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BALTEK® VBC
Engineered Structural Balsa

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BALTEK® VBC combines the natural performance of Balsa with the engineering and manufacturing expertise of 3A Composites. Common Balsa core materials offer outstanding mechanical properties, which are isotropic. The combination of lamellas on **BALTEK® VBC** results in an engineered core material with oriented properties.

At a glance:

- / The composite layer enables perfect machining such as cutting, milling and grinding up to a core thickness of 1 mm
- / The high inherent rigidity of the core makes it easy to process large formats up to 1220 mm x 3050 mm
- / Great engineered mechanical properties

BALTEK® VBC 0°/90°

The product is based on balsa wood lamellas, which are alternately bonded length and crosswise (0°/90°) to form a solid timber block. The core material is cut from the raw blocks into core sheets. In-plane lamellas provide the core with its great rigidity, whereas the end-grain lamellas ensure compression and adhesion resistance.

Owing to its bending rigidity, the product is also used as a self-supporting and dimensionally stable core with the potential to omit the need for moulds or support structures in composite manufacturing.

Processing

BALTEK® VBC can be easily processed due to the layer resolution and cross-banding of the lamellas against each other. Ultimately, this results in a number of advantages to processing and manufacturing:

- / Cores can be easily assembled by screwing or gluing. Conventional fasteners work excellently. Their inherent stiffness facilitates the production of self-supporting cores



Figure 1: Excellent processing quality to 1mm core thickness without affecting the outstanding engineered wood properties.

Bending Modules MOE (DIN EN 310)

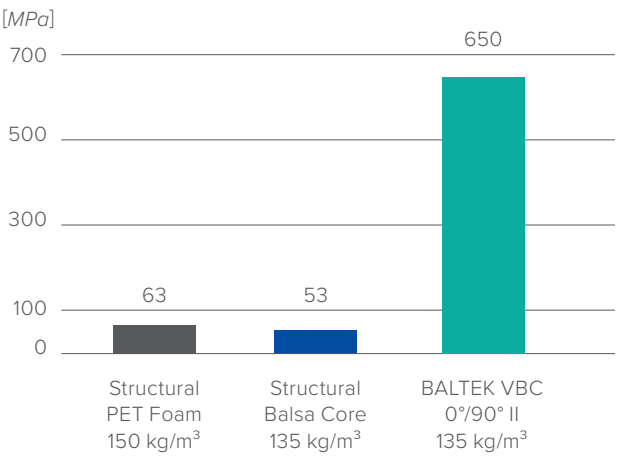


Figure 2: 10 times higher lengthwise bending stiffness exceptional core stability to the raw core of the same density class.

Comparison of raw core bending stiffness between a conventional core and **BALTEK® VBC**. The inherent rigidity of **BALTEK® VBC** is more than 10 times higher offering great advantages in handling, processing, and core manufacturing.

Additional outstanding properties:

- / Excellent fatigue and impact resistance
- / High vibration damping and sound absorption
- / Use in extremely wide temperature range -212 °C to +163 °C (-414 °F to +325 °F)
- / Very good fire behavior that meets the highest requirements (fire, smoke, toxicity)

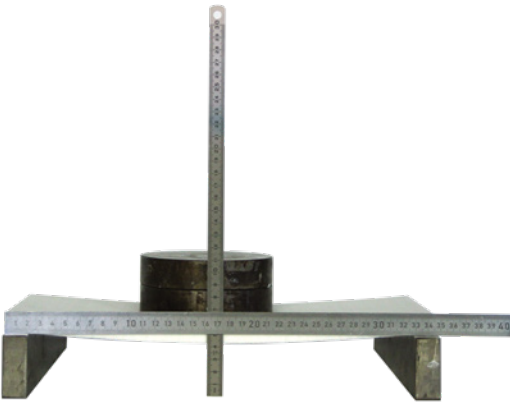


Figure 3: Deflection of conventional foam or balsa core.



Figure 4: Deflection of BALTEK® VBC core lengthwise load.

