

News Release

“Bau 2015”: Making good insulation better

- **First bracket for ventilated façade systems (VFS) made of thermoplastic Ultramid for the construction industry**
- **DIBt approval awarded – immediate use without permission in individual cases possible**

Good insulation depends on the materials employed and intelligent technology. The MAAS Profile / BEMO Systems GmbH company group has teamed up with BASF in developing the first bracket for ventilated façades made of the thermoplastic Ultramid® to be awarded a DIBt (Deutsches Institut für Bautechnik) national technical approval. The plastic, an extra high-strength polyamide compound, is already in successful use in the automotive industry, e.g. for engines mounts, and is now being launched as an innovative material for ventilated façades in the construction sector. Similar materials have already been performing impeccably in the thermal separators of aluminum façades and windows for decades.

No more thermal bridges on the façade

These days, most office, commercial and industrial buildings with ventilated façade systems are very well insulated. However, often only between 60 to 80 percent of the desired insulation performance and hence energy savings are achieved. This is because the load-bearing elements for mounting the façade elements are made of metal and – counteracting the insulation's effect – allow heat to be transferred between the façade and the wall. Newly developed

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Ultramid brackets eliminate thermal bridges. The system has been awarded a DIBt national technical approval. Armed with this plastics component, building owners and architects can meet the tougher requirements of the Energy Efficiency Ordinance (EnEV). The load-bearing mounting system features not only extremely low thermal conductivity, but also outstanding and long-term strength.

"We were looking for a long time for a product that insulates our high-quality façades much better. And this was only possible with a radically new approach to the bracket," explains Wolfgang Maas, Managing Director of MAAS and BEMO. For this project, MAAS-BEMO and BASF have pooled their expertise and developed the bracket of glass-fiber-reinforced Ultramid through to market maturity.

Heat-resistant – UV-stable – resistant to ageing

The bracket consisting of 50 percent glass fibers in the polymer compound withstands high temperatures and displays outstanding insulation efficiency with a thermal conductivity of 0.37 W/(mK). By comparison, aluminum is a roughly 500-times better conductor. The plastics bracket penetrates right through the insulation and thus helps to effectively insulate the building against heat and cold.

Its combustion behavior has also been studied in depth. Fire tests on fully mounted façades have shown that even in severe fires the façade stays firmly attached and the thermoplastic brackets do not aid the propagation of the fire. As a manufacturer of Engineering Plastics, BASF with its wealth of expertise was able to help MAAS-BEMO in selecting the materials, developing the product and obtaining the approval. Dr. Kay Brockmüller, BASF Project Manager in applications development for Engineering Plastics in the construction sector, underlines the special material properties of the glass-fiber-reinforced polyamide: "The material has outstanding insulating characteristics, withstands high loads, hardly ages at all (unlike many other plastics), and is UV-resistant as well as extremely tough." For building owners and architects, a genuine

alternative to conventional metal fasteners is thus available as an assurance of optimal insulation and energy efficiency.

Bernd Schröter, Managing Director of the installer S+T Fassaden, reports: "We've equipped several buildings with these innovative brackets in the last few years because building owners attach importance to outstanding insulation. We managed to execute the installation work much faster than with conventional systems using metal brackets, as the bracket with its sharp edges cuts through the insulation itself."

The brackets are marketed by MAAS Profile, BEMO Systems GmbH and distributors Systema Pohl GmbH, GABS AG and BWM Dübel + Montagetechnik GmbH.

Visit us at "Bau 2015"

BASF: Hall A6, Stand 303

MAAS-BEMO: Hall B2, Stand 520/522

Photo 1: TEKOFIX bracket by MAAS-BEMO made of thermoplastic Ultramid® by BASF in the insulation; sectional view.

Photo 2: Neckargemünd school center, a reference building with a 3700 m² facade, year of construction 2008, made with bracket of thermoplastic Ultramid® by BASF. The building is certified by Passive House Institute Darmstadt.

About MAAS Profile and BEMO Systems GmbH:

MAAS Profile produces and markets high-grade metal profiles for roofs, facades and ceilings throughout Germany. BEMO Systems GmbH sells system solutions for roofs and facades throughout Europe.

About BASF

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, we combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of about €74 billion in 2013 and over 112,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at www.basf.com.

About BASF Performance Materials

The Performance Materials division brings together the entire materials know-how of BASF regarding innovative, customized plastics under one roof. Active in four major industry sectors – automotive, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with a deep understanding of application-oriented system solutions. Key drivers of profitability and growth are close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis for innovative products and applications. Performance Materials recorded global sales of €6.5 billion in 2013.

Further information on the Internet at: www.performance-materials.basf.com