

HODGKINSON CO. RESTORATION

"MASONRY REPAIR SPECIALISTS"



LANCE R. HODGKINSON OWNER

BRICKFIXER@AOL.COM
18218 SYRACUSE AVE. CLEVELAND OH. 44110

**Understanding Masonry Problems:
The Painted Chimney Syndrome
By Lance R. Hodgkinson Owner Hodgkinson Company Restoration**

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EXPLANATION OF THE PAINTED CHIMNEY SYNDROME

The chimneys on your house are suffering in varying degrees from what we call The Painted Chimney Syndrome. It has been discovered that painted masonry exposed to direct and constant weather in cold climactic conditions subject to regular freeze and thaw cycles, can suffer damage to the exposed surfaces of individual bricks. This damage phenomenon is called Spalling or Frost Damage and occurs when water saturates the exposed masonry structure by entering through openings or voids or holes in the painted surface. This water then becomes trapped behind the paint in areas of the painted surface still intact. This trapped water then saturates the face of the brick, freezes and eventually fractures the face of the brick. This problem with paint happens when an opening occurs due to age, peeling, or poor application and rainwater absorbs into one area of the painted masonry structure but then becomes trapped behind a point where the paint is still intact. Painted masonry structures in high weather areas must be fastidiously maintained to eliminate voids in the painted surface.

Once the brick is fractured or spalled in this fashion, the problem can be very frustrating and confusing to homeowners especially if the problem is misdiagnosed. It sometimes takes years for the brick face to show serious damage and begin to flake away. Eventually the fractured brick face will deteriorate little by little, year after year. Many homeowners spend a lot of money trying to prevent this process from occurring not realizing that most of the damage or fracturing has already occurred; sometimes years before and the fractured brick faces will continue the spalling process regardless of how well they are maintained. To sum it up, the reality of spalling is: Once a brick is fractured it will continue to spall and flake indefinitely.

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This First Strategy of repairing structures that are spalling is usually patching the bricks with mortar. In areas where very minor damage or repair is needed this can sometimes work for a while but it is important to note that even good patches seldom hold securely in high weather areas for more than 3-5 years.

The Second Strategy involves a combination of brick replacement and patching. The very worst bricks or areas of damage are extracted and replaced with new bricks. Minor areas are then patched.

The Third Strategy involves rebuilding a significantly damaged area and doing brick replacement and patching in the less damaged areas if the damage in question doesn't require rebuilding the entire structure.

Usually the top of the chimney is the first part of the house to show significant damage. The top of a chimney is completely unprotected and receives more weather than any other part of the house. When repairing Chimneys with the Painted Chimney Syndrome, the most common approach involves the Third Strategy. Usually by the time you actually see spalling on the body of the chimney, the top of the chimney is damaged or shifted beyond minor repair and needs to be rebuilt.

If rebuilding is necessary, the hard question to ask is: How far down does the chimney need to be rebuilt? It is important to bring the rebuild down low enough to completely eliminate damaged bricks. After investing in a new chimney, the last thing you want to happen is for the bricks below the rebuild to deteriorate causing the chimney to have to be rebuilt again so it is critical to bring the rebuild low enough to insure all damaged bricks have been removed. Otherwise usually within several years the area immediately below the rebuild will begin to show spalling.

I hope this information has been informative and useful to you. Let us know if we can answer any questions or provide more answers to your masonry problems

Sincerely,

**Lance R. Hodgkinson
Owner Hodgkinson Co. Restoration**