The hot topic of plaster mixes was wildly debated in a recent meeting of the AWCI’s Portland Cement Plaster Committee. Questions were raised and not resolved fully about standards for mixing the plaster for the brown and scratch coats (with the sand portion of the mix being the main focus of concern) and about different mixing techniques around the country. So it was decided to put the questions to the plastering folks in the field and find out what is actually going on.

There are standards for mixing portland cement plaster or stucco, including ASTM C926 (American Society for Testing of Materials). These guidelines give a range of several mixes (cement-masonry, two lime-masonry mixes with different strengths of...
By Steven Ferry

lime, and a plastic cement mix). Each area of the
country adopts the mix that works best for them,
with individual contractors going by personal
experience. If their plasterers in the field have a
particular bias, such as using lime over masonry to
make the mix flow better, contractors generally
defer to them. Once a particular mix is found to
work, it is adhered to, come rain or shine. Any
mixes found not to work tend to be shunned from
then on, even though they may have been misap-
plied by over-watering or over-sanding.

There’s Sand and
Then There’s Sand

In practice, there is much variation between and
within areas on portland mixes, as well as the
results produced. Why is this? Mainly because
plasters have to operate with several variables, a key
one being, as the members of AWCI’s Portland
Cement Plaster Committee pointed out, the ques-
tion of sand.

Some areas of the country, for instance, have access
locally to sharp sand that latches into the molecu-
lar structure of the cement much more tightly than
rounded, slick sand. Other areas have clean sand
that isn’t loamy-full of mud, dirt and debris.
Some areas are blessed with both clean and sharp
sand. And many have neither, as well as other
problems. “We experience problems with grading,
mineral content and impurities,” notes a Floridi-
an. “Impurities sometimes bleed through after a
while, such as iron oxidizing below the stucco and
leaving rust spots on the surface.” Paradoxically,
these unfortunates are also the same parts of the
country, such as the Sunbelt, that probably do the
most and the best stucco. All of which adds to the
debate about mixing port-
land cement. But

When asked where such good sand comes from,
the diversity of answers matched the different ideas
about what good sand is (see Chart 2, on page 46).
Most contractors consider sharp, angular sand,
which is generally found in quarries and pits, the
best. They regard river silt as too fine and round-
ed to bite.

A Colorado contractor mentioned needing the
proper ratio of fines to heavies, and avoiding delta
areas where the finer silts have settled into the grav-
el. In Minnesota, on the other hand, a contractor
looks for fine sand from a quarry so that “when we
put the plaster on the wall and screed it off big
aggregates don’t rip the cement.”

As an Illinois contractor points out, “bank and
river sand have been rolled through the river and
their edges rounded. We have to be very specific and tell the suppliers several times that we want angular sand.”

Just to confuse the issue, a Pennsylvanian finds his “clean, sharp sand in the rivers, per the specs, but it mustn’t be too fine.” A Kentuckian likes his sand dredged out of the Ohio River. It is perhaps significant that those considering river sand the best are all from the Eastern United States.

“Good sharp sand comes from dry riverbeds” according to a contractor in Arizona, “and they have to wash and sieve it because it contains a lot of silt and impurities.”

Then there are those contractors who don’t care if the sand is angular or round, from river or quarry—they just want it clean. A Tennessee contractor likes river sand because it is washed and natural. “When you use manufactured sand, you’re not sure what it’s made of. Some ingredients, such as silica or limestone, can have adverse reactions for the plaster.” Finally, there are a couple of contractors, who, as one from North Carolina stated, buy bagged sand, because “the quarried sand in my area isn’t washed or graded.”

**Putting It Together**

One question that AWCI’s Portland Cement Plaster Committee discussed was how contractors managed their sand, this perhaps being a factor in the mix. The majority echoed in deed, if not in sentiment, a Pennsylvanian who felt sand was a sufficiently inexpensive commodity not to be too concerned with protecting it from the elements (see Chart 3, page 49). While a third cover their sand, never working with wet sand, none go so far as a New Yorker who sticks a culvert pipe into his sand and lights a torch in the pipe to prevent the sand from freezing.

