When residents of St. Louis voted in favor of bond issues to finance much needed infrastructure repairs in city schools in the mid-1980s, they unwittingly spurred a resurgence in the use of conventional lath and plaster.

For the most part, the revival has been limited to city public school projects, but those ventures totaled over 90 separate contracts. Most of the school buildings were constructed prior to the turn of the century with brick, block or clay-tile to lath (wood, gypsum and metal). And they were badly in need of renovation. Some of the buildings were over 100 years old and had never undergone extensive repairs, except for patching and painting.

Given the circumstances and budget considerations, the aim was to save and revitalize as much of the old plaster as possible. This would be accomplished by giving the plaster a new finish, but in cases where the lime or gypsum mortar was too badly damaged, it was to be replaced with metal lath and plaster. Most new partition walls were also to be lath and plaster.

**Value Assessment**

In explaining their selection of conventional lath and plaster, representatives of McCarthy/Fleming, the construction management team undertaking the task, said the performance of the old plaster assemblies in the school buildings helped them make up their minds. The unbelievably long life-cycle of the original plaster convinced them that the value of the extra front-end expense was well worth the investment. Low maintenance costs and the promise of decades of performance in high-traffic, high-abuse areas would more than offset the higher initial investment.

Bidding the projects created special problems because plans and specs for the schools were generated by a variety of architectural firms. Those firms, hired on a contract basis, had no original plans to go by and therefore focused mainly on new construction, like plumbing, electrical and HVAC. They made only vague references to existing walls and ceilings in need of patching, re-finishing or replacement.

Because so many architectural firms were involved, material selection was haphazard and seemingly random. Contractors had to depend on walk-throughs and quick inspections of individual school buildings to determine what materials they would use and what numbers they would submit on bid day.

**A Good Idea?**

What at the beginning looked like a boon for the plastering industry was quickly turning into something of a nightmare. Architects were specifying portland cement for interior partitions where gypsum plaster was clearly the preferred product. Perlite-aggregated plaster was called for in potentially high-abuse areas, and even lime mortar was specified in some instances.

It was obvious that some sort of standardization was called for. McCarthy/Fleming became the vehicle by which that standardization was effected. That accomplished, another major problem developed: fire ratings.

**Ah, for the Good Old Days**

All corridor walls and interior partitions had to meet fire protection criteria developed well after most of the schools were constructed. No problem, right? Wrong!

The continuing decline in demand for metal lath and plaster forced studs manufacturers to cease production of the wire, or truss-type studs, used for those partitions. Channel-stud partitions could still be built but they were cost prohibitive. And no proprietary fire tests had ever been done on the omnipresent “C” stud. In effect, that meant no UL fire listings could be quoted for the specified assemblies. McCarthy/Fleming and the St. Louis Plaster Bureau were faced with the elimination of the lath and plaster in dozens of school

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Some of the buildings were over 100 years old and had never undergone extensive repairs, except for patching and paintings.

And So It Goes

Today, the renovation and rehabilitation of St. Louis public schools continue, as does the use of metal lath and plaster in those schools. United States Gypsum Co. has, at great expense, now produced a UL fire test on “C” studs, metal lath and three-coat plaster and a specification to go with it.

The lessons learned from the St. Louis public schools projects and others have contributed to our ever-expanding body of knowledge of lath and plaster.

About the Author

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