

Classic Walls

...make their revival, as natural materials become more builder-friendly



If attendance at pro training sessions and do-it-yourself workshops is any indicator, plaster is well on its way to a serious revival. It's never truly gone away, of course. Traditional gypsum and cement plasters have been a popular decorative choice for many years. But elegant versions of the classic clay plasters and lime plasters from an earlier age are drawing a wide assortment of new fans.

In earlier generations, these materials were in common use for both residential and commercial use. Artisans would cook up plasters using a recipe of locally available minerals and colorants, with little standardization from one craftsman to the next. When manufacturers of gypsum and concrete plasters came along with standardized products that behaved consistently from one batch to the next, those materials opened up the industry to a greater number of tradesmen. But many traditionalists continue to prefer the look and performance of natural clay and lime plasters.

These plasters began drawing fresh attention when some architects began experimenting with alternative building practices such as straw bale, cob, and rammed earth construction. It seemed that 'natural' plasters might be the preferred option for a structure that was built with walls that could flex and breathe. In addition, the clay or lime based materials were the product of a much less energy-intensive manufacturing process. So when standardized plasters began appearing in the U.S. market that offered the same batch consistency as other modern building materials, designers began looking for new ways to use them.



One of the strongest markets for lime plaster is in restoration. "The reason for that," says Michel Couvreur of TransMineral USA, "is that we have a real material."

Couvreux was recently involved in restoring the exterior of the San Carlos Cathedral in Monterey – the oldest stone building in California – under the supervision of the Getty Foundation. “When they became involved with the Cathedral, they looked at it and recognized there was no choice; they had to use lime plaster,” Couvreux related.

And not just for appearance sake. The ‘technology’ behind lime plaster goes back thousands of years, and can still be seen in the temples of ancient Greece and the cathedrals of medieval Europe. Once a hydraulic lime surface cures back to limestone, it's finished making chemical changes. It won't shrink and it's not affected by abrasive chemicals such as sea salt. As a result, Couvreux favors his company's LimeStone and LimePlaster as protective cladding for structural concrete.

The strength of the finished surface is a little more complicated. “A lot of people, even architects, believe that the ‘stronger’ the material the better. That's a big, big mistake,” Couvreux contends. “Why should you use something that is 2,000 psi when 200 psi will give you greater elasticity. You cannot have strength and elasticity at the same time.” A lack of elasticity will makes a rigid material such as concrete stucco more likely to crack than a limestone surface.

A lime plaster used indoors offers another set of advantages. Mold has become a major health concern, and it's often caused by trapped vapor adhering to interior surfaces. Rather than trapping the humidity, lime plaster promotes a high level of vapor exchange. While that's important in conventional construction, it can be vital when working with alternative materials such as straw bale.

Lime plaster also adds an elegant dimension to interior walls. “A lot of people today are talking about how much they love faux finishes from Tuscany,” said Couvreux. “So we ask them, ‘Why would you choose a faux finish when you can have the real thing with lime plaster?’”

Hydraulic lime earns LEED credits as a low-emitting material with a long cradle-to-cradle life cycle.