

Case Study

Durethan® BKV 50 H2.0 EF for a belt pulley in a washing machine



Figure 1 Belt pulley for a washing machine drum

The belt pulley shown in the photograph is used inside washing machines. Normally, drive wheels of this type for rotating the washing machine drum are made of die-cast aluminum. The use of plastics, with their much lower melting temperatures and density, offers a cheaper and lighter-weight alternative.

Durethan BKV 50 H2.0 EF was seen to be a suitable material. This is an easy-flow, heat-stabilized polyamide 6, with 50 % glass fiber reinforcement. Apart from permitting a pulley with the same dimensions, the conditions for the substitution of the metal were that the polymer had to ensure a similarly low level of noise development and fulfill identical mechanical requirements.

Grade: Durethan® BKV 50 H2.0 EF 900119

Industry: Electrical/Electronics

LANXESS supported the manufacturer in the development of the part by, for example, performing strength calculations and mold flow simulations for the filling of the injection mold.

The following key properties of Durethan BKV 50 H2.0 EF made the substitution possible:

- high stiffness and strength
- high heat deflection temperature
- dimensional stability
- resistance to chemicals
- easy processing

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