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Technical Advisory Bulletin

To: GAF Residential Sales, GAF Contractors, Field Services, Design Services, CARE
From: Residential Consumer Services
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Blue-Green Algae Staining On Shingled Roof Surfaces

What Are Those Black Stains On The Roof?

The dark stains you see on a roof are often caused by tiny cyanobacteria called *Gloeocapsa magma* - a bacterial commonly known as blue-green algae. Blue-green algae appear as dark stains on shingles that usually cover more area on the lower section of the roof and taper as they reach the ridge.

How Does A Roof Get Blue-Green Algae?

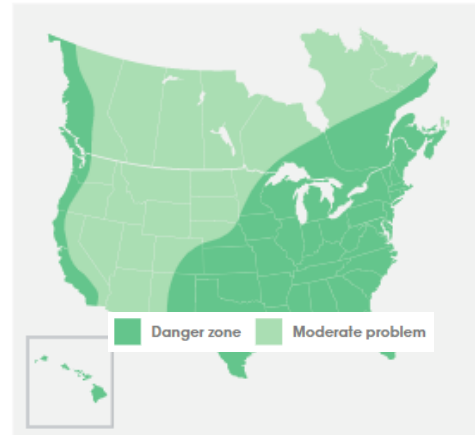
Blue-green algae spreads from one infected roof to another via airborne spores. These spores land randomly on a roof and take root. A protective sheath creates the dark color the blue-green algae forms to protect itself from UV rays.

How Does It Grow?

Blue-green algae requires moisture and proper temperatures to grow. Dew is the primary moisture source. Blue-green algae grows across the U.S. and Canada. Blue-green algae generally grows on the northern exposures of the roof since this exposure generally receives less sunlight. Blue-green algae is well adapted to extreme conditions.



Blue-Green Algae Growth



Geographic Potential Map

What Solution Do I Have?

1. **Install Algae Resistant Shingles** such as GAF shingles containing GAF Time-Release Algae-Fighting Technology. This proprietary technology is engineered with thousands of microsites that release algae-fighting copper over time.
2. **GAF recommends** cleaning the roof with a special mixture. That mixture is: 4 gallons (18.2 L) of water, 1 gallon (4.5 L) of bleach and 1 cup (236 mL) of TSP (Tri-Sodium Phosphate-or acceptable phosphate-free substitute) found at many home centers. Apply this mixture with a garden sprayer, let sit on the roof surface for up to 20 minutes, and rinse with low-pressure water. Be sure to protect any shrubs below. Remember, the roof surface will become slippery when wet... be careful!

What NOT to do!

Do not power wash the shingles to clean the shingles. Some roof cleaning companies offer this service. However, it is not recommended as it may dislodge granules, which can lead to premature shingle failure.

What GAF Products Can I Use?

GAF Products with the StainGuard Plus PRO™ Algae Protection Limited Warranty:

- Timberline UHDZ®

GAF Products with the StainGuard Plus™ Algae Protection Limited Warranty:

- Timberline HDZ®
- Timberline HDZ® RS
- Timberline® CS
- Timberline® AS II
- Grand Sequoia® AS
- Grand Sequoia® RS
- All GAF Designer Lifetime† Shingles

GAF Products with the StainGuard® Algae Protection Limited Warranty:

- Timberline® NS
- Royal Sovereign®
- StarterMatch® Starter Strip Shingles

Note: 10-year StainGuard® Algae Protection Limited Warranty against blue-green algae discoloration is available only on products sold in packages bearing the StainGuard® logo. 25-year StainGuard Plus™ Algae Protection Limited Warranty against blue-green algae discoloration is available only on products sold in packages bearing the StainGuard Plus™ logo. 30-year StainGuard Plus PRO™ Algae Protection Limited Warranty against blue-green algae discoloration is available only on products sold in packages bearing the StainGuard Plus™ logo. See *GAF Shingle & Accessory Limited Warranty* for complete coverage, restrictions, and qualifying products.

Questions?

GAF Residential Consumer Services Can Assist You with these and other questions you may have. Residential Consumer Services can be contacted at 877-423-7663 or TechnicalQuestions@gaf.com. The GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit www.gaf.com to find the latest information on our products and their installation.

Important: This document supersedes any prior GAF Technical Advisory Bulletins on this topic. Please always check www.gaf.com to make sure you have the most up to date information.