

ALGAE DISCOLORATIONS OF ROOFS

By ARMA

For many years, roof discoloration caused by algae has been observed throughout the United States and Canada. Although this is commonly referred to as "fungus," in actuality, it is "algae" growth. The discoloration usually has a brown to black appearance and may be mistaken for soot, dirt, moss, or tree droppings. The long and short of it is that this discoloration is an aesthetic irritant to many people because of its unsightly appearance.

The Asphalt Roofing Manufacturers Association's (ARMA) member companies, which manufacture residential asphalt shingles, continue to receive frequent inquiries from homeowners, contractors, remodelers, and others with questions and concerns about algae discoloration of roofs. In response to these inquiries, the Residential Roofing Committee, comprised of ARMA residential roofing member company representatives, prioritized development and publication of the information contained in this article. The recommendations contained herein are based on and excerpted from the ARMA Technical Bulletin, "Algae Discoloration of Roofs," readily available by request to the ARMA.

The primary species of algae being observed is *Gloeocapsa Magma*. This type of algae is contained in and transported through the air and tends to collect and grow on roofing surfaces. Natural pigments produced by these algae may cause a white or light-colored roof to gradually turn dark brown or black. The algae discolorations should not be confused with moss or tree droppings, which typically produce only localized discolorations.

Although roof discoloration is widespread in coastal areas, it is not confined to these areas. It is commonly found in the Gulf states of the U.S., along the Northwest and Eastern seaboard, and in the Midwest.

Algae growth occurs to varying degrees in all regions of the country, especially those subjected to warm, humid conditions. It should be noted that almost all types of roofing systems are susceptible to algae discoloration. It is, of course, most readily visible upon white or pastel roofs, while it is not so visible upon darker shades of roofing.

A preventive measure to algae roof discoloration is the use of commercially available algae resistant asphalt shingles. Copper, which is well known for preventing algae grown in marine applications, is being incorporated into the granules of asphalt shin-

gles. Appropriate levels of copper also effectively block the growth of algae on roofs. Most asphalt roofing manufacturers provide shingles containing copper as an option to their residential product offering.

Algae discolorations are difficult to remove from roofing surfaces but may be lightened by applying a solution of chlorine bleach, trisodium phosphate, and water. Solutions for these ingredients may vary between shingle manufacturers and depend on the amount of discoloration. Solutions range from one cup TSP, one gallon bleach, and five gallons of water, to one cup TSP and 2.5 gallons each of bleach and water.

To apply these solutions is a relatively easy procedure. First, gently disperse the solution on the roof surface. Use normal precautions for handling bleach. Be sure to apply it carefully to avoid damage to other parts of the building and its surrounding landscape. Avoid scrubbing the surface, as this friction may loosen and remove granules, shortening the life of the shingle. If possible, always work from a ladder and/or walkboards to avoid direct contact with the roof surface. Observe all possible safety precautions when working on or near the roof. Finally, rinse the solution from the roof by gently spraying the surface with water. Be warned that this solution application and rinse process will make the roof slippery and potentially hazardous to walk on during treatment.

The effectiveness of such cleaning techniques is only temporary, and discoloration will likely recur. As mentioned earlier, several types of algae resistant roofing products have been developed and are now commercially available. These asphalt roofing products are specifically designed to inhibit algae growth for extended periods of time.

An important note of caution is that high pressure washing systems for algae removal should not be used.

These recommendations were prepared by and have the approval of the ARMA for informational purposes only. They are not intended to revoke or change the requirements or specifications of the individual roofing material manufacturers or local, state, and federal building officials. Any questions or specifications of a manufacturer should be directed to the roofing manufacturer concerned.

For additional information, contact the roofing materials manufacturer or ARMA at 301-348-2002 or visit ARMA's website at www.asphaltroofing.org. ■