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## **PRESS INFORMATION**

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### **Grivory HT3 opens up unimagined possibilities**

**The new, unreinforced high-performance Grivory HT3 polyamides are used in applications where other plastic materials reach their limits. This is the case, for example, with the steering column bearing housing sleeves for models in the BMW 5 and 7 series: This component is exposed to radiation heat from the engine and must withstand temperatures up to 130°C.**

In this application, focus is not only stiffness and strength, but also on slip behaviour and impact strength. BMW decided on use of Grivory HT3Z LF which contains a certain amount of polytetrafluorethylene. This makes the material excellently suited for the manufacture of technical components, especially those which are exposed to tribological loading. The stability of the construction components is due to the excellent toughness of Grivory HT3 which also provides good temperature stability which is required for the BMW steering column bearing housing sleeves. This component is exposed to temperatures of up to 130°C from heat radiating from the engine but thanks to the heat resistance of Grivory HT3 in permanent use, the required properties are excellently maintained.

#### **Versatile use in high temperature ranges**

Due to its special polymer structure, Grivory HT3 has reached a completely new performance spectrum which is unique in this group of construction materials. Grivory HT3Z and Grivory HT3Z LF are well suited for use at temperatures up to 240°C and exhibit excellent impact strength and dimensional stability. Both unreinforced grades are based on polyphthalamide and belong to the GreenLine assortment of EMS-GRIVORY products being made of 50% renewable raw materials. With its GreenLine products, EMS-GRIVORY makes an important contribution to careful handling of fossil fuel resources.

The basic version Grivory HT3Z is characterised by high strength and toughness while in addition, both Grivory HT3Z and Grivory HT3Z LF exhibit very low water uptake, high dimensional stability and excellent resistance to chemicals. With this exceptionally good property profile, Grivory HT3Z and Grivory HT3Z LF open up new fields of application – starting at the point when conventional materials such as POM, PA6 or PA66 reach their limits or are well beyond them.

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Property	Standard	Unit	Grivory HT3Z	Grivory HT3Z LF	POM	PA6/66LF
Density	ISO1183	g/cm <sup>3</sup>	1.13	1.19	1.42	1.16
Melt temperature	DSC	°C	295	295	178	260
Water uptake 23°C saturated	ISO 62	%	2.6	2.5	-	5.0
Tensile stress at break cond.	ISO 527	MPa	80	70	71	50
Elongation at break cond.	ISO 527	%	11	5	14	15

*Property profile of Grivory HT3Z and Grivory HT3Z LF compared to POM and PA6/66LF.*



*BMW steering column bearing housing sleeves made of Grivory HT3Z LF natural.*



#### **Contact for technical questions**

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