

# ACI Adds Masonry Testing Technician Certification

Field and laboratory programs are available

By Nick Lang and Michael Morrison

**A**CI's Certification Department is rolling out two new masonry-related certification programs in 2014. The Masonry Field Testing Technician and the Masonry Laboratory Testing Technician programs will be available starting September 1. The programs were developed by ACI Subcommittee C601-C, Masonry Testing Technicians (MTT), which was chaired by Chris Robinson, Executive Director of the Construction Materials Engineering Council (CMEC), Orlando, FL. These two programs had the direct support of The Masonry Society (TMS), the National Concrete Masonry Association (NCMA), and the Portland Cement Association (PCA), as representatives from all of these associations were active members of the committee and played key roles in helping develop the programs.

Certification continues to be an important and required part of the construction industry. It's important because it demonstrates to employers as well as clients that staff are knowledgeable in a particular area and that a reputable organization is willing to attest to their skill set. For the masonry industry, further implementation of testing certifications is critical. "Developing these programs filled an important need within the testing and inspection community," said Robinson, who is also Chair of ACI Committee C670, Masonry Technician Certification. "These programs are valuable assets in advancing education with respect to proper techniques associated with masonry materials."

Most masonry structures require inspection, including testing of units, mortar, grout, and other related materials.

Many testing personnel are less familiar with methods for masonry than other concrete products (such as ready mixed concrete) and, as such, materials are frequently tested incorrectly. This can lead to erroneous results, which in turn lead to job-site problems. For example, the Cement and Concrete Reference Laboratory reports that, for the 35th inspection tour, only 11% of testing laboratories were properly following all procedures for testing masonry mortar in accordance with ASTM C780. This lack of testing expertise makes certification all the more critical to ensure that masonry material testing is done properly.

In the past, industry and regional groups—such as NCMA and CMEC—have provided training and certification in masonry test methods. Those programs, however, have not been able to reach as many individuals as it is hoped the new ACI programs will reach. Additionally, the credibility and reputation of ACI certifications will help to make these programs desirable to the testing community.

## Program Requirements

These new MTT programs will provide certification to those technicians working in the laboratory or the field who can demonstrate the technical knowledge and the necessary skills for correct sampling and testing of masonry units, mortars, grout, and prisms. These two programs are based on content from the following ASTM specifications and test methods:

- C67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile;



Fabrication of an 8 x 8 in. (200 mm) block prism per ASTM C1314, Standard Test Method for Compressive Strength of Masonry Prisms



Casting of mortar cubes per ASTM C109, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens)

- C90, Standard Specification for Loadbearing Concrete Masonry Units;
- C109, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens);
- C140, Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units;
- C270, Standard Specification for Mortar for Unit Masonry;
- C780, Standard Test Method for Preconstruction and Construction Evaluation of Mortars of Plain and Reinforced Unit Masonry;
- C1019, Standard Test Method for Sampling and Testing Grout;
- C1314, Standard Test Method for Compressive Strength of Masonry Prisms; and
- C1552, Standard Practice for Capping Concrete Masonry Units, Related Units and Masonry Prisms for Compression Testing.

ACI certification programs are developed through a rigorous process. First, a need must be recognized and verified either from a specific committee or other industry group. After initial review and approval by the ACI Certification Programs Committee that the program has potential merit, a subcommittee is formed under ACI Committee C601, New Certification Programs, and a survey is distributed to measure industry interest and support of the potential program.

If enough interest and support is evident, the subcommittee moves forward to identify the technical resources and develop the core documentation. Documentation includes a Job Task Analysis, Eligibility Requirements, and Exam Question Blueprint. The Job Task Analysis describes in detail what the committee believes to be the knowledge and skill set required to perform the work outlined by the program. The Eligibility Requirements outline the

characteristics and abilities the candidate must possess in order to be allowed to participate in the program. The Exam Question Blueprint describes the length of the exam and question distribution across the subject matter, the exam questions and performance checklists, and the program administrative policies.

### Pilot Programs

As part of the development of the MTT program, two pilot programs were organized, each with 18 participants. The first was held in October 2013 at the NCMA headquarters in Herndon, VA, and was hosted by NCMA testing laboratory personnel. NCMA staff also participated on the committee in developing program content and the written and practical examinations. A half-day review was hosted by TMS. Jamie Farny, PCA, reviewed the ASTM standards related to masonry testing. Farny, the TMS Certification Committee Chair, participated on the ACI committee developing these certifications along with serving as a liaison between ACI and the TMS Certification Committee. The following day, the written exams and the hands-on practical exams were administered. In the debriefing meeting, it was determined that conducting both certifications was too much to cover in 1 day, and that the next pilot program would be broken out into two segments: 2 days for MTT Field Tech and 2 days for MTT Laboratory Tech.

The second pilot program was held in mid-January 2014 in Jupiter, FL, and hosted by Committee Chair Chris Robinson, CMEC. For each program, Day One consisted of a classroom review of the ASTM standards and specifications, including discussion and question/answer sessions in the morning. This was followed by a hands-on practice session in the laboratory in the afternoon. Day Two commenced with the written exam followed by the practical exam. Participants in both pilot programs were interviewed after



Proper use of CMUs to fabricate a compressive strength test specimen, per ASTM C1019, Standard Test Method for Sampling and Testing Grout



Checking dimensional requirements of a CMU per ASTM C140, Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

the sessions and also completed a survey related to the session. Overall, the programs were well-received and participants of the second pilot program felt that the standards review and hands-on session held the day before the exam was critical to their success on test day.

### TMS to Sponsor Sessions

TMS will be a National Sponsor for this program. “Due to a variety of factors, including an increased need for quality assurance, masonry testing is becoming more common. Unfortunately, in some areas, testing technicians are not always familiar with masonry, nor its nuances that make it different than concrete,” said Phil Samblanet, Executive Director, TMS. “The result can be improper testing, poor results, and headaches in the field. ACI’s Masonry Testing Technician Certification programs will further efforts to improve testing quality by letting contractors, designers, and owners know who is qualified to perform masonry testing.”

In addition to hosting sessions throughout the United States, TMS is also available to help any sponsoring group that may be interested in offering the MTT programs in their area but don’t feel they have the expertise to offer a review session to prepare candidates for the exam. Samblanet will be heading this effort for the industry. He can be contacted at +1.303.939.9700 to discuss options for offering training and certification in local areas, and more information can also be found at [www.masonrysociety.org](http://www.masonrysociety.org).

ACI’s Certification Department will be contacting all of its sponsoring groups to provide detailed information related to these two new programs. “Our sponsoring group coverage enables ACI to bring these new programs to market in an efficient and effective manner. We have 117 sponsoring groups worldwide, with 97 in North America,” said John Nehasil, ACI Director of Certification

& Chapters. “With the program available in September 2014, we expect reasonable coverage from our sponsoring groups by early 2015.”

Selected for reader interest by the editors.



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sponsoring groups in the development, review, training, delivery and promotion of the programs to market. He also serves as ACI’s certification representative to standards development organizations and specifying agencies.