ASPAHALT (COMPOSITION) ROOF
https://commercialrestorations.com/aspahalt-composition-roof/
To start, there are a varied number of roof types to consider. Asphalt shingles are the most common roofing material, but you will also find shakes made of wood or concrete or slate, tile roofs shaped like barrel tiles, metal roofs, and membrane roofs. When we discuss techniques, we will explain which technique works best with each type of roof.

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Here is an example of an asphalt or composition shingle roof covered with the typical black streaks. Notice how the streaks start at a specific point and spread downward from that point?

Here is a close-up of “architectural” composition (asphalt) roofing (the most common type of shingle on upscale homes). Four out of five homes use asphalt shingles for their roof. As you can see, shooting

water “up” at these shingles could cause serious problems. These shingles are strong and resist damage when walked on. They have a useful life of 10 to 30 years, but are rated by manufacturers to last from 15 to 50 years.

To learn everything about asphalt shingles, your first stop should be ARMA, easily found at www.asphaltroofing.org This association speaks for the manufacturers of asphalt shingles, and their web site is loaded with information. If you are serious about being the most professional of roof cleaning services you should make a point of visiting this site annually to see what they have added. They claim that an asphalt roof that is 20 years old or more is a prime candidate for

replacement.
A roof with shingles that are loose or broken ought to be replaced, but a roof that looks bad with algae stains (but is otherwise structurally sound) can simply be cleaned at a fraction of replacement cost.

Here is what ARMA says in one of their Technical Bulletins about cleaning roofs:

"*For many years, roof discoloration caused by algae has been observed throughout the United States and Canada. This is commonly referred to as "fungus growth." The discoloration usually has a brown to black appearance, and may be mistaken for soot, dirt, moss, or tree droppings. 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 upon roofing structures. Natural pigments produced by the 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.*

This type of roof discoloration has been most widespread in the Gulf States and along the Northwest and Eastern Seaboards. It is not, however, confined to only these regions. 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.

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.

First, gently disperse this solution on the roofing 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. 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 surface slippery and potentially hazardous to walk on during treatment.

The effectiveness of such cleaning techniques are only temporary, and discoloration will likely recur. However, 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.

Caution! High pressure washing systems for algae removal should not be used."

So, what have they told us?

1) Avoid walking on the roof whenever possible.

2) Use bleach (sodium hypochlorite) in a light solution as the cleaning agent. We ignore their suggestion to use TSP, as the use of phosphates is currently not acceptable in several areas. Analyzing their suggestions on cleaning, we discover that they are suggesting using bleach at a concentration of just under 1%. What they say exactly is to mix one gallon of bleach (which is Clorox from the grocery store, a 5.75% concentration of sodium hypochlorite) with five gallons of water – thereby diluting the bleach 5:1. (5.75% concentration diluted 5:1 becomes .96% concentration.) Experience tells us that this is way too light to be effective, and may just be ARMA's way of protecting themselves from any legal action resulting from the use of stronger cleaners.

We find we can make a solution in the range of 3%-6% concentration and have an effective cleaner without altering the integrity of the asphalt roof.
The other element to creating a cleaning solution like this is that it should contain some soap. ARMA does not suggest using any soap in their mix, but adding a detergent adds “cling” to the solution so less cleaner is needed to do the job.
Commercial Restorations roof cleaning team strongly suggest that adding a surfactant (detergent) to your solution will minimize how much of that solution you have to use overall.

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April 12, 2019 at 08:39AM