



"Specifics: What's Growing On Your Roof?"

Addressing The "Growing" Problems On Roofs Caused By Algae, Moss & Fungus

Quality You Can Trust Since 1886... from North America's Largest Roofing Manufacturer

F.A.Q.'s - Algae ~ Fungus ~ Moss ~ Lichen				
Questions	Algae	Fungus	Moss	Lichen
What Does it Look Like?	Dark/black or green stains or streaks on roof... Also called "Blue-Green Algae" (Cyanobacteria) and "Gloeocapsa Magma"	Green, spongy clumps... Includes mold & mildew	Green, spongy clumps... It is neither algae nor fungus.	Orange, White or Yellowish spots... in a starburst shape
What's Needed for Growth?	Moisture, inorganic food sources (asphalt fillers), airborne spores, proper temperature	Moisture, organic food sources (soil), spores, proper temperature - 40 F to 100F.		
Where Does it Grow?	Nationwide; 80% +/- . Mostly SE, coastal, Pacific NW. High humidity. See map.	High humidity, heavy shade, any exposure. Heavy and/or low tree coverage aids growth.		
Typical Roof Exposure?	Mainly North facing, but can occur on all exposures.	Any exposure. Heavy and/or low tree coverage aids growth.		
Impact on Roof?	Aesthetics Only	Aesthetics, poor drainage, slippery, potential to lift shingles, possible premature deterioration.		
Are Algae Resistant Shingles Effective?	Yes...	No, may inhibit growth in early stages only, will not prevent growth.		
How Do You Get Rid Of It?	Wash the Roof Shingles with "Anti-Algae Solution*". Apply at low pressure, wait 15 min. rinse with low pressure water. Protect plants/shrubs. Do not powerwash. Use Fall Protection.	Remove initial bulk of growth. Wash the Roof Shingles with "Anti-Algae Solution*". Do not attempt to powerwash or sweep off roof as granules may be dislodged and affect the long-term performance of the shingle.		

*Anti Algae Solution: 4 Gallons of water, 1 Gallon of bleach, 1 Cup of Tri Sodium Phosphate (TSP)

The Following GAF-Elk™ Algae Resistant Shingles Are Available Nationwide:
(other Algae Resistant Shingles are available regionally)

CAMELOT

CAPSTONE

SLATELINE

GRAND SLATE

Country Mansion

Grand Canyon

The Facts & Myths	
Fact:	Algae, or Gloeocapsa Magma, can spread... from one infested roof to another via the release of airborne spores. As more homes are built closer together, this hardy algae has been able to spread rapidly.
Fact:	Algae is well adapted to extreme conditions... heat, long dry spells, UV rays, heavy rain, intense cold, thick snow or high winds doesn't deter it.
Fact:	The dark color of Algae is a pigmented protective sheath... that encapsulates each cell to protect it from UV rays
Fact:	Copper and Zinc can both inhibit algae growth... Zinc (including pellets) however does have other inherent problems, such as: it's limited ability to be color matched to roofing shingles, attachment method to roofing shingles, and the occasional "bloom" effect due to the build-up of zinc oxide.
Fact:	Copper is 10 times more effective against algae than Zinc... Zinc actually becomes less effective against algae quicker than copper
Fact:	AR shingles at work... some granules covering the shingle contain Copper encapsulated by a specially developed coating allowing Copper (cupric ions) to be time-released to prevent algae over a long period
Fact:	Dew is the dominant source of water for algae and as such is the "agent" best suited for the release of the copper in Algae Resistant shingles. Rainwater, although effective, runs off a roof too quickly to provide significant leaching of copper. Dew is also present more days than rain.
Fact:	Algae can go for long periods of time without water... It is unaffected by heat or downpours and is dormant in winter. Algae secretes a material that adheres them firmly to the shingle surface.
Myth:	<i>Algae is killed immediately by copper.</i> FACT: Algae cells are poisoned over time.
Myth:	<i>Algae is a fungus.</i> FACT: Algae, or Gloeocapsa Magma belongs to the Cyanobacteria branch in the Eubacteria family and is not a fungus.
Myth:	<i>Installing a copper ridge or hip shingle on an existing roof may overcome an existing colony of algae.</i> FACT: AR granules have not been proven to kill existing algae.
Myth:	<i>Are "FR" or Fungus Resistant shingles better?:</i> FACT: "FR" is an inaccurate name since fungus is not the actual source of the suggested problem. Additionally, copper granules have not been proven to inhibit fungus growth.

"See Big Picture on Opposite Side"

"Big Picture: Can You Identify What's Growing on Your Roof?"



ALGAE GROWTH

- Extensive Algae growth.
- Different colors are evident.
- Dark appearance is due to a protective layer the algae have developed to protect itself from damaging UV rays.



LICHEN & FUNGUS GROWTH

- Fungus has predominantly taken root at the shingle edges and keyways.
- Left to grow, this may eventually damage the shingles by lifting them and further inhibiting water run-off.



ALGAE, LICHEN, MOSS

- Evident are Lichen, Moss & algae.
- Notice the vent metal has inhibited growth. This observation is what initially prompted researchers into finding metals that prevent algae growth to take place.
- Exposure: Note the algae-free surface on dormer roof.



MOSS

- Moss due partly to low slope, shady location, organic material & exposure.
- Water is retained on the roof longer than normal; thus essentially aiding the growth.
- Organic material needs to be present for growth or moss cannot take root.



ALGAE GROWTH

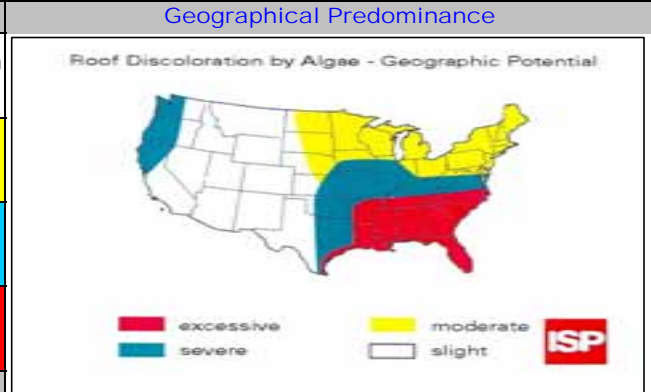
- Extensive algae growth.
- The area below the window is free of algae due to the run-off of the metal flashing used at the roof-to-wall transition.
- Algae predominantly grows from the bottom - up, due in part to the amount of time water is on the roof.

White: Very Low Algae, Moss, Lichen and Fungus Growth

Yellow: Low Algae, Moss, Lichen and Fungus Growth

Blue: Moderate Algae, Moss, Lichen and Fungus Growth

Red: Severe Algae, Moss, Lichen and Fungus Growth



"Please See Specifics on Opposite Side"