

ROOF CONSULTANTS BRIDGE THE GAP

BY DICK FRICKLAS

Back in the 1960s, the remarkable growth of the roof consulting profession was triggered by the failures of some poorly thought-out roofing specifications (and the ensuing litigation). Today, there are many reasons to have roof consultants as part of one's team.

First, the world is a far more complex place. Possession of an architectural or engineering degree does not mean that the degree holder has adequate knowledge or experience in roofing design. Many design professionals have found that joining the Roof Consultant's Institute (RCI) is the only way to become (or remain) proficient in issues of roofing and waterproofing.

Secondly, building owners and managers are finding that managing roofs efficiently is very difficult. Products come and go, warranties get issued but not enforced, and budgets often do not provide adequate surveillance or plan appropriately for repairs or replacement.

Building owners with multiple properties often engage outside consultants on a corporate level to give an overall picture of their properties, to plan capital expenditures, and to help prioritize maintenance and replacement projects. RCI offers educational programs that not only update building professionals, but train new staff as well. While outsourcing has become a bad word in the current economic climate, many designers and property managers have found that roof consultants have the talent and time to manage the roofing design and follow it throughout the construction phase.

Energy demands and soaring petroleum costs have changed insulation's role from just being a membrane's substrate to the

key conservation component of low-slope roofing. Today's roofing professionals must keep up with the ever-changing requirements of California's Title 24, ASHRAE 90.1, ASCE-7, national and local building codes, and new terms such as "LEED," "albedo," and "urban heat island." In addition, the complex insurance requirements of Factory Mutual Global and Underwriters

Laboratories must be met. With the push for sustainability and reflectance, what constitutes appropriate maintenance? Is power-washing a roof cost effective? Does it damage the roof? When should an owner initiate action?

Roof consultants offer moisture survey services based upon infrared, nuclear, or capacitance devices, as well as visual sur-

DICK FRICKLAS

Dick Fricklas is an author, journalist, and educator. He retired from the Roofing Industry Educational Institute in 1996, but continues to lecture and publish frequently. Along with co-author Bill Griffin, Fricklas recently completed the manuscript for the fourth edition of *The Manual of Low Slope Roof Systems* to be published by McGraw-Hill. Its expected release is December 2005. Dick is a contributing editor for *RSI* magazine and web columnist for *Buildings.com/newsletters/roofing*. He holds a bachelor's degree from Hofstra University and a master's degree in physical chemistry from Rutgers University. Dick is currently assisting Jerry Teitsma with curricula development for RCI's educational programs. Fricklas's awards include the J.A. Piper award from the NRCA, the James Q. McCawley award from the Midwest Roofing Contractors Association, the Walter C. Voss Award from ASTM, and Lifetime Achievement Awards from both the Educational Foundation of the Institute of Roofing and Waterproofing Consultants and from the Colorado Roofing Contractors Association. Dick is an honorary member of RCI. He lives in Centennial, Colorado, with his wife of 47 years, Anita. They have three children and seven grandchildren.



veys. Their comprehensive reports identify areas of wet insulation, determine how wet they are, and whether the roof can be repaired, dried out, or partially replaced. This can be part of an overall roof asset management program, set up by a competent roof consultant and tailored to the client's needs.

Building codes have been revised to require "positive drainage" rather than the previous minimum of 1/4" per foot. Tapered insulation systems can provide the necessary drainage, but only if well understood and designed properly.

Safety and health are issues of which every contractor and building owner must be conscious. While torched-on modified bitumens are excellent roofing systems, there is concern for possible fires. Roof observers must verify that the torch applicators have current certification. Owners or their representatives must establish fire watches and make certain that propane bottles and torches are not a tempting attraction for nuisance or vandalism. This should be part of an observer's daily report.


Then there are urgent construction matters, such as the current worldwide shortage of isocyanate (precursor of isoboard)

and the sudden discontinuance of an established product such as Fiberglas™ rigid insulation board. These may force a specifier to make a substitution on an emergency basis, without adequate time to properly research the consequence of the substitution. For example, changing from isocyanurate foam boards to polystyrene foam may force the designer to change attachment methods, add underlayment boards, or even switch to a more compatible roof membrane system.

On the maintenance side, while bituminous membranes can be repaired with mundane asphalt mastics or hot bitumen, single-ply repairs are generally membrane-specific. Roof consultants can identify what is on the roof and where to find appropriate materials and tools. If an owner does not have a current roofing file, an experienced consultant can make one. This file will tell what was specified, what was actually installed, and whether there are applicable warranties or guarantees. Observer reports and correspondence with the material manufacturer, general contractor, and others will be added during the construction phase. If or when repairs are made, the documentation of such repairs is also added to

the file, as are copies of visual or moisture surveys.

Consultants are specially trained to deal with quality assurance issues. They will conduct a pre-roofing conference to review roof plans and specifications and to observe the actual application of the roofing or waterproofing process. They will verify that materials are properly protected during shipment and field storage, and that labels are correct and in accordance with specifications. This quality assurance phase is so important that RCI has added an educational and registration program for roof observers (RRO). Observers are trained to monitor the construction process, documenting through photography and written word the conditions of the substrate, weather, flashing details, and contractor workmanship. While at first glance this might seem like a confrontation waiting to happen, contractors have found this documentation can verify that they did comply with specifications and can aid in their defense should problems arise.

We hope this special publication will kindle your interest in professional roof consulting and enable you to use professional roof consultants to your best advantage. 



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1500 Sunday Drive • Suite 204
Raleigh, NC 27607
(800) 828-1902 • (919) 859-0742
(919) 859-1328 fax
www.rci-online.org