

Second life for weathered TPO roofs

The Construction Chemicals business unit of Dow (DCC) has introduced an acrylic technology to extend the life of TPO roofs that are beginning to show signs of wear and tear.

Rather than undergo potentially costly TPO membrane replacement, building owners and roofing contractors can now coat roofs using a coating made with new Rhoplex EC-3100 polymer. It is 100 % acrylic and is said to provide very good adhesion, durability, water resistance and reflectivity for low-VOC roof coatings. DCC says, that the cost for TPO roof coatings made with the new technology is competitive with other high performance roof coatings systems. Dow plans to commercialise the new product by early 2011. It is currently being tested by customers, which are primarily coatings formulators.

“Applying an elastomeric coating to asphalt, modified bitumen, EPDM, and sprayed polyurethane foam roofs has been industry practice for years, but the industry has struggled to develop a coating that would provide superior adhesion to the increasingly popular TPO roof membranes,” says Javier Baños, DCC strategic marketing manager. A main problem of current TPO roof coatings is that they do not stick well to TPO rooftops. “Roof coatings do not properly adhere to TPO membranes, so formulators have been unable to participate in the TPO-recoat market,” said Joseph Rokowski, DCC’s group leader of R&D. “There is no other waterborne elastomeric rooftop coating that provides this level of adhesion. This is a brand-new market for our product.”

“A layer of specialised white coating on flat or low-slope rooftops extends the life of the roof and increases heat reflectivity, resulting in significant energy savings from the ‘cool roof’,” said Rokowski. “We estimate that in the summer months, a cool roof can cut the electricity load for air conditioning by 20 – 25 %.” The reflective property of the coating comes from TiO₂.

TPO roofs started gaining popularity 10 – 15 years ago in the US and are now the roofing industry’s fastest-growing segment in the country. White TPO roofs in particular have experienced sustained growth due to their ability to help curb greenhouse gas emissions and the Urban Heat Island (UHI) effect, as well as reduce a building’s cooling costs by reflecting sunlight off of the roof’s surface. An acrylic TPO rooftop coating can be applied as soon as the rooftop becomes sufficiently weathered. And the coating can last about five years before it needs to be reapplied, Rokowski explains.

TPO rooftops in the US today account for between 20 – 25 % of new flat to low-slope rooftops. The market for elastomeric rooftop coatings has grown at more than 5 % per year over the past decade; DCC expects similar growth rates in the future. The company sees a EUR 74 million annual sales opportunity for its new acrylic-based elastomeric coatings and said that it estimates a 5 – 10 billion square feet (140 – 280 million m²) installed TPO rooftops in the US waiting to be coated.

Cool Roof Rating Council is an independent, non-profit US organisation that maintains a third-party rating system for radiative properties of roof surfacing materials. Some municipalities in the US are even mandating the use of cool roofs in their building codes. In Europe TPO roofings are not widespread today.

Adresse:

<http://www.gupta-verlag.com/allgemein/nachrichten/technik/8852/second-life-for-weathered-tpo-roofs>