The majority who leave the sand to the elements, merely make adjustments if it becomes wet. Which brings us to the inescapable fact that the plasterer’s culture is an eyeball one.

Following the AWCI’s Portland Cement Plaster Committee’s train of thought, it seemed logical to ask how hoddlies or plasterers adjust their mix to deal with sand that has been left outside and drenched in rain. Once again, the old eyeball and experience, with an eye on the end product, was the general approach (see Chart 4, page 50). “The water isn’t measured exactly the same at any time,” says an Arkansan. “The experienced laborer knows by the consistency of the mix how much to hold back on the water. When the mix is perfect, it spreads like soft butter, grabbing onto and lying on the wall. It’s great when it’s all working right.” For two contractors,
Architects speak a different language from the ASTM, who in turn don’t understand “field speak” too well. Some measurements are done by volume. Architects talk of parts: one part portland cement to one part masonry. Hoddies interpret this as one bag of portland and one bag of masonry. But a bag of Portland weighs 94 pounds and a bag of masonry weighs 80 pounds. So how many pounds of sand does that call for in the brown coat and the scratch coat? And however many pounds it is, how does one figure it out when the wet sand from rain is not an issue at all.

One from Louisiana said that the sand often arrives wet. Then there’s the Oregonian who moistens the sand pile with a hose when needed so he can measure his sand damp.

Whatever the exact mix, a laborer generally stands at a mixer with a sand pile and the bagged materials beside him, and access to water. He puts his water in, then the cement, then the plasticizer, and then he starts throwing the sand into it. That’s the story wherever you go. But the ratios and measurements vary. In the final analysis, it’s the trusted and proven eyeballing of the mix to see if it either falls off or won’t leave the hock that determines whether the mix is right or not.

Even if the hoddies knew what the standards were (which they usually don’t), they do what works, and that varies according to the weather, the sand, and even the portland cement, as we’ll discuss later.

The plasterer on the job usually dictates the sand ratio to the laborer, with scratch material generally having more portland than the brown coat. Other plasterers say the scratch and brown should be the same mix, with the brown applied as soon as is practically possible after the scratch.
hoddy is shoveling the sand into the mix on most job sites around the country? The ASTM, meanwhile, states that one cubic foot of sand is something on the order of six Number 4, square-edged shovels full of damp, loose sand. On the basis that few hoddis know how to do calculus or other advanced math on the fly, how do they work out the relationship between a cubic foot of wet sand and a pound of dry sand? A small minority of contractors, in areas where the stucco markets are large enough to warrant it, have invested in regulators that put the appropriate amount of sand into the mixer. The lack of uniformity in measurement that exists for most hoddis, seems to be the plasterer’s version of the question, “How long is a piece of string?”

The question of water is similar. Some contractors use one or five gallon buckets, some use a line inside the mixer and, once again, a very small minority have invested in a regulator. But nobody spells out the amount of water to be included in a mix, instead calling for enough water to make the mix “flowable.” So, it is no great surprise that the guidelines and equations go by the board and the people in the field eyeball the mix to decide, based on their experience and the conditions under which they are working, when the mix is “just right” (see Chart 5, on page 51).

One Kentucky contractor sums up the measuring system used generally when he says, “Just like grandma does when she bakes a cake, you know. Little bit of this, little bit of that, but by the shovelful.” Another from Illinois was a bit
more technical in his description, saying, “Usually it’s bags, buckets and shovels full. Most guys take a #2 shovel, fill it to the brim and throw ‘X’ shovels of sand per bag and then so many buckets of water until they achieve the consistency they want.”

“Per the specs,” points out a Pennsylvanian, “it is supposed to be two and three to one, but for the scratch coat, we usually put 14 shovels of sand and for the double-up coat, maybe 16 shovels of sand for 100 pounds of neat plaster. You can’t very well explain to the hod carrier how to weigh it, so we just count the shovels for the sand and use five-gallon buckets for the water.”

