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## “UP ON TOP” NEWS

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### THE VERSATILITY OF ROOF COATINGS

One of the most commonly asked questions in the roofing industry is “How long will my roof last?” Although roofs fail prematurely for a variety of reasons such as hurricanes, hail, and foot traffic, the primary reason is regular and prolonged exposure to the sun and wind.

All exterior grade construction materials need to provide a means of fighting off the sun and wind’s oxidizing effects, which cause ageing. Roofing materials are unique primarily because their location makes them especially vulnerable. The roof is exposed to the sun’s rays and is elevated enough to allow the wind to blow across it freely.

Roofing materials subjected to the deteriorating effects of ageing and weather tend to diminish in performance. When materials are subjected to the roofing environment, deterioration from exposure and biological effects

accelerate. The stress on roofing materials to react or degrade is several times that of materials used on the interior of the building.

A growing number of property managers and facilities engineers are specifying roof coatings to protect the roofing system, and in turn, a facilities interior operation and components. Also, many managers are investigating the role light colored and reflective coatings play in holding down a building’s cooling loads.

Asphalt is the waterproofing agent used in one of the most common types of roof, the built up roof. The asphalt used in built up systems provides an excellent water barrier, but as with other materials, asphalt is highly subject to degradation from exposure. Continued temperature changes cause asphalt to expand and crack, which causes cracks in the surface. Over time these cracks deepen allowing water into the underlying system and into the building.

Roofing coatings have become a commonly used material to help reduce this temperature swing and to minimize the sun’s harmful effects. The two most commonly used types of roof coating are aluminum and acrylic elastomers.

The ideal time to apply roofing coatings is during the new systems installation. Application at this point will immediately retard the ageing process and significantly extend roof life. But building managers can also specify coatings for preventative maintenance purposes, applying them on existing roofs to extend performance life. The impor-

tant thing to understand is that no coating will make a bad roof good again.

Generally, roofs more than 15 years old that have not been maintained properly with coating are not good candidates for preventative maintenance type coatings. At some point a roof system is so weathered or brittle that it is not cost effective to apply a coating. A field core analysis can usually determine the suitability of the roof’s condition to accept coatings.

Aluminum coating can help reflect the sun’s rays but the aluminum that produces its reflectivity eventually breaks down and erodes, reducing the coating’s reflectivity. Because of this dulling action, the roofs need to be recoated periodically, typically every three to five years.

Acrylic elastomeric coatings are single component co-polymers or tar-polymers of acrylic monomers. Most are water based which makes them easier to apply and clean up. White is the most common color because of its superior cooling effect on the roof.

Elastomeric coatings do not experience the particle breakdown that aluminum coatings do. As a result, they maintain their reflectivity and emissivity as long as they are on the roof. They do degrade over time and lose thickness and might need to be recoated every seven to ten years.

Building managers should scrutinize the coating manufacturers reputation and ensure that the coating is compatible with the roof system to which it is applied. After that the benefits are real and substantial.

#### Service Works

5423 N. 59th Street  
Tampa, FL 33610  
Phone 813-626-7717  
Fax 813-626-7248

3331 NW 55th Street  
Ft. Lauderdale, FL 33309  
Phone 954-777-0203  
Fax 954-777-0283

[www.serviceworksroofing.com](http://www.serviceworksroofing.com)