



## Technical Bulletin - Hairline Cracks

Cracks are a common occurrence in masonry construction. Cracks can be the result of some type of movement of the structure, or a result of the manufacturing process. Hairline cracks are those that occur in the manufacturing process.

### Causes

**Manufacturing cracks**, commonly referred to as dryer or hairline cracks, often appear in masonry walls. These cracks DO NOT occur in the wall. They are formed in the dryer prior to being fired. With the vast array of textures and finishes offered by General Shale today, these cracks are inevitable and, in some cases, intentional. The structural integrity of the brick is unaffected by these cracks.

Moisture management is always a concern with masonry construction. Although they may look troublesome, hairline cracks are not a means of water migration. These surface cracks do not allow water to penetrate to the inside of the wall cavity. Cracks not visible from a distance of 20-feet are in compliance with ASTM Standards.



**Hairline Crack**

Hairline cracks are not an unusual occurrence in the normal manufacturing process of brick. Recognizing this fact, General Shale's Research Department has performed many tests throughout the years to assure the in-the-wall performance of these brick is not impaired by the presence of the hairline cracks. Freeze-Thaw Durability and Structural Strength are some of the more important tests that have been performed. The results of these tests, plus a successful history of performance of these brick in actual use, have proven the brick neither suffer structural damage, nor are they more prone to freeze-thaw or weathering failures as a result of the cracks. There is no evidence the cracks get worse after the brick have been in the wall unless they are subjected to settling or thermal expansion movement, such as a fireplace with inadequate expansion joints; however, normal brick will crack under these circumstances.

### Actions to Take

The most important factor in assessing cracks is to determine if they are active or passive. If the cracks are not changing and occur primarily in the joints, then tuck pointing is a potential fix. Cracks that are continuing to grow will require further evaluation to determine the root cause.