“It’s not an exact thing,” explains an Arkansas contractor. “But it doesn’t vary that much.”

“There is no set amount of water or sand,” says a Georgian. “We look for a certain consistency, with every plasterer being a little different.”

“Shovel measurements probably aren’t the way to do it,” confesses a Floridian, “but when you’ve been in the field long enough and have enough experience, it works. Even the stucco manufacturers themselves say to shovel sand. It’s good enough for what we’re doing, even if it isn’t completely accurate. When we’re pumping, we make exact measurements on the sand and water and all the materials that go into it, so that the pump doesn’t clog.”

As a contractor from Colorado pointed out, “If the hoddy has an aptitude and is fairly smart, it doesn’t take very long to pick it up.” “A good hod carrier can be very consistent in his shovel,” an Arizonan agrees.

This casual confidence in the shovelful technique, however, is not mirrored by everyone. “So many shovels of sand versus so many bags of cement. It’s like a baker’s mix and some laborers are better at it than others,” comments a New Yorker. “Nowadays we do bags, not shovel loads,” mentions a contractor from North Carolina. “You have to be pretty good with how much each shovel holds.”

While measurements may vary the technique for mixing is constant, with almost all contractors using electrical or gas powered mixers (see Chart 6, on page 52).

A handful mix by hand for smaller jobs, but one old timer, who has done it more times than he’d like to remember, has some words for those tenderfoots who think that mixing large jobs by hand is hard work.

“It’s easy once you get the hang of it. You can maybe only mix two sacks at a time in a machine, but if you mix in a box, you can handle six sacks at a time. It doesn’t require as much mus-
cle as one might think, but it’s hard to find anybody who knows how to do it anymore. When I see a fellow trying to push it and play with it, I know he doesn’t know how to mix, because the idea is just to chop a little bit at a time into the water and then keep pulling it toward you and turning it over.

If quality of sand and exact ratios are major variables, what are the other wildcards in portland cement plaster mixes that have made mixing it into an art rather than a science? Part of it is the change in portland cement itself, and the lack of consistency between manufacturers. But a much more telling variable is one we’ve touched on earlier-environmental conditions, which of course vary wildly from place to place, season to season, day to day and even hour to hour. Let’s look first at the issue of portland cement itself.

The Changing Color of Cement

In a nutshell, portland cement ain’t what it used to be. Portland cement was originally produced by cooking limestone so as to drive off its water content. The man who developed it called it Portland cement because the resulting gray color reminded him of the limestone geology of the Portland peninsula on the Southern coast of England.

“Many of the contractors in our area,” notes Bill Kendrick, executive director of the St. Louis Plaster Bureau in Missouri, “feel they lack consistency from the multiple manufacturers of portland cement and plasticizers. They know what they’re getting when they open a bag of Type S lime. They don’t know what they’re getting with a bag of portland cement because it is manufactured in accordance with ASTM C150. This standard gives manufacturers broad latitude on the material itself and the amount of additives permitted. This wasn’t the case in the old days, but things changed after the 1973 Arab oil embargo and the subsequent Clean Air Act, both of which made the manufacturing of portland cement and related products a more difficult and expensive proposition.

“It was very easy for cement manufacturers to exceed the minimum requirements of ASTM C150 many times over in the early days. But as it became more expensive to manufacture the cement and the masonry, they began adjusting their mixes to bring the expenses under control, adding fly ash from the burning of trash, clay and pozzolans. They are putting in a lot of filler, which we believe has a tendency to reduce the good properties the product has. Many feel the cement isn’t 50 percent as good as it used to be. Others would say 75 to 80 percent. But I think they all agree that the cement is different, that it acts differently. In addition, latex-based acrylics are added into the mix, making for an interesting recipe that doesn’t work like the old portland cement of 30 years ago.

“In defense of the portland cement industry, they had to keep their product affordable. They still make a product that meets all the ASTM requirements. They could probably make a case that they still exceed those requirements. But the fact is that
there has been a change—and not for the better. It is possible, also, that the ASTM-recommended procedures do not fully align with the actual material that is being produced today.

