

Factors determine number of core cuts needed for reroofing

by Terrance R. Simmons, RRC

Q: When investigating for possible reroofing, how many core cuts of an existing roof system should be taken to determine the type of roof construction present?

A: There is no single industry standard or guideline that describes the exact number of core cuts that are required. The actual number of cuts that should be taken is best determined by the field investigator, who, after visually surveying the interior and exterior of the building, will have an idea of how



A roofing professional takes a core cut from a built-up roof system.



many cuts should be taken and where the cuts should be taken from. Several factors, including, but not limited to the following, will help roofing professionals determine how many core cuts are necessary:

1. *Is the area to be reroofed?* If the investigator is unsure if the roof needs to be replaced or is determining if reroofing is necessary, the number of cuts taken should be kept to a minimum. Every time a cut is made in the membrane, it becomes a potential point for leakage. A cut to identify the construction may be all that is necessary at this point in the investigation. After the decision to reroof has been made, additional cuts can be taken in consideration of the other factors mentioned in this article.

2. *Membrane warranty.* If a warranty is in place on the existing roof system, the manufacturer will need to be notified and the repairs conducted in a manner so that the warranty does not become void.

3. *Tear off the existing roof system.* Even if the plan is to tear off the roof from the outset, cuts should be taken so that it is known what has to be removed. The amount of material to be removed, the types of material and their attachment are important factors when considering a tear-off.

4. *Size of the roof area.* Small areas may require fewer samples than large areas.

5. *Number of roof levels.* Each roof level should be cut at least twice.

6. *Expansion joints and area dividers.* Even though a roof level may appear to have the same construction on both sides of an expansion joint or area divider, this is not always the case. Expansion joints and area dividers often are used to separate different types of deck construction, building additions and areas of original roofing from recent reroofing activity.

7. *Extent of repairs.* If the existing membrane has had extensive repair work done throughout its history, then additional cuts will need to be taken in the repair areas to determine what work has been performed.

8. *Leak history.* If leaks have occurred, cuts can be used to verify moisture content within the construction. In a reroofing situation, it is advisable to conduct a nondestructive moisture evaluation when considering a re-cover. This nondestructive evaluation, coupled with cuts taken in suspect areas, can help define the location of wet construction.

9. *Multiple roof coverings.* If more than one roof covering is encountered, additional cuts may be necessary to determine if a distinct area is affected (i.e., a repair area) or if the entire roof area was re-covered. Note that the total number of in-place roof coverings is sometimes restricted by local building codes.

10. *Verification of deck construction.* This becomes crucial if the deck is concealed on the interior of the building by some form of permanent construction (e.g., drywall ceilings). Cuts should be taken down to the deck in most situations, and may need to be large enough to verify such things as the condition of the deck, the direction that decking units run (e.g., metal deck flutes), the ability to hold fasteners (verified through the use of pull-out tests) and the thickness or gauge of the decking material.

11. *Existing vapor retarder.* Cutting the roof down to the deck may be the only way to determine if a vapor retarder is present in the existing roof system.

12. *Attachment of components.* Large cuts can provide some insight as to the relative attachment of components to each other. If attachment is questionable, additional cuts and in-field uplift testing may be prudent. **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 magazine, 10255 W. Higgins Road, Suite 600, Rosemont, Ill. 60018-5607; or fax (708) 299-1183.