

Case Study

Durethan® DP BKV 60 H2.0 EF for gearbox housing



Figure 1 Gearbox housing for a Vorwerk electric brush

The [Vorwerk Elektrowerke GmbH & Co. KG](http://www.vorwerk.com) company is proud of its reputation for quality and innovation. This certainly applies to the EB 360 electric brush, a powerful accessory to the company's range of vacuum cleaners. At a speed of up to 6200 rev/min, the rotating brushes remove dirt from both carpets and hard floors.

The motor is connected to the brush shaft via a toothed belt drive which is enclosed by the gearbox housing shown in Figure 1. This housing not only protects the toothed belt, but also serves to maintain the belt's tension and provides a bearing seat for the shaft.

The two-part gearbox housing is made from Durethan® DP BKV 60 H2.0 EF – a highly reinforced, easy-flow PA 6 grade with 60 % glass fiber.

Material: Durethan® DP BKV 60 H2.0 EF

Manufacturer: Vorwerk Elektrowerke GmbH & Co. KG

Durethan® DP BKV 60 H2.0 EF has a number of advantages over 30 % glass fiber reinforced general-purpose grades:

- accurate fit thanks to low shrinkage and a minimal tendency to warp
- high dimensional stability due to reduced moisture absorption
- little tendency to creep
- high mechanical load-bearing capacity
- high heat resistance
- fast cycles
- easy processing thanks to good flowability
- good surface quality

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