“We also have to remember that plaster applications of portland cement comprise a very small part of the portland cement business—most of their research and development goes into concrete and the structural end of the business, not the finishing end. The new portland cement make-up may be adding to the hydration problem, but the portland cement industry probably has tests that would refute any claims along this line.”

**It’s Where You Put It That Counts**

Which brings us to possibly the major variable in mixing and applying portland cement on exterior walls—nature. Plastering is an art, not a science, because every job is different and, more than anything else, environmental conditions differ. Plasterers use less water when it’s cool and damp, because the water is maintained in the mix longer. In hot, dry conditions on a windy day, the water can be sucked out of that wall, to the point where cracks appear within 10 minutes of applying the material to the wall.

“In the Midwest,” Kendrick explains, “wild temperature swings occur not just throughout the year but in any one day. One can be working on a wall in the morning in the shade, where it’s 45 degrees—very good conditions for stucco. By the time one starts a panel in the afternoon, it could be 75 degrees and the relative humidity could be lower or higher depending on the given time of the year. The conditions plasterers are working under in an eight-hour day can change so dramatically that the performance of the product will change dramatically.” (See charts 7 and 8, on this page.)

**But Is It Pleasantly Plastered?**

While most portland cement performs extremely well under most conditions, trouble invariably occurs when it comes to aesthetics. The color may be off a shade from panel to panel. The appearance of cold joints—where fresh and set plaster meet—will always telegraph through the finish coat. When the sun hits a wall at the proper angle, the plaster looks wrinkled and bumpy, even though one can’t slide a dollar bill under a straight-edge held over it. Plaster is a hand-placed material, and it’s not perfect. But in the society in which we live, people think they are paying for perfection.

“All a plasterer can do when he has the opportunity,” Hendrick says, “is schedule his work in the morning and throughout the day, trying to mimic the best conditions under which to plaster. Sometimes that’s just not possible—if you’re working on an elevation, you’re going to experience whatever environmental conditions are going to occur on that given day at that elevation. Sometimes you have the opportunity to work around multiple elevations. And in that case, it’s incumbent upon the foreman to place the plasterers in the coolest conditions and avoid rapid moisture loss from the membranes.

“Theoretically, the plasterer could keep adjusting his mix through the day, but there is the small question of workability. Because it’s pretty hard work, plasterers are always looking for the best workable material they can get. And so, many times the environmental conditions are not taken into consideration. When they have a mix that is working well for them, they won’t adjust that mix for the environment or anything else.

“What they called my mix when I first started as a plasterer’s laborer while working my way through college,” continues Kendrick, “isn’t fit for print, because I put too much water in it. I did what I was told and had no clue—like most laborers today How many know what OSSI’s, ASTM’s or the St. Louis Plaster Bureau’s recommendations are? The plasterer calls the shots on the jobsite based on his ‘recipe.’ The chef is decorating the cake, but he’s letting someone else make the icing. Plasterers who have been in the business 25 years don’t want to hear that their cement is cracked. ‘You’re not going to tell me how
to do cement, I know how to do cement the best way—"the way I do it," is the tune you’ll normally hear.”

**Taking A Crack at the Cracks**

If the toughest egg to crack in exterior plastering is hydration from sun and wind, then what are the contractors doing about it (see Chart 9, on this page)? Some contractors reckon there isn’t much one can do about it. “There are two kinds of stucco,” states an Oregonian. “Stucco that is cracked, and stucco that will crack. That’s just the nature of the beast. I’ve looked at stucco from Vancouver, B.C., to San Diego, and in every place, I find stucco with cracks.”

Most contractors are taking a more proactive approach to the problem, the majority favoring fogging as the best handling. “We mist the walls in the summer with a water hose, and we use a misting nozzle in the morning and at the end of the day to keep them moist for a few days,” says a Floridian.

