

Case Study

Uncoated truck radiator grille made from PBT+PC blend



Figure 1 Volvo truck radiator grille

Pocan C 1202, a blend of polybutylene terephthalate and polycarbonate (PBT+PC) newly developed by LANXESS for large exterior truck components, has proven highly effective in an initial series application. It is used to manufacture the uncoated radiator grille for the FMX Construction Truck in the FM series. This was fitted with a completely new front section by Volvo Trucks Corporation that is specially adapted to the harsh operating conditions in construction site traffic.

Pocan C 1202 had the edge because it gives components a high-quality, sufficiently weather-resistant surface that has a fine grain pattern and no longer needs to be coated. It also demonstrates a high toughness level that makes the radiator grille resistant to stone chippings and other mechanical stresses.

The radiator grille is produced by [Gerhardi Kunststofftechnik GmbH](#) in Lüdenscheid, Germany, a leading manufacturer of plastic components for vehicle interiors and exteriors in Europe.

With dimensions of around 180 x 35 x 4 centimeters, the radiator grille is very large for an injection-molded part. For that reason the relevant mold is filled using cascade technology. This is where the excellent flowability of the non-reinforced material pays off, despite its high toughness level.

OEM: Volvo Trucks
Grade: Pocan® C 1202
Manufacturer: GERHARDI Kunststofftechnik GmbH, Germany

Latching lugs and mounting domes can also be reproduced reliably at the end of the flow path. In addition, the excellent flow behavior causes only minimal distortion and ensures the fine grain pattern can be reproduced with great precision. The ease of removal from the mold and the low and consistent shrinkage complement the material's outstanding processing behavior. In order to cut costs, the radiator grille is not coated. Accelerated, artificial weathering tests on test pieces with Thundergrey paint, for example, showed that the PBT blend meets the requirements for UV stability based on the Volvo standard. Good chemical resistance was also called for. Pocan C 1202 shows excellent resistance to elements that vehicles encounter on an everyday basis, such as road salt, grease, oil, diesel, liquid coolant, AdBlue urea solutions, battery acid, and insect and windshield cleaners.

LANXESS has now developed a wide range of PBT blends for truck paneling and moldings such as fenders, wind deflectors, A pillars, bumpers and access steps. High-tech plastics meet specific needs in each case, enabling LANXESS to offer very stiff, low-distortion or easily coatable blend varieties. Numerous projects on large external components in the driver's cab are currently under way using these PBT grades in conjunction with truck manufacturers and system suppliers.

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