

Cool roofing doesn't always mean reflective roofing

By George Evanko, EPDM Roofing Association

For the past decade, reflective roofing materials have stolen the headlines in terms of energy-efficient roofing. Organizations such as the Cool Roof Rating Council (CRRC) and the U.S. Department of Energy and its ENERGY STAR program have been diligent in their efforts to promote the benefits that a reflective roof system provides, which are primarily reduced rooftop temperatures and subsequent reductions in air conditioning usage.

However, we appear to be entering a new phase in the drive to create energy-saving roof systems. The regulatory bodies that have been implementing the rules under which building professionals operate are expanding the options available to those professionals as they plan their systems. If more agencies follow suit, it will soon be possible to develop energy-saving roof systems using the most logical and effective materials in every region of the country.

Recently, the Single Ply Roofing Industry (SPRI) funded a three-year study (available at www.SPRI.org), conducted at the Oak Ridge National Laboratory (ORNL), to determine if ballasted roof systems offer similar energy-efficiency benefits as reflective roofs.

Ballasted systems were the first type of installation used when single-ply roof systems entered the commercial roofing market over 45 years ago. For decades they grew in popularity, and over the past four decades have averaged 250 million s/f of installations per year. Recently however, the reflective roofing movement has changed the perception of what a quality roof system is, and ballasted systems have taken a slight fall from grace, but that is likely to change in light of the SPRI study.

Concluded in 2008, the SPRI study reached the following conclusions:

- The cooling loads for the heavy and medium stone-ballasted and uncoated paver-ballasted systems were approximately the same as for the white system.

- Cooling loads for the light-weight stone systems were slightly larger than for the white system but significantly less than for the black system.

- By the start of the second year of the project, temperature and cooling loads increased for the white system due to the effects of weathering.

- Heating loads for the ballasted systems showed random variation as loading increased and type changed. Except for the heavyweight stone system, they were about the same as for the white system.

- The heavyweight stone system



Photograph courtesy of Carlisle SynTec

Rooftop ballast plaza on the campus of Colgate University

showed slightly less heating load than the black system but this is considered an anomaly due to rain effects.

- All evidence on clear days of diurnal behavior showed the heavy-weight stone and uncoated paver systems performing equally due to the same thermal mass despite different solar reflectance.

In the report summarizing the study's results, André Desjarlais, program manager of the Building Envelopes Program at ORNL, stated that certain ballasted roof systems "are as effective as white-membrane roofs in mitigating peak energy demand."

Based on this evidence, it was clear that ballasted roof systems should be allowed as a cool roof option in the standards set by the various regulatory bodies across the country. As the executors of these bodies learned more about the performance of ballasted roofs, some have agreed to adapt their standards accordingly.

Earlier this year, Chicago added an exception to its code that allows certain ballasted roofs to be used in lieu of mandated reflective materials. The action in Chicago follows a similar decision by the California Energy Commission (CEC) and a tentative decision by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), to update their "cool

roofing" standards and recognize ballasted roof systems as an acceptable alternative to light-colored materials.

"The roofing community is increasingly emphasizing sustainability and energy efficiency, however the reflective roofing movement seems to have blurred many people's vision as to how best reach those goals," said Samir Ibrahim, director of design services for Carlisle SynTec. "Ballasted roofs have been an effective solution for decades, and the actions of the City of Chicago and other code-adopting bodies are proving that these systems have value in our nation's move toward designing truly energy-efficient rooftops and buildings."

In cooler climates, such as found in Chicago and New York, the major goal of energy savings will be to reduce heating costs. In that situation, a ballasted roof would likely best achieve that goal because the ballast retains the sun's heat energy during colder months. Most importantly, a wider range of options will likely lead to better decisions and results, which is, after all, what everyone is seeking as they strive to reduce energy consumption in commercial buildings.

George Evanko is the director of communications for EPDM Roofing Association, Bethesda, Md.

