

Serial application in automotive electronics: Door control devices made of the Ultradur® S4090 High Speed plastic

Case Study

The especially low-warpage version of Ultradur® High Speed – BASF's very easy-flowing PBT – is now being used in its first serial application in automotive electronics. Ultradur® S4090 G4 LS High Speed, a PBT/ASA blend filled with 20% glass fibers, is now being employed in a door control device that the Division Automotive Systems of Continental AG, a worldwide supplier to the automobile industry, manufactures for use in the Audi A4 and A5. (PBT: polybutylene terephthalate; ASA: acrylonitrile-styrene-acrylate copolymer)

The door control devices are located in the vehicle doors and are connected to the central electronic unit via the vehicle electrical system. These devices are not only responsible for opening and closing the doors and windows but they also control safety functions such as the squeeze protection and other electrical modules in the door. For this application, in which the contact pins of the connectors are connected to the circuit board without being soldered, the plastic of the housing should be dimensionally stable. The pins have to fit very precisely into the openings that is to say, into the plug receptacles of the housing. This is why the low-warpage Ultradur® S4090, is especially well-suited for this application. Its high-speed property – meaning the markedly improved flowability in comparison to standard PBT/ASA – offers users shortened cycle times and improved mold filling. This reduces the number of rejects as well as the wear and tear on the injection mold since a lower injection pressure is sufficient.

