

TAKING THE 'Stuck' OUT OF STUCCO

Producing a stucco finish can be time-consuming, but a new cement panel offers good looks and the economies of panelized construction

The wall contractor for this Atlanta area home said: "Traditional Portland cement stucco is subject to surface cracking and colors are not always uniform. The new cement panels provide the stability and durability we need."



An innovative cement panel exterior system that combines the strength and durability of concrete with the easy installation benefits of a 4-by-8 foot panel system, and uses conventional tools and construction skills, allows contractors to bid on exterior jobs using the same substrate and basic construction techniques for a wide range of exterior designs.

Initially introduced in 1987 by United States Gypsum Company as a substrate for thin-brick, ceramic tile, and epoxy matrix stone aggregate, "Durock" cement board system now is approved as a base for the firm's new Durock exterior finish. This new stucco-look exterior basecoat and finish product comes in coarse and fine textures, and is available in 20 colors. Depending on the troweling technique used, the finish can provide a lace-, Spanish-, sandstone- or float-textured stucco appearance.

"The Durock exterior finish system already has been used successfully on a number of buildings, with contractors reporting cost savings and improved performance," according to the manufacturer. "Applications have included residential as well as light commercial

buildings up to four stories high, and panelized construction.”

Elements of the new exterior finish system work in unison to assure a long-lasting exterior wall. Components include: 4-by-8-foot Durock exterior cement board (backed by a water barrier), exterior basecoat, exterior finish, exterior tape, corner-bead and trim, and screws. The cement boards are made from cement slurry, reinforced with polymer-coated woven glass-fiber mesh to provide a rigid, impact-resistant substrate for application of the basecoat and exterior finish.

In a typical installation, cement boards are attached with screws over a water barrier to either wood or non-load bearing steel framing. The self-tapping screws are coated to provide rust protection for exterior applications. Oversized wafer-shaped screw heads seat the screws without breaking the reinforcement to provide tight, long-lasting attachments to the framing member.

Once the boards are in place, joints are taped with self-sticking exterior tape. Then the joints are treated with ex-



Contractors can use the same techniques for a wide range of exterior designs.



terior basecoat (a ready-to-mix latex-fortified Portland cement mortar) which is applied over the tape and forced into the joints. Treated joints cure for a minimum of 24 hours. Next, the same basecoat is applied over the entire board area. After another 24-hour cure time, exterior finish is troweled on to provide desired texture. The exterior finish features a 100 percent acrylic polymer elastomeric coating to accommodate thermal expansion and contraction without cracking or delamination.

The system has been tested both by the manufacturer and an independent laboratory to measure how the system stands up to deformation under compressive and flexural loads, water permeance and cyclic freezing and thawing. According to U.S. Gypsum, its exterior finish system is fade- and weather-resistant and will withstand virtually all weather conditions, including high temperatures, humidity, water, wind and repeated freeze-thaw cycles.

Cost Savings in Chicago

Gary Edwards, vice president of American Acoustics and Plastering, subcontractor for a 7,500-sq. ft. home in Bannockburn, Ill., maintains his crews "applied the Durock system in about half the time it would have taken to complete a quality three-coat Portland cement plaster finish."

While cost savings were important, the finished appearance was just as significant, as the home is located in an exclusive, upscale subdivision outside Chicago. "We couldn't be happier with the appearance of the finish," said the general contractor afterwards. "It's a great look."

The contemporary exterior design features a juxtaposition of simple geometric shapes. Control joints divide the lightly textured look of the exterior finish system into triangular and rectangular patterns. The geometric motif is continued through the use of triangular window patterns. The steeply pitched roof is covered with terne coated stainless steel sheeting.

Edwards claimed several application advantages provided by the Durock system. "Taping and treating the joints went so quickly, it's hardly a factor," he maintained. "The application of the basecoat also went very quickly. We found it to be easier and smoother to trowel than other basecoats we've used.

A subcontractor for this Chicago-area home said: "We applied the cement panel system in about half the time needed for a quality three-coat Portland cement plaster finish. We couldn't be happier with the appearance."

And the cement boards provide a very smooth, sound surface for basecoat application—much better than foam/mesh boards. The workability of the finish is very consistent. It's a well-behaved material, easy to trowel, easy to work with."

The coarse version of the exterior finish was trowel-applied to the Bannockburn home to obtain a float-finish texture. After the finish was allowed to take up, the surface was floated to obtain the desired look.

Durability for Atlanta Builder

The ability to add trim and ornamentation permits innovative and aesthetic designs, according to an Atlanta contractor.

In Newnan, Georgia, the Durock exterior finish system was applied to a 4,000-sq. ft. home in one of the Atlanta area's top subdivisions, White Oak. The prestigious 3,600-acre White Oak





development is one of the largest planned communities in the Southeast. According to Philip Wahlbom of Golden Key Homes, the company is pleased with the results. Because stucco-look exteriors are popular around Atlanta, 80 percent of the homes Golden Key has constructed over the past two years have featured stucco exteriors.

“The stucco look gives an air of permanence to a home,” Wahlbom maintains. “And the texture lends itself exceptionally well to the traditional styling which is popular in our area. However, we’ve experienced problems with traditional Portland cement stucco. It is subject to surface cracking and colors are not always uniform. From the start,

we’ve been very much attuned to finding an alternative, but quite frankly we could never find one that met our standards. The coatings over synthetic foam systems didn’t provide the stability, durability or longevity we need. But Durock provides the wall stability and durability we need. The flexibility within the finish makes it crack-resistant. Often you can see hairline cracks develop very quickly in Portland cement stucco-sometimes within about two weeks after it’s applied. With this product, we haven’t seen any. Also, Durock provides a great appearance.”

According to Wahlbom, the system was easy to apply. “There’s really nothing exotic or unusual about the system components,” he says. “Our crews were familiar with all the basic materials and application procedures. Cement boards may be a little heavy, but offer increased strength and structural stability.”

Golden Key also used Durock to construct quoin treatments around the

home's corners. "It's easy and aesthetically pleasing," Wahlbom explains, "We originally planned to apply the quoins only around the front corners. But by using the new exterior finish system, the application went so quickly we decided to add quoins to the rear of the home as well. The total installed cost came to just about the same as it would have been using traditional Portland cement techniques."

To construct the quoins, cement boards simply were cut to size and attached over the exterior walls. "We found the cement board was easy to cut and shape, and the basecoat and finish are easy to apply. And there's absolutely no difference in appearance between these quoins and those we built using Portland cement."

Wahlbom maintains the design flexibility the system provides is a major advantage. "This new exterior finish system gives us tremendous flexibility in accent and trim ornamentation. It allows us to dress up our homes a little more, and that helps increase curb appeal-and ultimately sales." 