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EDPM: RESTORE OR REROOF

BY TOM JULIAN

EPDm single-ply roof systems have represented a third of the volume of the low-sloped commercial market for close to 20 years. The majority of these roofs were installed to receive the manufacturer's 10 or 15 year warranty, so many are either beyond the duration of the warranty or soon will be.

EPDM has achieved a reputation in the industry as a long-lasting material, and advancements in materials, techniques, and components have given manufacturers the confidence to offer the industry's longest warranties of 30 years.

Many building owners and designers are considering restoring these existing EPDM systems in lieu of re-roofing (tear-off or retrofit). Restoration costs are typically 10 per cent to 30 per cent of the re-roofing cost, depending on the roof condition and the system attachment method.

There are many factors to consider when deciding between restoration and re-roofing such as cost, time, viability, codes, and environmental impact.

Many manufacturers have prepared specifications for repair or restoration of their existing systems and may even offer an extension of the warranty coverage if the owner elects to restore in compliance with specifications. These proprietary specifications are comprehensive because manufacturers are conservative when assuming this additional warranty liability, and these types of restorations generally cost more.

Roof consultants who wish to control costs while optimizing the restoration may prepare restoration specifications specific to each EPDM system, based on existing conditions that may be driven by site-specific circumstances and the owner's individual needs. These specifications are usually descriptive since there are no reference standards for restorations, and it would be difficult to specify and measure performance of the restoration work. It is also important to specify products that are compatible with one another.

There are several important ideas to keep in mind when renovating EPDM. The first is that the primary reason for renovating the existing system is to extend the service life of an existing EPDM membrane that is still in good condition. Always try to preserve the integrity of the membrane sheet, or better put — don't cut it. There are some exceptions when it may be necessary to cut the sheet, but most restoration procedures keep the sheet intact.

Also, don't make coating the roof the number one priority. There are a number of benefits to applying a coating over the existing membrane or on the exposed wall flashing, but in most cases, the concern should be to bring the system back to a condition that provides additional service life. An existing installation may be exhibiting varied levels of distress. The coating should be the final step, applied after the other topical, membrane-specific restoration work is completed. Remember that repairs to a coated EPDM roof are much more difficult to execute than on a previously uncoated membrane and, therefore, are more expensive. Repairs to an uncoated EPDM surface are typically superior to those on a coated or partially coated surface.

There are three configurations to affix to the EPDM membrane: fully adhered, ballasted, and mechanically attached. Each is very different in regard to its overall restoration and the requirements for detailing. All three systems may be renovated, but the majority of restorations to date have been on fully adhered or ballasted systems. Restorations to mechanically attached systems involve additional requirements because of dynamic stresses on the seams and fastening components.

To receive the maximum benefit, restoration activity should be focused where problems are most likely to show up on the existing system. Historically, the two areas that have contributed to problems on EPDM systems are the seams and base tie-in attachments at transitions from the plane established by the roof and adjacent interfaces with walls, etc. As such, these two areas should be the primary focus of any EPDM restoration.

Restorations of existing EPDM systems will continue to gain acceptance as more people become aware of the advantages of this option and as restoration procedures continue to improve. Sources for additional information for other details or unique situations include the EPDM manufacturers, roofing contractors that specialize in repair and maintenance of EPDM roofing systems, and the EPDM Roofing Association. ❖

The content of this article has been excerpted from EPDM: *Restore or Reroof* by Thomas R. Julian, RRC, RRO, CCCA, originally published in the September 2004 issue of RCI Incorporated's technical journal *Interface*.



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