# News Release

BASF
The Chemical Company

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## Optimized in every regard

- **Even more lightweight design: Better utilization of improved-flow resin thanks to ULTRASIM simulation method**

- **Two new Ultramid High Speed grades**

In extensive simulation studies, BASF has now demonstrated that the new Ultramid® B High Speed grades (PA 6) make it possible to achieve weight savings of up to 25% when designing plastic parts. However, the enormous benefit offered by this improved-flow material can only be attained if special simulation methods are used to their full extent. For this purpose, the company has further extended the capabilities of its ULTRASIM™ universal simulation instrument.

In addition, the range of products in the easy-flow polyamide 6 family has been expanded by two new grades: the Ultramid® B3WG6 High Speed grade with 30% glass fiber content is being joined by Ultramid B3WG8 High Speed with a glass fiber content of 40% as well as the Ultramid B3GK24 High Speed grade, which is reinforced with glass fibers and glass spheres and is characterized by extremely low warpage.

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**Three objectives simultaneously**

Ultramid® B High Speed flows at least 50% farther than standard PA6. This makes it possible to reduce the wall thicknesses, and thus the weight, of a plastic part considerably. At the same time, however, the part being designed must still satisfy the minimum requirements for mechanical properties such as rigidity, for instance. Furthermore, it must also be processable without difficulty on a conventional injection molding machine. Until now, mechanical performance and processing conditions could only be addressed and optimized in succession. This not only made (CAE) development more time-consuming; it frequently meant that the plastic part design was too heavy, preventing full utilization of the potential for weight savings.

**ULTRASIM™ with integrated optimization**

By extending the capabilities of its ULTRASIM™ simulation instrument, BASF can now optimize both steps - part filling and mechanical properties - on the computer at the same time. Mathematical part optimization has now been integrated into classical integrative simulation, making integrative optimization possible.

The part's weight can now be minimized, while at the same time the mechanical performance - for instance, maximum deflection - and manufacturing parameters such as maximum possible injection pressure are incorporated into the optimization process. With the aid of expanded ULTRASIM™, parts molded from Ultramid® B3WG6 High Speed have the lowest possible weight, satisfy demanding mechanical requirements yet can still be produced without additional effort. The design flexibility possible for a part can be truly exploited only with such an easy-flowing resin.

Possible applications for Ultramid® B High Speed include pedals, part brackets and other vehicle components that must withstand a static load.

www.ultramid.de
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Additional information: Available at Ultraplaste.infopoint@basf.com or by calling the phone number +49 (0) 621 60 78780.

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