

## INTERNAL CURING SPECIFICATION

In addition to conventional external curing methods, internal curing, especially in low water cement ratio ( $< 0.43$ ) concretes, is highly desirable as it will significantly reduce cracking.

In order to achieve internal curing, a substitution of **Hydrocure™** or an approved equal lightweight fine aggregate for natural and/or for manufactured normal weight sand is required. The substitution is to be on an equal *volumetric basis* in accordance with the following guidelines:

**Hydrocure™** or an approved equal lightweight fine aggregate shall meet the following standards and criteria:

- “ASTM C330 Standard Specifications for Lightweight Aggregates for Structural Concrete.”
- “ASTM C 1761 Standard Specifications for Lightweight Aggregates for Internal Curing.”
- “ASTM C109C & 109M Standard Test Method for Compressive Strength of Hydraulic Mortars.”
- “ASTM C128 Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate.”

### Sand replacement:

Depending on the characteristics desired, a general volumetric replacement of 15%-25% of natural/manufactured sand by **Hydrocure™** or an approved equal lightweight fine aggregate will yield the desired benefits. For performance confirmation, development of a 3-Point Curve of using varying amounts of replacement is recommended.

### Preconditioning:

The **Hydrocure™** or the approved equal lightweight fine aggregate shall be pre-saturated by either sprinkling or soaking to ensure a saturated surface dry (SSD) condition when tested in accordance with “ASTM C70 Standard Test Method for Surface Moisture in Fine Aggregate.” The **Hydrocure™** or approved equal lightweight fine aggregate shall be capable of obtaining absorption of 15% at 24 hours and a minimum of 10% in 30 minutes.

### Batching:

Introduce SSD **Hydrocure™** into the mixer drum first, along with the mixing water, or at least a sufficient quantity of it to be sure that it remains at SSD as drier materials are sequentially introduced into the mixing drum. Batch as normal from that point on until proper mixing of all materials is achieved.