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EPDM article for *Rubber Waterproofing Association*

Why EPDM is More Than Just a Black Membrane

In the midst of tough economic times and the increasing popularity of sustainable commercial roofing materials, suppliers of ethylene propylene diene monomer (EPDM) continue to see the many benefits of this system, including its outstanding weathering characteristics, flexibility, durability, hail resistance and life cycle costs. However, when seeking a “cool” roofing option, many building professionals do not realize that EPDM provides similar energy savings as its white, non-EPDM, counterparts.

According to the EPDM Roofing Association, EPDM market share in Europe is around 12 percent and growing, compared to 35 percent in the United States where 20 billion-plus square feet has been installed on low-slope roofs. There has also been continued growth of EPDM in the Middle East and China.

Benefits

Behind more than four decades of successful field performance, EPDM has become the system of choice for many suppliers, contractors, specifiers and building owners worldwide. With superior wind, hail and fire resistance, EPDM also handles the some times harmful effects of Mother Nature.

Weatherability is paramount to EPDM’s success, and a recent study conducted by Jim D. Koontz and Associates Inc. (JDK), of Hobbs, New Mexico, showed that new and aged non-reinforced EPDM roof assemblies offered a high degree of hail resistance over a variety of roofing substrates, including polyiso, wood fiber, plywood and OSB board. Of the 81 60-mil,

non-reinforced EPDM samples installed over the substrates, 76 retained their waterproofing integrity when impacted by hail up to 3 inches in diameter.

EPDM is also available for use in a variety of climates because of its dimensional stability and ability to expand and contract with movement. Its unique formulation ensures that EPDM is virtually resistant to harmful ozone exposure and UV radiation, along with cold cracking. EPDM does not rely on plasticizers to achieve flexibility, so there is no danger of the membrane becoming brittle from plasticizer loss in the future.

As with any roofing system, insulation is important to ensure the building is energy efficient. Adding additional insulation to an EPDM project can not only increase the R-value, but eliminate thermal short circuits and potential moisture issues.

Energy Savings

EPDM offers commercial roofing professionals a variety of energy efficient options.

White EPDM membrane systems have been created to enhance UV resistance. These systems provide the same performance characteristics as black EPDM membranes but with added environmental and energy benefits.

White coatings that can be applied to the black EPDM membrane surface have also become increasingly popular to extend the roof life, increase energy savings and decrease pollution.

Ballasted EPDM roofing systems also play a similar role to reflective roof surfaces. Although pavers and stone ballast do not have as high reflectivity rates as white coatings, ongoing tests indicate that there is a positive impact on energy usage with this EPDM system type. The ballast absorbs the heat during the day while shading the roof membrane and then releases the heat during the evening hours.

Photovoltaic panels and garden roof systems are also compatible for use with fully adhered EPDM membranes for added energy savings.

Long Lasting

Life cycle costs of EPDM membranes have exceeded other popular low-slope roofing systems, such as mechanically attached thermoplastic, modified bitumen and built-up roofing. EPDM membrane durability has also led to long life expectancy ratings, including more than 23 years in covered applications, more than 26 years in exposed applications and an estimate of more than 50 years for ultimate service life.

With so many roofing systems available today, EPDM membranes provide the most versatility and have a proven track record that reinforce why it is best option for nearly any project.