“We wet the wall before we brown it and mist for at least two days before finishing,” offers a Tennessee contractor. “You can’t say the face is dry and then put on the next coat, because it isn’t dry underneath. You also can’t patch a crack without it showing. We have learned over the years to take a dry grout, like an epoxy grout, mix it up in a fairly tight batch and fill the crack. Then, depending on the situation, we’ll use an elastomeric paint that’s forgiving, which moves and breathes a little better.”

Then there are those who know they should mist, but who don’t have the time, so they just deal with the cracks when they appear, as this contractor from Arkansas explained: “Ideally, we would like to fog every so often. But my guys quit in the afternoon when there’s still a lot of heat, and they can’t fog. So we see a lot of cracks that we take care of with either the brown coat or the finish.”

In some areas, fogging isn’t an option, but using acrylic finishes seems to remedy the cracking problem. “We work in high altitude ski areas with brutal environments,” states a contractor from Colorado. “Relative humidity here is 8 percent with annual rainfall of 9 inches, and lots of wind. It’s not practical for us to have a guy standing on a job wetting it down because in our area, the next job tends to be a hundred miles away.” He deals with hydration issues by “letting the brown coat sit a week or so and covering it up with the finish, using acrylic modifiers that provide enough plasticity to overcome many of the cracks. They like heavy textures here, so the cracking isn’t so noticeable. Polymers have a limited capacity to make up for cracking, but most of my clients have been really happy with the polymer-modified cement, the Portland-stucco systems. There’s a return to the old look—a niche that the old portland systems, with the modifiers in them, tends to fill.”
“What we do on conventional stucco jobs,” states an Iowan, “is use acrylics as a finish coat instead of white portland finish mix. It’s not an approved method but has worked fantastically well for 15 years. Most of the time the architects are open to the idea, even if it is a bit spendier, but I don’t have the cracking problems then.

Using acrylic admixtures is not a completely cut and dried issue, however. In combating hydration, one might be tempted to add more water at the front end and the result would probably be over-watering. The best way to keep water in the mix is after the fact, which usually is not an option because of the time constraints. That’s where the acrylics come to the “rescue,” because they work to provide a film that inhibits the loss of the water. There is a limit to how much they can compensate, however. If the weather is very hot and windy, even the acrylic admix has little chance of holding water. Also, depending on the manufacturer, using acrylic in the mix rules out wet-curing a wall. Doing so may bring the acrylic to the surface and knock it off the wall, thereby losing the benefits acrylic provides. It goes back to the workability issue that the plasterer is looking for. One plasterer stated that the best plaster weather is 55 degrees Fahrenheit in a mist or light rain—but if we waited for those conditions, not much plastering would be done.

For several contractors, workmanship, not weather, is the main culprit contributing to cracks. “It’s usually because the materials are brittle,” claims an Alabama contractor.

“We don’t like to admit it,” agrees a Georgian, “but sometimes they do not get their mix and ratio exactly right.”

“When you use the right sand and get the mixture right, you don’t have cracking problems,” says a Pennsylvanian. “We like to use one gallon of Acryl-60 for each four gallons of water and 16 shovels of sand to a bag of portland cement, and that works very well. The only problem is that the acrylic liquid is pretty expensive. Portland cement is...
more difficult to handle than the gypsum plaster. If you use the sand and lime and portland cement, the trick is to make sure you use enough sand with it. If you don't use enough sand, then you will have problems with shrinking and cracking. According to the specs, you're supposed to put a light spray on it every day for a wee, to keep it from drying out before it has cured. It's the right way to do it, but not a whole lot of people do it that way because it is time-consuming.”

Another option that is also rarely done, because of expense and time, is to place plastic over the wall to allow it to cure slowly.

In the old days, they used to make their scratch ‘coats very rich in portland. Not living in a compressed time environment, they had the opportunity to let that material shrink and crack. Then they would apply the brown coat with less portland and let that lie for up to a week, allowing it to crack. Then the finish coat would fill in any of the cracks.

That's the general approach a Californian takes today. “Cracking is something you can almost guarantee with portland cement plaster,” acknowledges a Californian, “but over-sanding creates a weak cement that cracks even more. We handle this by allowing the scratch and brown coats to cure for seven days each. We then patch or repair if needed, but normally the finish coat hides any cracks.”

