

## Lead-free—not just gasoline

Essen, Germany-based Evonik Industries AG, Bitufa Waterproofing B.V., Wapenveld and Ubbink B.V. Doesburg, of the Netherlands have developed an environmentally friendly and health-protecting substitute for all lead-containing insulation material for the construction industry.

Historically lead has been an indispensable insulating material in the construction industry. Now Evonik Industries AG, Essen, Germany, Bitufa Waterproofing B.V., Wapenveld and Ubbink bv, Doesburg of the Netherlands have brought to marketability a novel product with impressive advantages. Ubiflex, a 100 percent lead-free product available in specialty stores, offers an ecological and health-compatible, non-toxic alternative for building insulation material. “Ubiflex can be used universally for all traditional lead applications,” says Roeland van Delden, CEO of Bitufa.

Work on a formulation for an appropriate bitumen modification was carried out jointly with engineers from Evonik Industries. Ubiflex is based on bitumen sheeting, modified with the Evonik product VESTOPLAST® and combined with an expandable aluminum substrate. Ubiflex is especially suitable as a replacement for lead flashings, the classic roof coverings for waterproof sealing that roofers use for chimneys, dormer windows, and skylights for example, but also on balconies and solar collectors. The material can be cut, molded, hammered, and bonded in the usual way.

“The advantages of replacing lead, a toxic heavy metal, are immense,” says Evonik’s Marlies Vey, a technical service specialist. The environmental impact during production is significantly reduced, the health risk associated with inhalation during processing is zero, and the usual safety precautions are no longer needed. Physical strain on the workers is greatly reduced because the rolls are 70 percent lighter. In addition, sheets up to 12 meters long can be used, which saves time and costs.

The material even tolerates slight damage, as is caused by nails, for example, because its elastic properties allow automatic self-sealing. A valuable side-effect of the absence of lead is that aluminum, zinc, and

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copper in the rain-water drainage system are not attacked so that the structures are more durable.

The laid material is resistant to corrosion, UV exposure, strong temperature fluctuations between -30 and +90 degrees Celsius, and heavy wind loads. Because of this durability the manufacture offers a warranty of up to 25 years.

Yet another advantage over traditional lead flashings is that used material is easily separated and recycled by thermal processes. Eco-friendly Ubiflex products based on VESTOPLAST® thus provide a further example of corporate orientation toward responsibility and sustainability at Evonik Industries.

Besides owners of buildings don't have to be frightened that Ubiflex is stolen from their roof like lead is, because Ubiflex doesn't have any scrap value.

Sales and marketing activities for lead substitute Ubiflex are carried out by the Ubbink Group, global supplier of energy efficient, sustainable systems and solutions for the building and contractors industry.

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Evonik is active in over 100 countries around the world. In its fiscal year 2009 about 39,000 employees generated sales of about €13.1 billion and an operating profit (EBITDA) of about €2.0 billion.

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