Reference Cement for use in Calibration of ASTM C1702-17 Equipment

Lot: 1

Packaging Date: June 2015

Reference Values		
Age (hours)	Mean (kJ/kg)	+/- 95% Confidence Interval (kJ/kg)
1	16.8	4.8
24	208	4.3
72	278	7.2
168	320	5.6

Requalification date: June 30, 2026 (refer to first question on page 2 for additional information on the requalification date)

Note: The material for this sample came from the CCRL Portland Cement Proficiency Sample Program (Portland No. 198), with a reported LOI = 2.29%. Additional physical and chemical properties of this material are available at CCRL's website: (Portland Cement Report 197&198.pdf).

Reference Cement for use in Calibration of ASTM C1702-17 Equipment FAQ's

Q: How long can the unopened package of common reference cement be retained before use?

A: Each package is labeled with a requalification date. After that date, contact CCRL for a new report with updated reference values and/or requalification date, if available.

Q: How should the reference cement be stored after it is received?

A: As with any hydraulic cement, the package should be stored under laboratory conditions in a dry location, such as in a desiccator or in a thermally sealed Mylar bag.

Q: How long can an opened package be used?

A: After opening, the package container should be tightly sealed between uses and stored in a dry environment to minimize exposure to the atmosphere that could result in access in moisture. It is recommended to check the LOI before testing a material from a package which was already opened for a previous round of testing. Testing has shown that LOI increases up to 0.3% did not lead to significant changes in reference values for heat of hydration. If a sample is going to be sealed for additional rounds of testing, it is recommended to measure the LOI when the container is first opened to establish a baseline LOI level for a more accurate determination of change in LOI for future rounds of testing.

Resealing material in a Mylar container by heat sealing has been shown to be an effective method of minimizing moisture absorption. If vacuum sealing take care to minimize cement that is vacuumed up.

Q: How is the material used?

A: The adjusted heat of hydration values (excluding the heat recorded before 1 hour) are used to calibrate the equipment. The heat of hydration value at 1 hour is used to calibrate the mixing sample preparation methods. The appendix in ASTM C1702, Testing and evaluation of heat of hydration of a Reference Cement, describes in detail the calibration procedure.