

## Roofing

# Coatings Considerations for Extending Roof Life

Before installing a new roof, coatings provide managers a reliable option to buy some time

By Mackenna Morales, Associate Editor

**T**he newborn stage of parenting isn't for the faint of heart. There's middle of night wakeups, leaks, wellness check-ups and just overall coddling to make sure that they are okay. This routine isn't much different for maintenance and engineering managers when it comes to roof maintenance at institutional and commercial facilities.

Roofs are arguably one of the more important parts of a building as they protect occupants from harm's way. But such an important feature comes with a lot of maintenance, which leads to a heftier price tag. Not many organizations can comfortably spend thousands of dollars each year on roofing maintenance, but if a roof isn't properly maintained it could

cause significant damage to the building.

"Roofs expire and need to be replaced," says Craig Hargrove, president of Hoffman Architects and Engineers. "There's a bunch of reasons why that makes sense – insulation in your building will run more efficiently, but also the maintenance you're expending as a roof begins to fail with water infiltration. The damage to your interior infrastructure will increase over time. Eventually, you have to replace these roofs."

On average, a low sloped roof lasts around 14 years, according to the National Roofing Contractors Association. A new roof can reduce heat island effect, reduce the strain on community infrastructure and increase resiliency in things



such as plants and electricity due to the building running more efficiently. However, this isn't always possible due to limited funds. Roof coatings have offered managers the

and asking for samples.

"You get 14 years out of a roof, maybe 20, but if you are looking to extend it with a coating, I think you need to ask yourself how long you are looking to extend the life of that roof?" Hargrove says. "We typically say that if we've checked all the boxes, we've done our homework and we're confident of the product and its compatibility and the existing conditions, we typically caution clients that if this (roof coatings) works out well, it will extend the life of your aging roof five to eight years."

## **'You get 14 years out of a roof, maybe 20, but if you are looking to extend it with a coating, I think you need to ask yourself how long you are looking to extend the life of that roof?'**

option to extend the life of their roofs while fiscally planning for an eventual replacement.

"Coating a roof comes with some very serious considerations," Hargrove says. "If you are considering recoating an existing roof rather than replacing it, it's probably because you have come to the conclusion that your roof is reaching the end of its service life. If it's reaching the end of its service life, it likely has water underneath it. When you recoat, the concern is if you trap moisture that can turn into vapor in the summer, which accelerates the deterioration of the roof. If it's not considered, you could be doing more harm than good."

Prior to installation, Hargrove suggests doing a full investigation into the roof's status and determine where water is located. Walking the roof and fully inspecting every part of it will help determine which materials will be best suited for the roof and its current condition.

Materials that could be considered include:

- Acrylic – recommended for UV reflection and energy savings.
- Silicone – recommended for waterproofing as it resists ponding water.
- Polyurethane – recommended for high impact buildings
- Asphaltic – recommended as a budget saving option as it reinforces existing asphalt

"Managers really need to do some due diligence, and I would recommend that they talk directly to manufacturers of materials and discuss the specific membranes that they have, the condition of the roof and their roof membrane at their particular building," says John D'Annunzio, president of Paragon Consultants and Paragon Roofing Technology Inc. "It's always best that the manufacturer involved should determine what the best type of material is and the application method."

There's a lot at stake when it comes to roof coatings, and it's not uncommon to feel a little skeptical when choosing a product. If a wrong material is selected, it can have a detrimental impact on the longevity of the roof. Hargrove stresses the importance of considering the roof's existing conditions and approaching the situation holistically before making a decision. Managers need to ask themselves what the compatibility of the product will be and how they will bond together. A roof coating is only as good as its ability to bond to the existing roof underneath. It is recommended that managers perform a moisture test on existing roofs and an infrared survey prior to buying a coating. Hargrove suggests talking to different manufacturers prior to application

### **Application status**

When applying the roof coating, it is imperative that the roof is clean. Some coatings require an application of a primer that is a base coat prior to the top coating. In addition, managers need to ensure they're applying the coating material in the correct mill thickness and temperature range.

"The most obvious thing is to make sure that there's full coverage throughout the total area," D'Annunzio says. "There are a couple ways to determine if there's proper mill thickness, and it's typically best done during the application, but it can be done after. But overall, the most important thing is just to make sure that there's complete coverage."

Roof inspections should not be conducted only when they are in need of replacement. D'Annunzio recommends that managers walk their roofs in the fall and spring so they are evaluated before rougher weather. During this time, managers should look at the condition of the membrane and the flashings to determine if any coating is peeled away or dissipated overtime and if any drains are blocked by debris like branches or leaves.

"Maintenance will be required on most coatings after two-to-five years," D'Annunzio says. "During inspections you're going to start seeing areas that are going to dissipate. You might have to do some touch ups over time, and that's very important. If there's any point throughout the area where the material has totally dissipated, it's typically the initial part of coating degradation."

Coating degradation is typically when the coating material starts cracking. If it's not addressed, it will begin to peel and dissipate over. If moisture gets trapped, it will deteriorate the underlying conditions of the building. D'Annunzio recommends that facility managers add this to their annual maintenance projects. The best way to extend the life of the roof is being out in front of these little things before they turn into big problems.

"Don't rush into it," Hargrove says. "As you can see, the work that you do upfront to understand what your existing roof is doing, how it's aging, where's it's deteriorated to the point where it's no longer functioning as intended. All of that upfront work will pay dividends for you in ensuring that you make the right decision and get the best return on investment." ■

*Mackenna Morales is the associate editor of the facilities market and the host of the Facilities in Focus podcast.*