

## Water-assisted injection molding of fluid-conveying tubes made from Ultramid®

### Case Study

Teklas, a Turkish supplier to the automotive industry, has actively pushed the development of water-assisted injection molding technology (WIT) for manufacturing hollow plastic parts. For the production of fluid-carrying tubes for automobiles in high volumes the company applies this method and uses the BASF engineering plastic Ultramid® A3HG6 WIT. This glass fiber reinforced polyamide 66 grade has been developed specifically for WIT, and offers good inside and outside surfaces as well as the required high chemical resistance. The new tubes that Teklas is developing for almost all large European automobile manufacturers provide individual conveying of cooling water, air and oil in the engine compartment.

In addition to resistance to the fluid being conveyed, a low pressure drop is one of the primary requirements that fluid-conveying tubes in the engine compartment must satisfy. Thus, the inside surfaces have to be especially smooth. For the parts to be economical, the wall thickness must be uniform and as thin as possible.

partment, so that maximum design freedom and flexibility for the manufacturing process is essential when it comes to developing very specific, integrated solutions. The use of plastic tubes in place of the heavier metal tubes results not only in weight savings, but also eliminates the need for expensive metal working equipment.



Just as the number of car models continues to increase, so do the constraints within the engine com-