Use of a temporary roof membrane can save time and money

by **Mark S. Graham**

Q: *We are bidding on a large roofing project that involves the removal of several layers of existing roofing down to a concrete structural deck, and installation of a new roof system including tapered insulation. Due to the complexity of the job, our estimated daily production figured per square is very low. Do you have any suggestions?*

A: The problem described here seems to be more and more common with the increased use of tapered rigid board insulation systems in difficult reroofing applications. While the most common approach to increasing rooftop production (i.e., increasing crew size) should be considered, many contractors have reported diminishing returns using larger crews, due to a lack of enough physical space in the work area to achieve optimum crew performance.



For this particular project, the presence of the concrete structural roof deck presents an opportunity that should be considered—the use of a temporary roof membrane. With this approach, removal of the existing roofing material and installation of a temporary membrane can be undertaken during an entire workday, leaving the work area watertight at the end of the day.

During the next workday, or after several consecutive days of roof removal and temporary roof membrane installation, the new roof system can be applied as a completely separate operation. This work sequence allows the crew members to concentrate on performing one complete roofing operation per day. It also permits time consuming work items, such as raising rooftop mechanical equipment or adding additional roof drains, to be completed in separate operations without impeding the progress of the tear off or new installation work. Many contractors have reported increased production under these circumstances, which offsets the extra cost of the temporary membrane.

Specification Plate 10-TR in the Low-Slope Specifications section of *The NRCA Roofing and Waterproofing Manual* provides general recommendations for the installation of a temporary roof membrane over non-nailable concrete structural decks, as well as over nailable roof decks and steel roof decks. Special care should be taken in making watertight seals at roof edges, roof drains and other penetrations.

The materials used for the temporary membrane should be approved by the membrane material manufacturer to ensure compatibility.

Q: *As a building owner, I am reviewing several contractors' proposals for the repair of a flashing detail where the existing membrane base flashing has become detached from a masonry wall. Is the use of spray polyurethane foam an appropriate repair for this condition?*

A: To determine the appropriateness of a repair material, the cause of the distress being repaired should first be evaluated. In the case of this particular flashing condition, it is important to determine why the membrane flashing has become detached from the masonry wall. Flashing detachment typically occurs as a result of any of a number of reasons, including improper initial installation, movement in the flashing substrate or moisture infiltration into the material to which the flashing is adhered.

In the case of the base flashing detail mentioned, the use of spray polyurethane foam would likely provide little or no long-term benefit over the existing base flashing method if the reason for the flashing detachment was related to structural movement or moisture infiltration into the substrate material.

In the case of movement in the substrate, provisions would need to be implemented in the flashing repair to accommodate the movement. Detail E in the Construction Details section of *The NRCA Roofing and Waterproofing Manual* provides a representative roof-to-wall expansion joint detail that would accommodate a reasonable amount of structural movement.

Similarly, if moisture infiltration in the masonry wall is the cause of the flashing distress, tuckpointing the masonry wall, installation of a metal cladding or, if appropriate, the application of a breathable, water-resistant masonry coating would be a necessary step in implementing a successful long-term repair to the flashing condition.

If the flashing detachment is found to be solely attributable to improper initial application or a lack of adequate maintenance to the original flashing, the use of spray polyurethane foam may be a viable repair material.

As with any repair material, the proper surface preparation, application and maintenance are critical to the long-term success of the repair. Specific information regarding surface preparation, application, coating and maintenance should be provided by the polyurethane foam manufacturer. PR

Each month in this column, Terrance R. Simmons, RRC, or Mark S. Graham, both NRCA deputy directors of technology and research, will answer readers' technical questions. If you have a specific question that you would like answered in this column, send it to Professional Roofing, *10255 W. Higgins Road, Suite 600, Rosemont, Ill. 60018-5607; or fax (708) 299-1183.*