

PEM Webinar – Questions and Answers

The questions submitted during the webinar follow with answers that our speakers have provided.

Key resources available include:

<https://cptechcenter.org/performance-engineered-mixtures-pem/>

<https://store.transportation.org/Item/PublicationDetail?ID=4599>

<https://www.fhwa.dot.gov/MCTC>

1. Are most agencies using the Surface Resistivity (AASHTO 358) test more often than the Bulk Resistivity (AASHTO 119) test? Are they mostly using it for construction QC and acceptance as opposed to qualification of mix designs? District of Columbia

There are a number of states that have incorporated resistivity testing into their program; all are using Surface Resistivity. FL, LA, ME, KS, CO, and UT use SR, either for mix approval or as part of project acceptance. NC is developing a SR specification with plans to implement for acceptance in the near future. MI is currently evaluating Bulk Resistivity.

2. It would be great to have all these PEM related activities (SAM, MITScan T3, Resistivity, Mobile lab, etc..) organized in one document in a logical sequence. Florida

Have a look at AASHTO PP84 and the CPTEch website referenced about

3. Any discussion within ACI 318 for an optional performance spec in lieu of the prescriptive durability classifications? Idaho

Interesting thought. We have not had any contact with that committee. We will follow up with them.

4. Can we (City of Ames) coordinate with ISU to see concrete tests (specially freeze and Thaw)? Iowa

Sure – call me (Peter)

5. Need more information on Box Test 45#/cy reduction in cement. Iowa

See the report at https://intrans.iastate.edu/app/uploads/sites/7/2019/06/Iowa-PEM-Report_2019-06-20_Final.pdf

6. Have you had any issues getting test data from aggregate source that not used on a regular basis? Since some on the PEM tests take time, and there may not be a lot of time from bid to construction. Oregon

We have not seen this be an issue on the pilot projects to date.

7. Are you working with ACI on these cement optimization methods? Pennsylvania

Yes – we are aiming to get them into the ACI training program. Some states are planning to add the tests to their in-state training programs.

8. What type of testing frequency is recommended for the SAM during production (since it takes a bit longer to perform than a standard air meter)? Have folks needed additional inspectors to keep up with production? Virginia

We are not recommending any changes in testing frequency based solely on changing from the Type B pressure meter to a SAM. While it is correct that the SAM takes longer to run, once technicians gain some experience with it, the time increase is marginal. Some agencies are evaluating using the SAM as part of the mix design approval process but staying with the Type B meter for field acceptance.

9. Are there any states where there is not industry support for PEM? Washington

Not that I am aware of

10. Could the FHWA mandate use of PEM and tie federal funding to help make it stick? Washington

FHWA does not have the regulatory authority to issue such a mandate. FHWA is devoting significant resources to the PEM effort, including:

- Continuing financial support to the pooled fund.
- Developing implementation tools through our Concrete Cooperative Agreement with the National Concrete Pavement Technology Center (e.g. the QC tool covered in the presentation).
- Providing implementation technical assistance and training to agencies and industry via the Mobile Concrete Technology Center program.