Domat/Ems, September 22, 2026

PRESS INFORMATION

Metal replacement in grease units: integrated solution using transparent and glass fiber-reinforced polyamides

With a newly developed grease unit made from Grilamid TR and Grivory GV, EMS is opening up new possibilities for consistent lubrication in automotive and machinery applications – while replacing conventional metal components. Whether in heavy-duty vehicles such as garbage trucks, heavy trucks, excavators and tractors, or in onshore and offshore wind turbines, the solution is designed to ensure safe and continuous lubricant supply.

At the core of the concept is the combination of two EMS-GRIVORY high-performance polymers in one system: the unit itself is made from Grilamid TR, which offers excellent chemical resistance to lubricants as well as high UV stability. Its transparency allows the fill level to be visually monitored at any time – without the need for sensors or additional openings. At the same time, the required pressure resistance of the entire lubrication system is reliably achieved.

The base plate of the reservoir is now made from Grivory GV, fully replacing the previously used metal design. This base plate integrates numerous screw connection points and must withstand high mechanical loads resulting both from the weight of the unit and from fastening within the application.

To optimally design the component's performance, extensive structural simulations were carried out. The geometry of the base plate was specifically engineered for stiffness and strength, resulting in a robust and application-oriented design suitable for both stationary and mobile use. The new grease unit is therefore particularly well suited for applications with high vibration and shock loads, such as heavy-duty vehicles, mobile machinery, and wind turbines.

The close development partnership between EMS and the customer was crucial in consistently optimizing the component for cost, weight and resource efficiency. The result is a grease unit that not only delivers strong technical performance but also provides users with a clear competitive advantage.

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