

THE NEXT GENERATION OF ECO-FRIENDLY ROOF RESTORATION AND MAINTENANCE SOLUTIONS | JUN. 2024

With increasing temperatures and the rise in energy costs for cooling, white-surfaced roofs became more common in the roofing world a couple of decades ago. Often referred to as ‘cool roofs,’ their frequency increased exponentially following the rolling blackouts in California in the early 2000s.

Benefits of cool roofs¹:

- Lower operating costs through cooling-energy savings of 10 to 50 percent, totaling more than \$1 billion annually for the nation as a whole.
- Lower capital costs for heating, ventilation, and air-conditioning (HVAC) equipment, which can be designed for lower capacity owing to reduced peak cooling loads. (Use of lower-capacity HVAC equipment also enhances operating efficiency, thus further reducing operating costs.)
- Longer service life for the roof membrane, relieved of the additional chemical deterioration promoted by high temperatures and ultraviolet radiation. (Chemical reactions accelerate with high temperatures, the rate doubling for each 18° F temperature rise.)
- Greater thermal resistance for the insulation, which generally has higher conductivity at higher temperatures (because of the increased molecular motion accompanying higher temperature.)
- Greater durability for cables in ceiling plenums, maintained at lower temperature by the reduction of roof-surface temperature.

¹Manual of Low-Slope Roof Systems by C. W. Griffen and R. L. Fricklas

Because of the deteriorating effects of weathering, soiling, and chemical aging, solar reflectance diminishes with age to a greater degree than other roof system properties - the effectiveness of a white surface is significantly reduced if the roof doesn't stay white. Debris and pollution can accumulate on the surface via wind and rain from sources such as traffic output, industrial effluence, and environmental waste from plants and animals.

As responsible custodians of our facilities' roofs, we must find a way to clean the surfaces efficiently and without harmful environmental effects. In many areas, restrictions have been put in place to prevent harmful chemicals from being washed down drains and entering our precious waterways, which are home to beneficial flora and fauna.

Traditionally, cleaning these dirty roofs uses a lot of water, introduces chemicals into the local environment from wastewater, requires large crews, and still results in a roof that is not thoroughly cleaned. However, an option is available: the RoofTec system cleans single-ply and coated roofs more completely and with much less water impact. A two-person crew can finish a project in hours instead of days.



It is more than just a cleaning system or a pressure washer; it is a fully integrated surface preparation process that addresses the growing challenges that building owners face in complying with local and national wastewater discharge and reclamation regulations. The RoofTec system also uses a low-emission engine-powered system to produce heated, high-pressure water combined with ECO-friendly detergents that are delivered to the roof surfaces via a powerful, non-abrasive rotary cleaning head that dislodges dirt, mold, algae, and mildew.

The water, detergent, and debris are re-captured through the rotary cleaning head by 870 cubic feet per minute of vacuum airflow created by the RoofTec truck or trailer-mounted system. The recovered solution is filtered within the system to separate the solids while the liquids are disposed into the facility's sewer system.



This process eliminates the discharge of wastewater into the stormwater systems. Because the cleaning process is so effective, the RoofTec system cleans up to 70% faster than traditional power washing, using half the water, fuel, and labor to achieve better cleaning results.

The RoofTec system is not just a restoration solution. It can be used to clean restored roofs and white single-ply membranes and can also be used to prepare a roof system for restoration. This versatility allows you to adapt your roof maintenance and restoration strategies to the specific needs of your facility. Because this system requires minimal water and immediately recaptures what is used, very little remains on the cleaned roof making it possible to start restoring the roofs the same day they are cleaned.

With the right weather conditions, the water evaporates quickly, allowing the restoration job to begin the same day leading to faster project completion. The RoofTec system empowers you to take control of your roof maintenance and restoration process.

[See the RoofTec equipment and teams in action](#)

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