Technical Bulletin

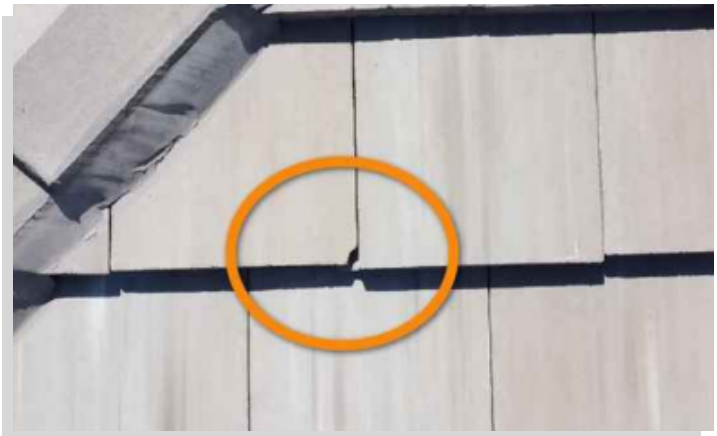
Concrete Tile Chips: Damage Assessment and Best Practices

ISSUED: OCTOBER 15, 2026

Understanding Broken Roof Tiles

Two frequently asked questions regarding concrete roof tiles are what constitutes a "broken" tile and at what point is its water-shedding ability affected? In many cases, a tile may remain structurally intact except for a chipped or fractured corner. Determining when this type of damage impacts the roof's integrity requires considering several factors, including roof slope and tile type.





Key Factors in Assessing Tile Damage

- **Cracks or Breaks Across the Surface:** Any tile that displays a crack or break across its surface—regardless of the direction—should be replaced. For replacement procedures, consult the Tile Repair Instructions found in the TRIA Installation Guide.
- **Tile Profile Considerations:** The shape of the tile matters. Tiles with a contoured or rolled profile have distinct channels that direct water flow, while flat tiles spread water evenly over their surface. Because the longitudinal interlocks on profiled tiles are located near the tile's highest point, they are typically less exposed to water compared to flat tiles. As a result, damaged corners are generally less critical for profiled tiles than for flat ones.
- **Underlock and Cover Lock Damage:** Even when the cover lock corner is compromised, the underlock section of a tile can still channel water. **With a standard installation overlap of three inches, any corner break longer than this—on either the underlock or cover lock—requires tile replacement.** It is generally recommended to replace tiles with broken underlocks.

- **Repairing Minor Corner Breaks:** If the break on the cover lock corner is less than three inches, or less than the headlap length, and the broken piece is available, repair may be possible using an adhesive specifically formulated for concrete roof tiles. Be sure to follow the manufacturer's application instructions to achieve a complete and secure bond. It is important to avoid excess adhesive that could join neighboring tiles or block water flow in the underlock.
- **Missing Corner Pieces and Aesthetics:** If the missing corner piece cannot be recovered, the visual impact must be considered. On shallow-slope roofs, minor chips may be barely noticeable, while on steeper roofs they can be more conspicuous. Ultimately, use good judgment to decide if the defect compromises the tile's ability to shed water.
- **Intentionally Distressed Tile Edges:** Some tile designs purposely feature distressed lower edges for a random appearance, which can result in minor chips. These are acceptable and do not affect installation integrity, provided the previously mentioned conditions are met.

Causes of Tile Damage

Tile damage can occur during shipping and delivery if pallets are mishandled or impacted. Such events typically cause only minor damage, often leaving tiles suitable for use—especially in areas that require cut tiles, such as hips, valleys, or rakes. It is important to sort and identify these tiles during the loading process.



Post-Installation Corner Breakage

The corners of tiles at the interlock are the thinnest and most vulnerable areas. While proper installation generally prevents corner fractures, misalignment can result in point loading and subsequent breakage. Laying tiles too tightly increases this risk. Most tiles are designed to accommodate a 1/16-inch gap between units; neglecting this spacing can lead to damage from foot traffic or thermal expansion of the roof deck.

Additionally, debris left in water channels during installation can create point loading, breaking corners when weight is applied. Sometimes, hairline cracks that go unnoticed during installation become broken corners later, explaining instances where no recent roof activity has occurred. In these situations, a single repair is typically sufficient to resolve the issue.

For more information, contact your local Eagle Account Representative by visiting eagleroofing.com.