

Case Study

Thermoformed engine compartment hood made from Durethan® BKV 315 Z H2.0



Fig. Engine compartment hood

France-based [Technoplast Industries](http://www.technoplast.com) is a specialist in the thermoforming of industrial components for automobiles, commercial vehicles, agricultural machinery, and conveying and lifting equipment. Their services range from the production of extruded sheet and thermoforming to the manufacture of finished components.

One example is the engine compartment hood shown above. It consists of a thermoformed outer sheet of ABS/PMMA which provides gloss and color, and a substructure, also thermoformed, which ensures the mechanical function of the hood. Despite its size, the 1 m wide x 2 m long x 0.5 m high part is lightweight and highly dimensionally stable.

Material: Durethan® BKV 315 Z H2.0

Manufacturer: Technoplast Industries

The substructure is manufactured from Durethan® BKV 315 Z H2.0, a thermoplastic developed especially for extrusion applications such as blow molding and sheet extrusion. This high-viscosity, cross-linked, polyamide 6 with 15 % glass fiber reinforcement has the following favorable properties:

- Good bondability
- Thermoformability
- High strength and stiffness
- High long-term service temperature
- Good heat resistance
- Good resistance to greases, oils and fuel

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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 April, 2010. Please contact LANXESS Corporation to determine if this publication has been revised.