We don’t have that luxury of time now.

A number of years ago, OSSI said “apply the brown coat to the scratch when the scratch is firm enough to accept the brown.” There is apparently some evidence that scratch and brown forming a single membrane have a tendency to crack less and cure better into a more durable end product than the three-step method of scratch, brown and finish.

An Illinois contractor uses this kind of approach to good effect: “We usually don't have any cracking problems because we brown and finish on the same day, instead of scratching one day, browning the next and finishing the next. If you finish in the afternoon, you produce a more homogeneous coat because the moisture isn’t all the way out
of the scratch or the brown coats. I think it tends to hold it together better, and there’s less cracking from what we’ve found.”

You get as many opinions about Portland cement as there are contractors talking about it. “The older I get,” says Kendrick, “the more I would love to return to the days where we would put up a scratch coat and fog the wall for three days to keep in as much moisture as possible. Then come back and brown it, and fog that wall for three more days before we put the finish on. This would probably produce the best product, but it’s rare to be given the luxury. The Army Corps of Engineers in our area still has an old specification that includes curing, and they will allow a contractor to build that into his price. But you rarely see this kind of spec today”

**Framing Plasterers**

There is one other issue that has resulted in plaster being problematic to apply, no matter what is mixed and how. And that is the move in America from a masonry- to a frame-building community. Frame construction has movement built into it, yet Portland cement doesn’t move very well. That’s the bad news; the good news is that the exterior insulation and finish system has stepped in to fill the gap, so to speak, embraced by the architectural and buying communities. The acrylic-modified Portland cement and the 100 percent acrylic basecoat material provide more flexibility for the systems that can manage the movements of wooden frame houses. The resulting marriage between frame building and the very flexible EIFS has been beneficial to one and all.

Portland cement on frame construction, especially in areas with temperature variations and thermal shock, inevitably results in a lot of cracking. Metal and wooden studs can accommodate a calculated amount of wind load or “deflection.” The amount a particular stud can deflect, without twisting on its axis, is based on its size, length, weight, etc. Stucco can accommodate the movement of a stud with an L/360 deflection. Some structural studs, metal or wood, can easily accommodate much greater loads. To use Portland cement for plastering frame buildings therefore requires heavier gauge or wider studs to accommodate these deflection criteria.
A contractor from Arizona highlights the quality of the wood as an additional problem. “The greatest degree of cracking is directly related to the framing with wood constructions. Wood is of terrible quality these days because they can’t produce it fast enough. Two days after it’s unbunked and erected, it twists and warps. That makes it real tough on the plasterers. I’m president of our association, and I hear a lot of complaints about it.”

While agreeing that green wood causes cracks due to shrinkage in the framing itself, two contractors from Colorado and Louisiana highlighted other issues with wood-framed houses: “If they don’t leave a gap between the sheet that’s recommended by the plywood association, then there’s a potential for swelling. If the stucco is done prior to the loading of a roof, there’s a weight/cracking issue. And whether the drywall inside is done before or after the stucco makes a difference, too.” A Tennessee contractor pointed out that cracks also result when architects do not design in enough expansion joints, because they want a monolithic appearance.

**EIFS to the Rescue**

As already covered, however, EIFS makes up for some of these issues. It has an L over 240 deflection criteria and so can work with lighter, longer pieces of metal or wood. The architectural community won’t buy going from an L over 360 stucco to an L over 600 in order to properly spec plaster. It’s too expensive to beef up all the footings on a building to accommodate the change.

Brick and block have an L over 900 deflection, meaning they move very little and are terrific applications for portland cement. But the economy is driven by frame construction; this means that EIF systems have basically saved the industry. “In this part of the country,” Kendrick states, “90 percent of the work we do today is EIFS.”

