

Instant electrostatic charge dissipation

Electrostatic charging of thermoplastic components in the fuel system is an old problem. Since modern fuel systems operate at higher pressures and flow rates than ever before, the risk of electrostatic charges is potentially increased. A new Hostaform® POM grade provides the solution here. This specially modified, electrically conductive Hostaform grade ensures better safety and protection.

In the fuel system of the Ford Transit, Siemens VDO, Schwabach/Germany is already placing its trust in the special properties of Hostaform EC140XF. A holder produced from this innovative material is used as the mounting for the fuel level indicator and lever arm/float assembly. The protective function and smooth operation of the system are guaranteed for the lifetime of the vehicle at continuous service temperatures ranging from -40 to +80 °C. To take account of the increased temperature requirements for modern diesel engines, the polymer also incorporates an additional hot diesel stabilizer system.

Already complies with planned standards

In Japan, Europe and the USA, stricter regulations governing the electrical conductivity of materials are being drawn up.

For example, the new standard SAE J1645 of the Society of Automobile Engineers in the USA, which applies to thermoplastics in fuel systems, specifies very low volume resistance with an extremely short discharge interval so that voltage is specifically dissipated in an instant.

“In addition to complying with this stricter standard, the materials must retain the same mechanical properties and fuel resistance as the polymers previously used,” explained Ralf Langhammer, from Ticona Market Development. Now, with Hostaform EC140XF, an innovative carbon black filled POM has been launched that meets the SAE requirements. But our development team is already working on other formulations in which new conductive nano-fillers will be used.



Siemens VDO uses the new Hostaform® grade EC140XF in the fuel system of the Ford Transit. The special modification of the polyacetal ensures good electrostatic charge dissipation.

Polymers for precision display instruments

Drivers of vehicles want instrument panels to look attractive and provide a clear display. And yet the “inner workings” of the assembly are even more important. The instruments must function accurately and reliably and also be easy to read – as is the case with the Siemens measuring system 2000. To optimize the electromechanical step motor that drives the instrument indicator, Siemens VDO Automotive AG, Schwabach/Germany has chosen Celanex® PBT for the motor housing.

During operation, the instrument indicator is illuminated by a light source within the housing. It is essential that the light does not scatter or disappear behind the panel. After numerous trials and fine adjustments, Siemens VDO and Ticona, working in close partnership, achieved the required balance between reliable light-tightness and toughness – with the Celanex 4022 grade.

Well-positioned and protected

This flat, two-part housing produced from the special PBT grade provides a secure location, in which the individual components, such as the rotor, drive, and coils can operate undisturbed in a well-protected environment.

For the top and base of the housing, very complex shapes are required that must withstand mechanical stresses during assembly and large temperature variations in service.

On the base of the measuring system, there are clips for mechanically fastening it to a circuit board. This has eliminated the need to use screws. An alignment pin ensures exact positioning. In addition, integrally injection molded elements on the housing enclose the rotor bushings. The housings feature many extremely tightly tolerated dimensions, which are achieved thanks to the excellent material properties and a narrow processing window.



Perfect balance: For the housing of Siemens VDO's measuring system 2000 Celanex® offers reliable light-tightness and toughness.