Case Study

Air intake hose made of Durethan® BKV 315 Z

Material: Durethan® BKV 315 Z

OEM: Daimler AG, Germany

Molder: Woco, Germany

Industry: Automotive

The name Woco stands for innovative automotive engineering with a focus on vibration technology, acoustics and vehicle comfort. As a worldwide primary developer for the automotive industry, the company is a market leader.

In the area of engine acoustic systems, the air intake hose (see picture) was developed for Mercedes-Benz. It is used in their 6-cylinder engine to transport clean air from the air filter to the turbocharger.

This engine part has to meet demanding requirements, which is why Woco decided in favor of the LANXESS plastic Durethan® BKV 315 Z. This grade of polyamide is a high viscosity, branched PA 6 with 15 % glass fibers. It has a significantly higher melt strength than comparable linear (unbranched) polyamides.

LANXESS formulated this polyamide grade – which allows complex components to be produced in large sizes – specifically for extrusion applications, such as extrusion blow molding. Its increased melt strength enables the customer to extrude tubes of the necessary length and weight. At the same time, it also improves the plastic's weldability in comparison to standard polyamides.

Additional benefits to point out are:

- Very good resistance to heat and hot air, even over long periods of time
- Easy to process, even by 3D blow molding
- High impact strength

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Typical Properties
Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Health and Safety
Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling LANXESS products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS. For materials that are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

Regulatory Compliance
Some of the end uses of the products described in this brochure must comply with applicable regulations, such as the FDA, NSF, USDA and CPSC. If you have any questions on the regulatory status of any LANXESS engineering thermoplastic, consult your LANXESS Corporation representative or contact the LANXESS Regulatory Affairs Manager.

Regrind
Where end-use requirements permit, regrind may be used with virgin material in quantities specified in individual product information bulletins, provided that the material is kept free of contamination and is properly dried (see maximum permissible quantities and drying conditions in product information bulletins). Any regrind used must be generated from properly molded/extruded parts, sprues, runners, trimmings and/or film. All regrind used must be clean, uncontaminated, and thoroughly blended with virgin resin prior to drying and processing. Under no circumstances should degraded, discolored, or contaminated material be used for regrind. Materials of this type should be discarded. Improperly mixed and/or dried regrind may diminish the desired properties of a particular LANXESS product. It is critical that you test finished parts produced with any amount of regrind to ensure that your end-use performance requirements are fully met. Regulatory or testing organizations (e.g., UL) may have specific requirements limiting the allowable amount of regrind. Because third party regrind generally does not have a traceable heat history or offer any assurance that proper temperatures, conditions, and/or materials were used in processing, extreme caution must be exercised in buying and using regrind from third parties. The use of regrind material should be avoided entirely in those applications where resin properties equivalent to virgin material are required, including but not limited to color quality, impact strength, resin purity, and/or load-bearing performance.

Note:
The information contained in this publication is current as of August, 2008. Please contact LANXESS Corporation to determine if this publication has been revised.

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