

Post-Earthquake Advisory
Recommendations Regarding Plaster Damage
From the Virginia Department of Historic Resources

Historic buildings are particularly vulnerable to vibrations caused by earthquakes. But older buildings also have intrinsic benefits which make them more stable than others. Interior masonry walls, for example, often employ wire lath covered with plaster, which binds materials together for added strength. And while old masonry might crack, it typically will not shift out of plumb enough to collapse.

Hairline cracks: Almost every plaster wall has a few of these. They can either be canvassed (using fiberglass matting) or filled using a lime (or gypsum) patch. Gypsum is a pre-mixed compound found at the hardware store; a lime patch is one you make yourself combining lime with putty. Although several layers may be required, once the patch is sanded smooth and painted over, both the hairline crack and the repair work disappear.

Large cracks and small holes typically require the skills of a professional plasterer. Once movement has stabilized, repair work can begin. For cracks, a plasterer chisels the fracture into a V-groove and applies a bonding agent. Thereafter, plaster and lime are gauged, applied, and trowelled smooth. For a hole, the plasterer removes all loose or delaminated material around the hole. Metal lath sections are fastened to the structure and a bonding agent is applied. Larger holes require a base coat mix to accommodate the finish plaster coating, which is polished smooth and flush with the surviving adjacent material.

Delamination (when plaster separates from its anchors or lath) for small areas requires the same traditional materials used for described finish coats. But reattaching delaminated plaster to lath often requires a system of *rekeying* using injected acrylic materials. Because acrylic injections must be accomplished from the front of the wall, making the keys difficult to get to, professional plasterers are definitely needed for this work.

Locating plasterers who are experienced and reputable will be necessary before proceeding with major plaster repair work. References should be investigated. Invite qualified plasterers out to visit the job site to see and define the scope of work. A written proposal and prices from all bidders should then be used for comparison.

Preservation Brief 21: Repairing Historic Flat Plaster Walls and Ceilings

www.nps.gov/history/hps/tps/briefs/brief21.htm recommends retaining historic plaster if at all possible because much of the building's history is documented in the layers of paint and wallpaper found covering it. When plaster *can not* be repaired, it is recommended that the layers of paint and paper be documented in case this information is needed to complete a restoration plan some day.

Need a Contractor and/craftsman? The Virginia Department of Historic Resources has posted a list of consultants and craftsmen on our website at www.dhr.virginia.gov