

Retrofit drain standard “seals the deal”

Feedback from the specifying community has been resoundingly positive as architects and designers have embraced the recently approved ANSI/SPRI RD-1 Performance Standard for Retrofit Roof Drains. The passage of this standard has given specifiers a useful, third-party tool to recognize what roofing contractors already knew – that retrofit drains make for easier, cost-effective installations that perform well and significantly reduce callbacks.

SPRI, the association representing sheet membrane and component suppliers to the commercial roofing industry, developed this roof drain standard to fill the information void regarding retrofit drains.

America’s first national standard for retrofit roof drains was approved in early April of this year in accordance with protocol established by the American National Standards Institute (ANSI). This new standard is officially known as ANSI/SPRI RD-1, 2003, “Standard for Retrofit Roof Drains.”

Furthermore, ANSI/SPRI RD-1 has helped bring attention to the existence of factory-fabricated retrofit drains that feature mechanical seals to provide positive tie-ins to existing drains for watertight performance, notes Stan Choiniere, chairman of SPRI’s Technical Committee and national technical manager at Olympic Fasteners, Agawam, MA.

RD-1 spells out what performance levels must be met to achieve leak-free operation. “Retrofit drains that meet this standard have demonstrated a long-term history of successful use with all roof cover types,” says Choiniere. “Now, contractors and design professionals can work with a high confidence level for dependable performance if they follow the recommendations highlighted in ANSI/SPRI RD-1.”

Industry observers agree that retrofit roof drains have a solid track record of performance but having this national standard just seals up the whole package -- it gives architects and designers a higher comfort level about specifying these products.

Roofing contractors have long recognized the benefits of retrofit drains, but ANSI/SPRI RD-1 gives contractors more ammunition when talking with building owners – you can also use this standard as an informative selling tool.

Plus, Choiniere adds, “Retrofit roof drain products free contractors from their dependence on other trades, such as plumbers, and from the inconvenience of being at the mercy of other people’s schedules.”

Already, about 400 copies of the ANSI/SPRI standard have been downloaded in the past six months since it was officially approved. To facilitate distribution of this standard, SPRI has made it available free of charge.

The word has gotten out as more and more designers are now referencing RD-1 in their specifications.

Step-by-step guidelines

This six-page standard starts by defining the key elements of a retrofit drain, such as the backflow seal and the strainer dome. Next, it outlines general design considerations. A detailed section on testing describes a protocol to measure the performance of a backflow seal.

How to calculate whether there will be sufficient drainage is explained with the help of two useful tables as well as a mathematical formula for approximating flow requirements.

In addition, a helpful Isopleth map of the continental US shows maximum one-hour rainfall values with a 100-year return rate ("100-year rain").

John Hickman, chairman of SPRI's Roof Drain Standard Task Force, explains that while the national plumbing codes had established standards for new roof drains, there had been no guideline for what to do with an existing roof upon which retrofit drains are to be installed.

The main differences between retrofit drains and new ones stems from the need to place them where the existing drains already are installed, says Hickman, chairman of W.P. Hickman Co., Asheville, NC. This means that capacities need to be checked, plus the connection to existing plumbing must be leak-free and the drain must properly seal to the roofing membrane.

Due to their very nature, retrofit roof drains have smaller drainage diameters than original drains because they must fit *inside* the existing plumbing, so it is especially important to calculate whether there will be sufficient drainage. Assuring sufficient capacity depends upon the retrofit drain diameter, the number of drain sites and the rainfall expectations for the building location.

Standard procedures

As with the other national standards that SPRI has helped develop, ANSI/SPRI RD-1 was officially canvassed in accordance with protocol established by the American National Standards Institute (ANSI).

SPRI has been certified as an official ANSI canvasser since 1994. In the intervening decade, SPRI has seen the acceptance of four of its design documents, including this one, as ANSI standards.

The other standards, which are updated every five years, are: "ANSI/SPRI FX-1 2001, Standard Field Test Procedures for Determining the Withdrawal Resistance of Roofing Fasteners;" "ANSI/SPRI RP-4 2002, Wind Design Standard for Ballasted Single-Ply Roofing Systems;" and "ANSI/SPRI ES-1 2003, "Wind Design Guide for Edge Systems Used with Low-Slope Roofing Systems." Another standard on insulation adhesives is currently under development.

For more information, please visit SPRI's web site at www.spri.org.

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