Kempf joins EYP as chief financial officer

ALBANY, NY EYP Architecture & Engineering welcomed John Kempf as its new chief financial officer. Kempf,



John Kempf

who possesses more than 18 years of financial and strategic planning, risk management, and leadership experience, will play a key role in EYP's plan for continued growth. EYP president and CEO Tom Birdsey,

AIA, said, "John's deep expertise, combined with his vast wealth of knowledge in leading high-performance teams and managing growth, make him a perfect addition to our senior leadership team."

Kempf has a proven record of success in leadership roles across a variety of industries, including Fortune 5 and Fortune 100 Companies. He previously served at Tyco International as vice president of finance, Earth Tech Division, and director of corporate governance at the company's headquarters, as well as in numerous leadership roles within multiple divisions at The General Electric Company.

FROM SMPS N.Y. AT ANNUAL AWARDS DINNER Della Volle receives 2009 Mktg. Achievement award

NEW YORK, NY Eileen Della Volle, vice president of business development at KS Engineers, P.C., was chosen as this year's recipient of the Marketing Achievement Award at the New York Chapter for the Society of Marketing Professionals' (SMPS) 13th Annual Honor Awards Dinner on Tuesday, May 5. The event was held at the Union Square Ballroom. Della Volle was nominated by Robert Nash, vice president/chief engineer of KS Engineers. Jeannine LaRue, vice president of public affairs, Rutgers University presented the award to Della Volle.

"I'm not surprised that Eileen is this year's recipient of the Marketing Achievement Award," said LaRue. "She conducts her professional life as she does her personal life, by connecting with the hearts and souls of those around her while figuring out who they are and what their needs are. That's marketing at its height. And...that's Eileen."

Della Volle is being honored for her outstanding commitment and contributions to the city's built



Shown (from left) are: Jeannine LaRue presenting the Marketing Achievement Award to Eileen Della Volle

Sam Schwartz Engineering receives award from American Council of Engineering Companies

NEW YORK, NY Sam Schwartz Engineering (SSE) was recently awarded the Diamond Award for Engineering Excellence from the American Council of Engineering Companies. The award recognizes the Greenlink Windsor Transportation Land Use Planning project for demonstrating a high degree of achievement, value

and innovation. The award is the highest honor given by the ACEC. As a result of receiving the Diamond Award by the ACEC New York Chapter, the Greenlink Windsor Project was then eligible to be considered in the ACEC national competition.

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U.S. Energy Group's PlanUSE: A plan to help reduce fuel use by 2.4 billion gallons of heating oil

NEW YORK, NY Mayor Michael Bloomberg, presented an initiative on April 22, "Making Buildings Energy Efficient is the Single Biggest Step New York Can Take to Go Green." However, this announcement failed to address the fact that the city has not updated J-51 legislation, which would support EMS technology, the single most cost-effective way of reducing oil and gas consumption and carbon emissions in large existing buildings.

In response, Jerry Pindus, CEO of U.S. Energy Group, has come up with a practical approach for buildings in New York City to reduce fuel use over the next 15 years – in the amount of 2.4 billion gallons. PlanUSE, which has been shared with city officials, is the continuation of public policy discourse over PlanNYC that the company has had with members of City Council and City agency officials. U.S. Energy Group already works closely with the New York State Energy Research and Development Authority (NY-SERDA) Multifamily Performance Program.

The central focus of the PlanUSE is to reduce the "open windows effect," wherein many New York City residents open their windows in the middle of winter due to over-heated buildings – literally throwing fuel, carbon-emissions and money out the window. The goal is to promote greater fuel efficiency, building control and energy monitoring. Pindus said, "In order to prevent the 'open windows effect,' we must end the overheating of buildings in New York City."

PlanUSE involves a legislative recommendation for the city to revise J-51 legislation to make the EMS incentives offered through that program current. The plan also has an educational component, which would encourage the development of general guidelines for the maximum indoor temperature of a building. The idea is to empower property managers to monitor and then manage their buildings' indoor temperatures within a very specific range.

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