

Case Study

Durethan® BKV 130 GIT for an office chair back rest



Fig. 1 Back rest for the JET-N office chair

[Coko-Werk GmbH & Co. KG](#) is a system supplier of articles made of engineering plastics. The company offers development and design services, has an in-house mold building facility, and conducts plastics processing right through to the assembly stage.

A swivel chair with an innovative back rest was developed for office furniture manufacturers [König und Neurath AG](#). The special feature of this back rest is the frame that is covered with a mesh fabric. The frame has to be capable of withstanding considerable mechanical loads while being lightweight at the same time. And, since it is a visible element of detail, it must also offer an outstanding surface finish.

The search for an appropriate product rapidly led to Durethan® BKV 130, a material that has proved successful for office chairs for many years. Durethan® BKV 130 is a high-impact polyamide with glass fiber reinforcement. A variant of this product, Durethan® BKV 130 GIT, was selected for the new swivel chair. This specialty, which was actually developed for gas-assisted injection molding (which is not used here), provides the excellent surface finish that is required.

Material: Durethan® BKV 130 GIT
Manufacturer: Coko-Werk GmbH & Co. KG
OEM: König und Neurath AG



Fig. 2 Simulation of the deformation under static loading

The back rest is required to pass a static test to ANSI/BIFMA X5.1. The engineering teams at the companies involved accordingly carried out calculations to establish the mechanical layout, and performed the necessary optimizations. Practical tests have since shown that the back rests satisfy all the requirements.



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