Thermostat housing for VW: Ultramid® HRX in serial production

Case Study

For its thermostat housings VW uses the engineering plastic Ultramid® A3WG6 HRX. The new polyamide specialty from BASF which is available worldwide has been developed specifically for applications requiring high hydrolysis resistance in conjunction with high strength.

The coolant control module's cover made from Ultramid® must withstand demanding conditions – a pressure of several bars at a peak temperature of up to 130 °C – and exhibit minimal deformation, as this would reduce the module's efficiency.

Compared to its all-aluminum predecessors, the housing cover molded from the polyamide specialty offers benefits in terms of both weight and cost: In contrast to the metal component, the molded plastic component does not need to be finish-machined, and the desired dimensional accuracy, especially of sealing surfaces, is easier to achieve. Supports, holders, valve seats and other functions can be integrated into the molded component without effort. In addition, the high surface quality of the plastic is important, since it counteracts abrasion by the coolant.