“Being pre-made, EIFS doesn’t have as many mixing issues,” Kendrick says. “The original systems called for splitting a 60-pound bucket and adding 30 pounds of portland cement to each bucket. Because it’s easy to make three buckets of acrylic with 45 pounds of cement in each bucket and 15 pounds of acrylic, EIFS manufacturers now have bagged products that come with the appropriate amount of portland cement and acrylic in the same bag. One just tears open the bag, dumps it in a bucket, adds the appropriate amount of water, whips it up, and there’s the base coat. We also have 100 percent base coats that one whips up with a drill and applies right on the wall. Both are in use today, but the portland cement-modified mixture is probably the one most in use.”

**Plastering After EIFS**

Several of the contractors who worked with plaster a year ago no longer do, and others no longer work conventional plaster, preferring EIFS. “Around here, plaster is kind of on the way out,” says a North Carolinian. “We steer away from conventional plaster as much as possible because it is too labor-intensive,” adds a contractor from Ohio. “I have one-in-20 skilled tradesmen, and plasterers are not being trained any more. We use the synthetic premixed stuff if we use any plaster at all, because the stuff starts cracking severely after three years from our severe freeze-thaw cycles. It’s been 10 years since we did any plasterwork because there’s no demand for the product.”

Even though portland cement comprises a small part of the plastering industry applications today (5 percent in the St. Louis Plaster Bureau’s area), it is worth considering the issue of portland cement mixes and applications for two reasons: EIFS has been experiencing problems on the Eastern seaboard and in other places around the country; and stucco has clung tenaciously to market share in the Southwest.

There may well be life after EIFS for stucco in light of these problems. Some people may decide that they like the
EIFS look, but are not too sure about its performance, and so may become stucco customers. As one contractor notes, “We use the EIFS finish coat over stucco to provide all the color and textures, while having a portland cement base underneath. It may still crack somewhat, but it also may prevent water being trapped behind the EIF system, unable to evaporate through temperature fluctuations because of EIFS’ great insulation properties.”

**The Slow Slide from Quality**

While most plasterers know how to create a good, workable mix, however much variation there is from one end of the country to another about how to create the best mix, this short survey has brought to light the question of quality of work as a factor. “The EIFS problems serve as a wake-up call to the entire building industry,” concludes Kendrick, “for all products across the board, not just EIFS. In our mad dash to build it bigger, faster, cheaper, maybe we didn’t put better in there-quality somehow slipped between the cracks.

“In our litigious society, the tendency is to affix blame and claim ‘Your product was flawed.’ Well maybe it wasn’t. Maybe we didn’t understand how it was supposed to work, and the contractor who put it up maybe didn’t understand that nobody was going to put sealants or caulk around anything. But that doesn’t make it a bad product!

“Good building practices have been thrown out of the window in many cases in the rush to deliver. Today, the building material leaves the same yard on the same truck every day and is delivered to a $250,000 house site and a $90,000 house. The $250,000 house is not built any better than the $90,000 house; it’s just on a bigger footprint. Trades and crafts people used to be looked upon as artisans and craftsmen, and held in some regard. Today, they are production employees. Get it up, get it done and don’t look back. That’s the curse under which we live today.

“A lot of time ‘better’ doesn’t fit into the do-it-faster-and-cheaper equation. With regard to portland cement, whether the Arab oil embargo or the Clean Air Act conspired to give us the use of acrylic admixes, or whether the need for speed was so great that they would have come along anyway doesn’t really matter. The fact is that we no longer take three days of fog curing before applying the next coat. We look to other solutions that are not as good, even though they fit the ‘faster’ part of the equation. Acrylic is not a cure-all. It has a limited potential to overcome hydration issues in hot, dry conditions that are sucking the moisture right out of the wall.”

Which about leaves us with the fact that until some uniformity is arrived at in measuring mixes, the eyeball is king. And until our culture reverts to considering quality and viability as of equal importance to quantity, we will continue to have mixes that could be better in quality and aren’t; and procedures that could be more effective, but are ignored in favor of what works that the customer will buy. Nothing wrong with that—it’s what everyone seems to be doing to everyone else with everything we buy these days. And that’s the point.

**About the Author**

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