

# Fast Facts

## about Plaster

by  
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You've been watching that crack in your plaster since you bought your house. Is it getting bigger or not? Is it serious or not? Should you take action or just monitor it? These are the types of questions that many owners of older properties with interior plaster ask themselves at one time or another. Buildings move, and though plaster is somewhat forgiving, if the movement is too great, the plaster will crack. Though too much movement in a building is a cause for concern, not all cracks are

serious.

Since movement is the culprit in stress cracks, it's important to understand how movement can occur. There're several factors to consider. First of all, the building could be settling, or could have settled many years ago. There can also be a natural decay of materials, or decay related to prolonged moisture. Stress can also occur to a building when well intentioned plumbers, HVAC workers, electricians, etc. remove sections of structural members or compromise them by notching or drilling through them. Remember these workers understand plumbing or electricity, not necessarily structure. They may put that duct or pipe wherever is easiest, so always ask where these things will be placed when doing rehabilitation, to make certain your structure is not compromised in the process. Adding too much additional load can also stress your building. So seek the advice of a

structural engineer or architect before you make major changes like building an addition or replacing your asphalt shingles with slate, which while more attractive and longer lasting, is also much heavier.

Don't panic though! Not all plaster cracks indicate a structural problem. Sometimes if you have failure of the plaster, it could be that not enough plaster was

**“Don't panic...not all plaster cracks indicate a structural problem.”**

applied to the lath. Excess plaster must be applied to the lath to allow the plaster to squeeze through the lath and thus attach itself. Also, remember that plaster is applied in multiple layers. You can have failure between the "scratch" coat, "brown" coat and/or "finish" coat just as you can have failure between layers of paint. This type of plaster failure generally looks crazed or alligatored. And as always, water penetration can cause plaster to fail. If it seems that we caution about water in almost all our articles, it's only because water is a major culprit in many building problems. Plaster failure caused by water can often be identified by looking for puffy or blistered areas. Though not always an immediate reason to worry about the structure, water damage, if allowed to continue for even a short period of time, can damage not only the plaster but eventually the structure underneath. Find the source of the water infiltration and correct it before you attempt a repair of your plas-



*Typical plaster damage that can occur inside a building.*

ter. Once you've corrected the problem, allow your plaster to dry thoroughly before re-plastering. This may take up to six months, particularly if the plaster was applied directly to brick or stone.

According to several references, including *Conserving Buildings: Guide to Techniques and Materials* by Martin B. Weaver, hairline cracks and cracks under 1/16th of an inch wide aren't usually cause for concern. Cracks that are wider than 1/16th of an inch, however, can indicate structural stress and should be closely monitored for continued movement. Obviously, wider cracks are more serious, and cracks that are nearing an inch wide may indicate a very serious problem that should be immediately assessed by a structural engineer. Other possible indicators of a more serious structural problem are cracks in your foundation, crooked doors or windows, or sloping floors. Many older buildings may have some of these issues to one degree or another, and they don't always indicate an immediate problem. The key is to determine whether the issue is serious or not, and observing the size of plaster cracks is a good first step.

In addition to its size, another factor that should be considered when monitoring a plaster crack is to determine whether it's still moving. Except for the largest cracks mentioned previously, a crack that is not moving may indicate that the building has also stopped moving, and so no action is necessary, except patching and occasional monitoring. A crack that's getting smaller should be watched, and when it stops moving all together, patching can be done. Remember that walls expand and contract normally as

the seasons change, you'll likely not have to take action except to check on them occasionally. And of course cracks that continue to widen, or new cracks that appear, can be a source of concern and should be watched carefully. Stress cracks often (but not always) begin at openings, such as windows or doorways, and often are diagonal.

Determine whether the plaster cracks are warning you that your building is moving too much and thus is under too much stress by monitoring them. The easiest way to monitor a crack is to draw two parallel lines on each side of the crack at its widest point. Then measure the distance between the lines. Check your marks often throughout the year, to see whether the crack is changing. Another way to gauge if your house is still moving is to fill the plaster crack with joint compound and see if the patch holds or if another crack appears.

If you feel that the crack you've been watching is of the type that shows your building is stressed, careful monitoring will tell you if damage is still occurring that must be addressed. On the positive side, plaster cracks that are stress related and continue to move are clear warning signs that something must be done for your building. Vigilance is the key, and solutions are available!

For more information about plaster cracks, contact the Ohio Historic Preservation Office.

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1/02



*Plaster being repaired.*