



BALTEK® VBC

Engineered Structural Balsa

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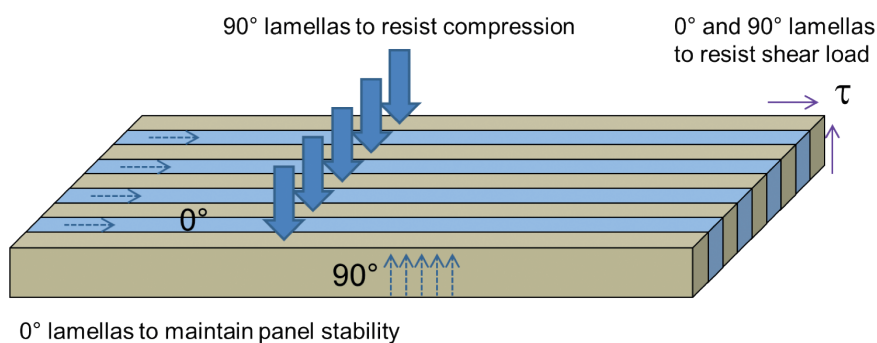
BALTEK® VBC combines the natural performance of Balsa with the engineering and manufacturing expertise of **3A Composites**. Common Balsa core materials offer outstanding mechanical properties, which are isotropic. The combination of lamellas on **BALTEK® VBC** results in an engineered core material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

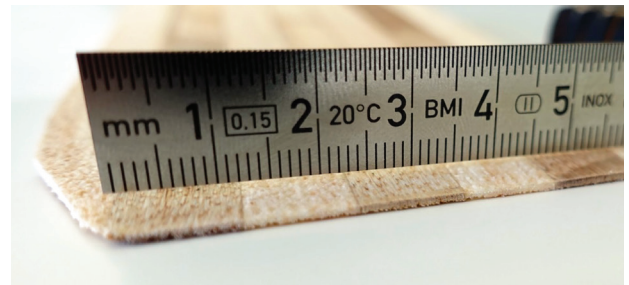


Figure 1: Excellent processing quality to 1mm core thickness without affecting the outstanding engineered wood properties.



Bending Modules MOE (DIN EN 310)

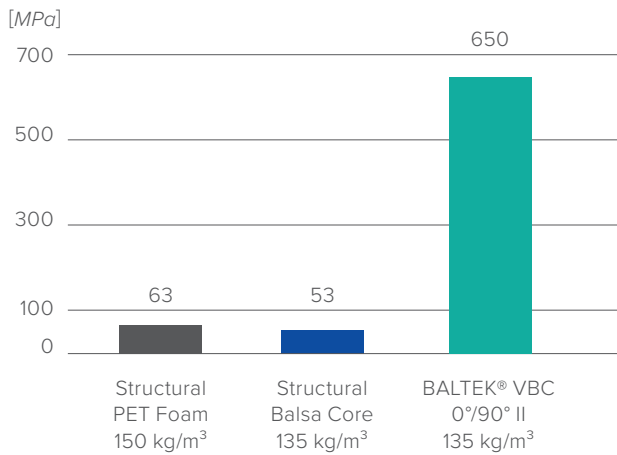


Figure 2: 10 times higher lengthwise bending stiffness exceptional core stability to the raw core of the same density class.

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)



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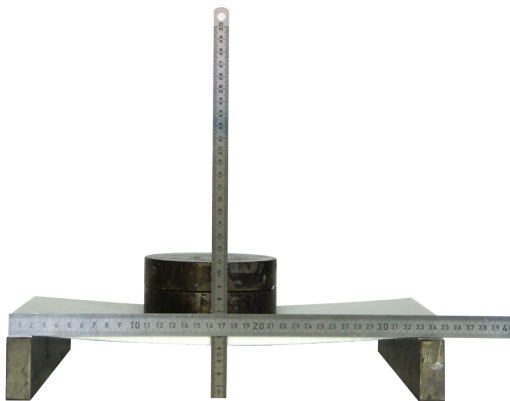


Figure 3: Deflection of conventional foam or balsa core.



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



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