



The Florida Building Code defines "stucco" as a Portland cement-based plaster; and, requires that it be mixed and applied according to the ASTM C 926, "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 the approved thicknesses for different application and substrates.



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Technical Bulletin

Choosing The Right Materials For Stucco in Florida

This technical bulletin defines the use of local materials and products which have proven to provide exceptional performance in "Stucco", one of Florida's most popular building materials. The specifier should coordinate the version with those identified in Chapter 35 and 43 of the FBC. Current and former Standards are available at www.ASTM.org

This Technical Bulletin does not address "one-coat stucco". Currently, there are no industry standards governing the production or application of "one-coat stucco."

Materials

Sand

Aggregates for stucco must meet the requirements of ASTM C 897, "Standard Specification for Aggregates for Job-Mixed Portland Cement-Based Plasters." There are few natural sands native to Florida that will meet all of the individual sieve requirements of that Standard. However, the Standard does include 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. These Stucco Cements meet the requirement of ASTM C 91 "Standard Specification

for Masonry Cement" or ASTM C 1328 "Standard Specification for Plastic (Stucco) Cement". Stucco Cements hold the following performance advantages over other mixes approved in ASTM C 926:

- Lower water/cement ratio** - reduces the tendency to shrink and/or crack;
- Better workability** - means increased production rates and lower costs;
- Increased plastic window** - provides for less retempering;
- Better uniformity** - pre-packaged stucco cement provides for a more consistent jobsite mix; Reduced chance of injury due to exposure to the caustic, hydrated lime; Better resistance to high sulfate environments (salt water, acid rain).

Though other mixes are approved by the Standard, mixes containing Stucco Cements provide the specifier with the best combination of materials for producing a high quality, plastered project. Portland Cement/ Lime mixes are **not** recommended and should be discouraged. Specify plaster types CM, MS or P for base coats and FCM, FMS or FP for finish coats (ASTM C 926, Tables 3 and 4 respectively). Types MS and P base-coat plasters and Types FMS and FP finish plasters will provide the best mixes for all conditions.

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 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

The FBC requires that lath must be installed (in frame construction) over a weather-resistive, vapor-permeable barrier with a performance equivalence of two layers of Grade D paper. This provides a bond break between the plaster and the weather-resistive barrier. Refer to Chapters 1404.2 and 703.6.3 of the Building and Residential Codes respectively for further definition.

ASTM C 1063, "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/yd² for vertical surfaces where metal plaster bases are required.** Note that there is **no** acceptance of 1.75 lb. lath in ASTM C 1063. The specifier should require only "G60 galvanized" metal lath meeting ASTM C 847 "Standard Specification for Metal Lath" and/ or accessories of vinyl or zinc alloys. Currently, there are no standards governing the production or application of non-metallic plaster bases (plastic, fiberglass, etc...) and therefore, caution should be taken before specifying these products.

Fiber

ASTM C 926 allows for the addition of natural or synthetic fibers from ½" - 2" in length 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." Add according to manufacturer's recommendations.

Bonding Agents

Specify only ***non-reemulsifying*** bonding agents meeting ASTM C 932, "Specification for Surface Applied Bonding Agents for Exterior Portland Cement-based Plastering". Bonding agents should be used according to the manufacturer's instructions.

Integral bonding agents should be used in accordance to the manufacturer's instructions.

Admixtures

All Florida manufacturers of masonry or stucco cements utilize admixtures to improve workability and plasticity; to regulate setting times; and to increase water repellency. These admixtures are integrally ground into the cement during production. No other admixtures should be used without approval from the specifier. 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 other water repellent agents ***is not recommended.***