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SYNTHETIC UNDERLAYMENTS

Leading-Edge Technology Taking Hold As Architects And Contractors Learn Of Benefits

By Sal Catanese,

Synthetic underlayments can best be described as one of the newest members of a generation of high-tech, high-performance underlayment alternatives. They can be used under shingles, tiles, slate, metal or cedar shakes and synthetic roof claddings. In cases of unforeseen severe weather conditions and construction delays, the installed products can be left uncovered for months and still maintain their leak-proof status. They will retain their resistance to water even after long-term exposure to UV rays and extreme heat.

Sound too good to be true? A closer look into the composition of these new synthetic underlay-

ments and further details on the product's benefits may help convince you to give this new "miracle material" a closer look.

Most synthetic underlayments are polymer-based polyethylene or polypropylene woven or spun-bound heavy laminates. Polymers are substances whose molecules have high molar masses and are composed of a large number of repeating units.

Polyethylene is perhaps the simplest polymer. There is a high-density polyethylene (HDPE) and low-density polyethylene (LDPE) used in some synthetic underlayments. HDPE is hard and resilient and is used in the manufacture of containers such as milk jugs and laundry detergent bottles. LDPE is relatively soft and used for the production of the kind of plastic films used in sandwich bags.

Synthetics have been shown to withstand high winds better than traditional underlayments. They are also resistant to insects, vermin, rot and fungus.

Another polymer type used in these new roofing underlayments is polypropylene. Polypropylene (PP) is slightly more brittle than polyethylene, but softens at higher temperatures. Polypropylene is used extensively in the automotive industry for interior trim such as instrument panels.

Onto the top of the product is added an anti-slip coating, or layer of material which is also laminated. This enhances the