

## Portland Cement Plaster/Stucco Patching & Repair Methods

Portland cement plaster is classified as a “brittle” assembly by the Building Codes and construction industry standards, as such; minor cracking is not uncommon and is not an automatic indication of an improper stucco application. There are methods to “repair” or “address” cracking if the cracks are unacceptable. Possible repair methods are suggested but it is important to understand these recommendations are strictly guidelines. Sample repair areas are suggested to determine agreeable acceptance among parties.

### Cracks:

The following methods are recommendations that have been successful on other projects for the repair of plaster (stucco) cracks:

**Hairline Cracks** - Cracks measuring less than 1/32” (.030”) in width are inherent in all cementitious materials including plaster/stucco and do not require treatment. Patching small hairline cracks (.030” and smaller) is not recommended. Small cracks will not accept aggregate material, and the resulting patch will detract from the natural beauty of the stucco and will serve no useful purpose. The subsequent “scar” will appear more obtrusive than the hairline crack. If the appearance of the crack is not acceptable, painting the surface is recommended. First, the paint should be forced into the cracks with a brush and then followed with a roller applied coat of acrylic paint. The entire panel should be painted to achieve color uniformity. Please be aware the thickness of the paint will affect the stucco texture and may not match perfectly existing integral colored stucco.

**Cracks larger than 1/32 (.030”)** - Patching materials consisting of a “slurry coat” of stucco finish and a bonding agent should be used. To prevent the appearance of a scar and depending on what texture is specified, the entire panel should be refinished (“rescrubbed”).

If plaster crack appears to occur beyond finish (cracks through plaster membrane), the crack should be “tooled out” and repaired with a “slurry” coat consisting of portland cement, plasticizing agent, sand consisting of a #60 grit aggregate and a bonding agent all mixed with water. The slurry mix with the bonding agent will allow patch materials to chemically bond with existing plaster. Entire panel should be refinished to eliminate the appearance of a patch.

*Or*

Acrylic “Lamina”: This alternative method of crack repair also adds crack resistance to the plaster assembly. Properly remove any potential “bond breaking” elements off the existing finish and apply a polymer-modified cement “skim” coat over the entire surface and embedded into the wet skim coat a 4-5 oz psy. fiberglass mesh. A finish compatible with the polymer-modified base coat is applied as the final decoration.

Prior to beginning repairs, it is important to understand the causes for the cracking in order to successfully repair the cracks so that the cracking will not reappear. Crack repair methods listed or otherwise, should not be considered a guaranty cracking will not return or prevent future cracking.

**Shrinkage Cracks** - May appear as web-like cracks in the surface coating. Often called craze or checking cracks, these cracks usually appear during the curing process and are an aesthetic concern rather than a functional problem. A thick coat of "breathable" acrylic paint may "hide" the cracks or the wall panel may require the plastered wall to be refinished.

### Scaffold Ties:

Scaffolding is often tied to the building with wires or rods. Regardless of the tie system, the attachments must be removed after plastering is complete; this leaves holes in the plaster membrane that must be repaired for both moisture resistance and aesthetics. Patching the hole is best when done in conjunction with tearing down the scaffolding. The following is one recommended procedure.

- Cut the wires as close to the connection source as possible and treat the ends for corrosion resistance
- Back out the all thread rods (if used)
- Fill the residual hole to below the finish line of plaster with a daub of polyurethane-based sealant (or similar sealant) that can cure in a sealed environment
- Apply a fast-setting basecoat material above the sealant leaving room for the finish
- Use a finish material to match the surrounding texture/color.

Note: Scaffolding tie patches will never be completely inconspicuous, but should not be so noticeable that the patch is the first thing you see. It is always good practice to include a few scaffolding patches in the jobsite mock-up to allow the architect to review and approve the level of patch the contractor is capable of providing, with the specified texture and color.

### General Patching:

Large cracks, chips and holes can be patched using similar materials to the installed assembly. The severity of the damage will determine the sequence of repairs. For instance, if the WRB (water-resistive barrier) has been compromised, the entire damaged assembly will be removed in order to integrate new WRB with existing WRB, new lath overlapped with existing etc. The most difficult process is finishing a patched wall so that the patch is no longer visible. Often this process may require the entire plaster panel to be refinished ("rescrubbed").

Patching should be performed by a thoroughly experienced plasterer which will consistently achieve good results. They will have picked up their own special methods, secrets and "tricks of the trade" where the patched area may "disappear".