Europe | Middle East | India | Africa
Airex AG
5643 Sins, Switzerland
T +41 41 789 66 00 | F +41 41 789 66 60
corematerials@3AComposites.com

North America | South America
Baltek Inc.
High Point, NC 27261, USA
T +1 336 398 1900 | F +1 336 398 1901
corematerials.americas@3AComposites.com

Asia | Australia | New Zealand
3A Composites (China) Ltd.
201201 Shanghai, China
T +86 21 585 86 006 | F +86 21 338 27 298
corematerials.asia@3AComposites.com

3A COMPOSITES CORE MATERIALS
The future is greener.

www.3ACcorematerials.com

3A COMPOSITES CORE MATERIALS

BALTEK® VBC

Engineered Structural Balsa

www.3ACcorematerials.com

BALTEK® VBC
Engineered Structural Balsa

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.

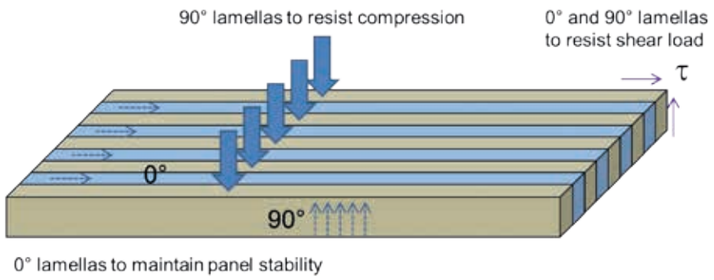
Owing to its bending rigidity, the product is also used as a self-supporting and dimensionally stable core with the potential to omit the need for moulds or support structures in composite manufacturing.

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.



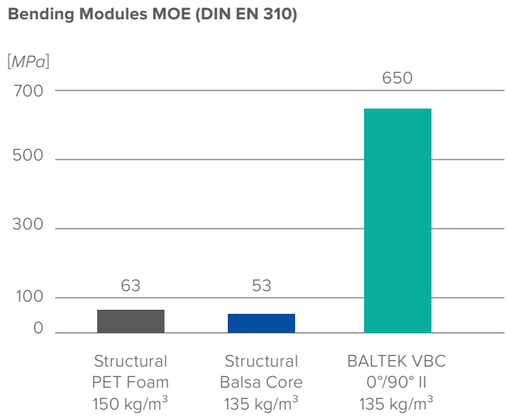


Figure 2: 10 times higher lengthwise bending stiffness exceptional core stability to the raw core of the same density class.

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)**

FSC www.fsc.org FSC® C019065 The mark of responsible forestry

FSC www.fsc.org FSC® C125018 The mark of responsible forestry

Figure 3: Deflection of conventional foam or balsa core.

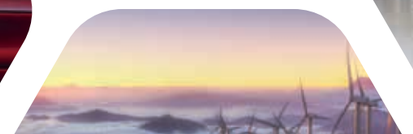



Figure 4: Deflection of BALTEK® VBC core lengthwise load.