



# Technical Bulletin

## Choosing The Right Materials For Stucco in Florida

TB-ST 05-07

What constitutes "Stucco?" The Florida Building Code 2004 defines "stucco" as a Portland cement-based plaster mixed and applied according to the ASTM C 926-06, "Standard Specification for Application of Portland Cement-Based Plaster." This standard contains specific requirements for the materials, methods and quality control used in applying stucco, including approved thicknesses for different application substrates.

***Currently, there are no standards governing the production or application of "one-coat stucco."***

### Materials

#### *Sand*

Aggregates for stucco must meet the requirements of ASTM C 897-05, "Standard Specification for Aggregates for Job-Mixed Portland Cement-Based Plasters." There are no appreciable amounts of natural sand within Florida that will meet all of the sieve requirements of that Standard. However, the Standard includes language, Section 6.1.2, which allows the use of local aggregates with a history of successful integration in stucco. The specifier need only to reference this Standard in the Project Specifications.

#### *Cement*

Stucco Cements manufactured within the state of Florida are specifically designed for use in our uniquely harsh environmental conditions and with locally available, natural aggregates. Stucco Cements hold the following performance advantages over other mixes approved in ASTM C 926:

*Better workability* - means increased production rates and lower costs;

*Increased plastic window* - provides for less re-tempering;

*Lower water/cement ratio* - reduces the tendency to shrink and/or crack;

*Better availability* - pre-packaged stucco cement provides for a more consistent jobsite mix; Reduced chance of injury due to exposure to the caustic, hydrated lime.

Though other mixes are approved by the Standard, Stucco Cements provide the specifier with the best combination for producing a quality, plastered project. Specify plaster types M, MS or P for base coats and FM, FMS or FP for finish coats (ASTM C 926, Tables 3 and 4 respectively).

### **Water**

Water must be cool and potable. The rule of thumb is, "If you won't drink it, don't make stucco with it!" In addition, hot water will cause to mortar to "flash" set. This destroys the workability and ultimate performance of all mortar types. The specifier need only call for "cool and potable water."

### **Lath**

ASTM C 1063-06, "Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-based Plaster" governs the use of metal plaster bases (lath). This Standard requires the use of ¼ inch self-furring lath of a minimum weight of 2.5 lbs/yd<sup>2</sup> for vertical surfaces. Note that there is no acceptance of 1.75 lb. lath. At present there is no standard for the use of other types of non-metallic plaster bases (plastic, fiberglass, etc...) and therefore, caution should be taken before specifying these products.

*Currently, there are no standards governing the production or application of non-metallic plaster bases.*

### **Fiber**

ASTM C 926 allows for the addition of ½ inch natural or synthetic fibers to enhance the crack resistance or pumpability of a plaster mix. These fibers must meet the requirements of ASTM C 1116, "Specification for Fiber-Reinforced Concrete and Shotcrete." Specify for use only in the scratch or brown coat plaster. Add according to the manufacturer's recommendations.

### **Admixtures**

**Bonding Agents** - Specify only **non-reemulsifying** bonding agents to be used according to the manufacturer's instructions.

**Waterproofing Agents** - All Florida manufacturers of masonry or stucco cements include a waterproofing admixture integrally ground into the mix during production. These admixtures are designed to increase the water retention rate of the plaster so as to enhance the hydration or curing process as well as to increase the water repellency of the hardened plaster. The jobsite addition of further waterproofing agents **is not recommended**.