

## PRESS INFORMATION

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### Significantly improved heat ageing resistance

To date there has been a gap with regard to application temperatures, between heat-stabilised PA66/6 grades (Grilon TSG-W and TSG-W2) and high heat stabilised polyphthalamides (Grivory HT2VS-HH). The new high heat stabilised Grilon TSG-W3 closes this gap and completes the product portfolio for the temperature range from 150 °C to 250 °C.

The megatrend of downsizing is continuing in the automotive segment. Engines with smaller cylinder capacity and increasingly effective turbo charging have raised charged-air temperatures to a permanent 210 °C with peaks of 230 °C at pressures of 3.3 bar. In comparison, ten years ago, these temperatures were maximum 200 °C at pressures of around 1.5 bar. With Grilon TSG-W3, the latest addition to the Grilon TSG family, EMS-GRIVORY has introduced a further excellent material, in particular for applications in charged-air systems.

#### Successful charged-air systems

The tried and proven Triple-Six-Polyamides Grilon TSG-W and TSG-W2 can be used to cover the 150 °C to 210 °C temperature range. Up to 190 °C, Grilon TSG-W can be used without limits; at temperatures up to 210 °C, Grilon TSG-W2 is used.

In the past, these two materials were used to realize challenging applications in charged-air systems. The Mann+Hummel Company, for example, uses Grilon TSG-35/4 W2 for selected resonators, corner connectors or charged-air cooler end caps for PSA (Peugeot Citroën). The EMS materials exhibit not only very good resistance to temperature, but also excellent surface quality and simple processability. As Grilon TSG-35/4 W2 replaces PA46 in these applications, additional cost savings can also be achieved.

#### No compromise with the new generation

Due to the steadily increasing requirements on charged-air systems in particular, EMS-GRIVORY has developed the third generation in the TSG-W series: Grilon TSG-W3. This new material has excellent heat ageing resistance up to 230 °C. Grilon TS XE 16002 (TSG-35/4 W3) for example, still maintains 75% of property values for tensile strength at break after 3000 hours at 230 °C. This means that even at 230 °C it has heat ageing resistance equivalent to that of high heat stabilised polyphthalamides. Its excellent surface quality is identical to the Grilon TSG-

W2 generation. This reduces pressure loss in the charged air system and makes post-treatment on sealing sections unnecessary. In this way, Grilon TSG-W3 is predestined for applications in charged-air systems such as, for example, charged air cooler end caps, charged-air pipes, resonators or connectors.

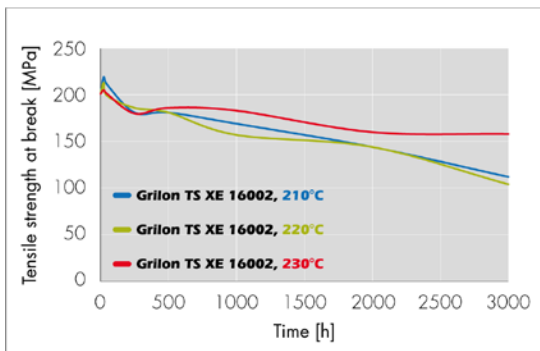
The new Grilon TSG-W3 closes the gap between the first and second generation Grilon TSG W grades and extreme heat stabilised High Heat Polyamide Grivory HT2VS-HH.

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*Resonator from Mann+Hummel (France)  
for PSA made of Grilon TSG-35/4 W2.*



*Heat-storage results for new Grilon TS  
XE 16002 (TSG-35/4 W3) for 3000 hours  
at temperatures between 210 and  
230 °C.*



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