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**Project:** Broken Arrow High School, Broken Arrow, OK.

**Approved Contractor:** iCrete, Technologies, LLC, Oklahoma City, OK.

**Project Manager:** Michael Fogel

## Celcore Incorporated News and Updates

In previous issues of our newsletter, we discussed [Celcore MF Concentrate dilution and calibration](#), the importance of [Cast Density Sampling, and Density Logs](#). Proper mixing of Celcore MF concentrate into solution assures quality and yield of the generated preformed foam. Daily foam calibration ensures that the foam generator system is working properly. End-of-hose cast density sampling verifies that quality cellular lightweight concrete is being placed within the project specific density range. Logging those results creates an accurate

written project record. These practices are significant steps in maintaining responsible quality control of a Celcore Cellular Concrete placement. In this issue of the Newsletter, we will detail proper techniques for Celcore Cellular Concrete Sampling and Testing.

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## Cellular Concrete Sampling & Testing

Collecting and testing cellular concrete cylinders can demonstrate that project specific compressive strengths and cast densities have been met. Cellular concrete specimens shall be collected in accordance to ASTM C 172 except as modified by the applicable sections of ASTM C495. Specimens are thereafter cured and tested at age 28 days in accordance with ASTM C495. A set of specimens for compressive strength testing shall consist of a minimum (4) 3x6 cylinders from a single sampling. It is further recommended that a set of (2) companion cylinders are cast, in addition to those required for compressive strength, for dry density determination. Dry density data provides information that can be used to affirm results from other testing.

Sampling, is accomplished by filling a bucket with concrete from the pump hose discharge stream at the point of placement. Samples shall be obtained from the hose discharge during a period of continuous pumpline operation. Calculate the samples density and record the value in the [Foreman daily density log](#). Celcore recommends the use of [plastic cylinder molds](#) to assure proper in mold curing. When casting samples, the concrete shall be placed into the molds in approximately two equal layers. The cylinders shall be raised and dropped one inch, three times after placing each layer. Celcore recommends over filling the molds when adding the second layer, and do not strike off. **DO NOT RE- MIX OR ROD SAMPLES.**

It is important that freshly cast lightweight insulating concrete test specimens are immediately stored in locations where they are not disturbed during initial set. They should be protected from wind, vibration, temperature extremes and direct solar load after casting. The use of a jobsite cure box is always recommended. A cure box can be something as simple as an Igloo Cooler marked and placed somewhere on site where it will not be disturbed.

Celcore recommends that test cylinders be collected every 75 cubic yards, and/or anytime a third party testing company takes a sample. When making third party companion test specimens, cast cylinders from the same sampling and mark the molds appropriately to preserve custody. This practice could include initialing by the attending third party field technician. The importance of casting a companion set of cylinders on projects where an owner's test lab is engaged cannot be emphasized enough. For various reasons, it is not uncommon for unskilled third party testing labs to produce inaccurate test reports. Too often, inaccurate test results have caused costly post placement investigations to be ordered. Having a set of cylinders in reserve to have independently tested when being confronted with inaccurate results is well worth the effort.

For those unaware, Celcore offers complimentary ASTM C495 lab services to its Approved Contractors for their internal use. As the system manufacturer, the information provided by our service should not be publicly offered as independent testing. Our test reports can however provide useful information specific to your equipment set and your sources of local

materials. Please contact us at any time to arrange these services.

We are hopeful that this information is helpful to you, our Approved Contractors. Effective quality control practices and procedures not only benefit Celcore and each individual Approved Contractor, but they are good for the entire industry.

As always, please feel free to share these newsletters with your other colleagues and encourage them to sign up for current and future emails.

Sincerely,

**Travis Morton**

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