

News Release

P325/24e
November 28, 2024

For advanced metal replacement: bridging the gap between PA66 and PPA with Ultramid® T7000

- **PA/PPA blend shows higher, more constant stiffness and strength than PA66**
- **For structural parts which are exposed to moisture: automotive mirror housings, air brake parts and furniture components**

For advanced metal replacement in structural parts, BASF is now offering a portfolio of polyamide (PA) and polyphthalamide (PPA) blends with better, more constant mechanical properties than PA66. Ultramid® T7000 outperforms PA66 regarding stiffness and strength in dry state and especially in presence of humidity. The polyphthalamide portion leads to a lower water absorption, which gives components an excellent dimensional stability. Ultramid® T7000 can be as easily injection-molded as PA66, giving parts a glossy and smooth surface finish. This unique combination of properties makes the PA/PPA blend a perfect metal replacement for structural parts which are exposed to moisture, e.g., automotive mirrors, air brake parts, valves but also furniture components.

All these components not only benefit from the excellent mechanical properties of Ultramid® T7000: They can also be optimized using BASF's simulation tool Ultrasim® to e.g., improve the NVH (noise, vibration, harshness) performance. The result is a more robust assembly with consolidation of parts, no corrosion, and improved durability. Thus, considerable weight and cost savings for an overall assembly can be achieved using the PA/PPA blend instead of metal.

Ultramid® T7000 is globally available with different glass-fiber reinforcements up to 60% for highly loaded structural parts. There are also grades in laser sensitive black and surface-improved black. “We offer a tailored portfolio for different customer needs covering performance, special certifications and sustainability”, says Andre Schäfer from global business development PPA at BASF. “In close collaboration with our technical service colleagues we want to inspire our customers to investigate other weight and cost saving opportunities for metal replacement which is now possible with our strong and stiff Ultramid® T7000. For additional sustainability benefits like a lower Product Carbon Footprint, biomass-balanced and Ccycled® grades will be available soon.”

About Ultramid® Advanced

BASF’s polyphthalamide portfolio is based on the six polymers Ultramid® Advanced N (PA9T), Ultramid® Advanced T1000 (PA6T/6I), Ultramid® Advanced T2000 (PA6T/66), Ultramid® T KR (PA6T/6), Ultramid® T6000 (PA66/6T) and Ultramid® T7000 (PA/PPA). They open the door to the next generation of lightweight, high-performance plastic components in many different sectors including the automotive industry, electronics and electric devices, mechanical engineering and consumer goods. The PPA portfolio is available globally and complemented by BASF’s Ultrasim® simulation tool and extensive experience in application development. It includes more than 50 compounded grades for injection molding and extrusion, products with or without flame retardants. The compounds are available in different colors, from colorless to laser-markable black, with short-glass, long-glass or mineral fiber reinforcement, and with various heat stabilizers.

Further information: www.ppa.basf.com

About BASF’s Performance Materials division

BASF’s Performance Materials division is at the forefront of the much-needed sustainability transformation in plastics. Our products are co-created with customers around the globe to bring innovations to major industry sectors such as transportation, consumer goods, industrial applications, and construction. Our R&D focuses on all stages of the plastics journey: Make, Use and Recycle. The MAKE phase is about improving how plastics are made, from product design to the choice of raw materials and the manufacturing process itself. The USE phase enhances plastics’ strengths such as light weight, robustness, and thermal resistance. At the end of the product lifecycle, the RECYCLE phase looks at how to close the loop to achieve a circular economy. In 2023, the

Performance Materials division achieved global sales of €7.2 billion. Join #ourplasticsjourney at: <https://www.performance-materials.basf.com>

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 112,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €68.9 billion in 2023. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the United States. Further information at www.basf.com.