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## **AWCI TECHNICAL BULLETIN**

### **Stucco Hydration June 1, 2019**

# **Hydrating (Water Curing) Stucco (Preventing Soft Stucco Walls)**

**Hydration:** The chemical reaction that occurs in Stucco when water is added and causes the *liquid* Stucco Paste to turn into a *solid*.

#### **Stage 1 (Mixing)**

- Blending stucco in a mixer starts the hydration process.
- Stucco should be mixed a minimum of 5 minutes (concentrate) or 3 minutes (premix) after all ingredients have been added (See mixing instructions on bag).
- Empty the entire mixer after each batch.
- All the particles in the mix are coated with water during mixing.
- Soft stucco can result if the sand and stucco are not thoroughly mixed.
- Over-mixing will entrain air and weaken the stucco.

#### **Stage 2 (Application)**

- Stucco goes into a dormant stage after it is mixed.
- The water coats the particles and cools the mix.
- The stucco is now in a fluid (inactive) state and can be applied.
- Stucco must be applied a minimum of 3/8 inches thick.
- Stucco that is less than 3/8 inches thick will dehydrate easy and may not get hard.

#### **Stage 3 (Hydration)**

- Stucco hydration begins once the water starts to dissolve the cement particles.
- The temperature of the stucco will increase.
- The dissolved cement particles start to form together.
- The stucco begins stiffen and to form into a solid.

#### **Stage 4 (Hydration/Curing)**

- Stucco must be kept moist for a minimum of 48 hours after application.
- Stucco walls should be watered (fogged) in the morning and evening when the walls are cool.
- Moist curing (watering) allows the hydration process to continue and the stucco to get hard.
- Weather conditions (wind, heat, low humidity) may require more hydration (moist curing).
- The hydration process stops if the stucco becomes dry and does not get re-hydrated.
- The stucco may not get hard.
- New (fresh) stucco that is dry can be re-hydrated.
- Adding water to the dry stucco can restart the hydration process.
- It is difficult to re-hydrate stucco after it is painted.

#### **Potential Causes of Soft Stucco**

1. Improper Mixing
2. Over sanding
3. Using out of spec sand or sand with excess silt (dirty sand)
4. Inadequate hydrating

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