How to Repair Plaster with Expanding Foam

Traditional plaster walls are built on a support of lathe made from narrow strips of wood ¾ inch by 1 ¼ inch with gaps between each slat. Plaster is spread on the surface of the lathe forcing plaster between the lathe creating keys (excess plaster) that secure the plaster to the lathe support. When the house settles it can cause a separation between the layer of plaster and the supporting lathe, resulting in cracks and soft spots in the wall. To repair the wall the plaster has to be reattached to the lathe using expanding adhesive foam.

Things you'll need
Drill
Masonry bit
Vacuum
Razor knife
Spray wall conditioner
Adhesive foam
Caulking gun
Plastic plaster clamps or buttons
Drywall screws
6 inch putty knife
Joint compound
Sandpaper

1 Use a drill with a masonry bit to drill a series of holes 1 inch from the crack on both sides of the entire crack. When you hit a void instead of lathe, mark it with a pencil. Do not put expanding adhesive foam in the hole because adhesive foam in a void will not bind the plaster to the lathe. Once you find a lathe you can drill on a level horizontal line and continue to hit a lathe.

2 Vacuum out each hole to clean loose plaster dust and debris.

3 Hold the spray nozzle against each hole and spray 2 shots of wall conditioner. Use a damp sponge to wipe away any drips on the wall.

4 Insert the nozzle of the adhesive foam tube into a hole on the wall and use a razor knife to mark where to cut the plastic tube nozzle, remove the nozzle from the hole and make a straight cut. Slowly and gently inject adhesive foam into each hole using a caulking gun and one squeeze on the trigger. Wipe away any excess adhesive foam with a damp cloth.

5 Slowly drill a plastic plaster clamp mounted on a drywall screw into the wall to pull the plaster layer and lathe closer together. As you slowly drill the clamp in place you will notice adhesive foam coming to the surface of the drilled holes. Stop drilling when you see that happen. Secure the entire patch area with clamps. Let the adhesive foam dry according to the instructions on the label.

6 When the adhesive foam is dry, unscrew and remove all the clamps. Scrape the wall with a 6 inch putty knife to remove the raise edges from the drilled holes. Fill the holes and voids with joint compound using putty knife to spread it. Let the wall dry overnight and sand the area lightly. Apply a second coat of joint compound with a putty knife, let it dry, lightly sand the area, wipe the wall down with a clean dry cloth, and paint.

Tips
Use only a masonry bit when drilling holes because it allows you to drill through plaster but won’t drill through lathe.

Warnings
Wear safety glasses to protect your eyes from plaster particles.
Keywords repair plaster wall, plaster repair with adhesive foam, repair old plaster walls

Reference:
Plaster Repair using Acrylic Polymer adhesive http://www.youtube.com/watch?v=is4VSwB26Eg
Plaster repair http://www.mhschaefer.com/plaster_repair.htm
Resources