in which the incident occurs. The DME has the authority to temporarily suspend an individual's certification pending review by the VDOT Technician Certification Review Board. The DME will notify the Materials Certification Schools Program Manager, who will convene the VDOT Technician Certification Review Board. The Board will meet to review the incident as soon as practical. The individual will appear before the Board at that time.

Suspension of one Certification may be considered grounds for suspension of all Certifications held by the Technician. Further, any suspension of a Technician's Certification in any other jurisdiction may result in the VDOT Technician Certification Review Board taking the same or other action, against a Technician's Certification in Virginia.

Sec. 115.08 Exempt Certification Status

No exemptions will be granted.

Sec. 115.09 Program Instructors

Instructors for the program come from VDOT's Learning Center, Materials Division, Traffic Engineering, Regional Construction Quality Improvement Program and private industry. Although instruction must comply with VDOT procedures and specifications, we welcome and encourage the participation of industry in all parts of the program.

The Materials Certification Schools Staff assists instructors by providing visual aids, instructor training, videotape production, writing/editing of manuals and presentations, grading of examinations and maintenance of the program's database.

Sec. 115.10 Program Evaluation

Examinations

Written examinations are all "open book", proficiency examinations are "closed book." A valid photo ID must be presented prior to taking any examination.

The Materials Certification Schools Staff grades all examinations. The examination results of each class are compiled and analyzed. Frequently missed questions are evaluated and addressed by some combination of clarifying the question, highlighting the information in the manuals, asking the instructor to highlight the information or revising the question.

Advisory Teams

At the end of each season, the teaching teams meet with the Materials Certification Schools Staff to discuss and evaluate the past year's schools. Included in this meeting are various subject matter experts, both VDOT and Industry. Student evaluations and test results are compiled prior to this time and are presented at the meeting. From this information and the advice of the instructors, action plans are formed to adjust the teaching, curriculum, manuals and tests to best meet the needs of the students and VDOT.

Sec. 115.11 Study Guides

Study guides are revised and printed annually. Instructor teams meet at the end of each school season to ensure the study guides contain accurate and up to date information. Changes or corrections are incorporated into the study guides before the next school season. Study Guides are available for downloading on the Materials Certification School web page at:
<http://www.virginiadot.org/business/matschools.asp>.

Sec. 115.12 Scheduling

Scheduling is done by the Materials Certification Schools Staff. Classes are generally held between January and the middle of April.

Scheduling of the schools is usually completed by early September. Districts in which schools will be held are determined according to estimated attendance. During the school year, registration numbers are monitored to determine if additional schools are needed.

Schedules may be obtained from the Materials Certification School web page at:
<http://www.virginiadot.org/business/matschools.asp>.

Sec. 115.13 Class Cancellations

Every effort will be made to hold classes; however, weather conditions or low registrations may be justification for cancellation of a class. The Materials Certification Schools Staff will make every attempt to contact the students in the event of a cancellation. If the District Office closes due to inclement weather, the class will be cancelled also. If this happens contact the Materials Certification Schools Staff to make other arrangements. Cancellations will also be posted on the Materials Certification Schools Information Line (1-866-527-8656).

Sec. 115.14 Fees for Schools

Fees for schools are subject to change. Current fees for Certification Schools may be found in the Materials Certification School Brochure. The fee includes course attendance, manual and other materials, the examination and one retest for full schools.

Students may, if they feel qualified, take the examination without attending a full school. The full course fee still applies; with this option, no retest is allowed.

Sec. 115.15 Refunds

Full refunds are allowed only if notification is received at least four business days before the start of the class. Contact the Materials Certification Schools Staff.

To process a refund the following information is needed:

Individuals Name, Company Name, Company address, Federal I.D. number of company, Name of class, Date(s) of class, District in which class was held, Amount to be refunded.

Note: The District Materials Engineer may elect to credit toward an upcoming class.

Sec. 115.16 Mid-Atlantic Regional Technician Certification Program (MARTCP)

Introduction

The Mid-Atlantic Region Technician Certification Program (MARTCP) is comprised of the States of New Jersey, Pennsylvania, Delaware, Virginia, West Virginia, Maryland and the District of Columbia and the Federal Highway Administration. The initial push for this program came from each state realizing that they were duplicating training efforts, along with the FHWA's requirement (23 CFR 637), that each state have a training program to insure qualified personnel are available to accomplish sampling, testing, and inspections of materials. This organization is dedicated to raising the knowledge level of technicians performing hands-on testing of products, inspection and services provided to the transportation industry.

The agencies participating in the MARTCP have agreed to develop core programs in hot mix asphalt, concrete, soils and aggregates, and pavement markings. Additional programs may be added in the future as needs are identified. The MARTCP Agencies have also agreed to include "best practices" as a portion of each technical program.

Agency specifications will not be included as part of the MARTCP manuals, but will be covered separately by each Agency. The purpose of the manuals is not to supersede Agency specifications, but to compliment Agency specifications and provide the MARTCP Agencies with the confidence that a minimum required level of knowledge has been attained by each technician certified through the Mid-Atlantic Region Program.

Implementation

VDOT curricula incorporate current MARTCP curricula. All other participating state agencies are scheduled to begin implementation by 2007 with the establishment of a MARTCP website and certification database by an outside administrator.

Reciprocal Agreements

The long-term goal of MARTCP is to provide a regional technician certification program that will be recognized by all of the participating organizations. The MARTCP certifications would be valid in all the

participating states, with each state, requiring knowledge of state specific procedures not covered in the MARTCP program.

VDOT recognizes all participating MARTCP states' certifications and will issue a Letter of Reciprocal Certification upon request. A \$50.00 fee and proof of original certification is required. Interested parties should contact Materials Certification Schools Program Office.