BALTEK® SBC.80

New weight optimized density grade

Average sheet density of 132 kg/m³

We optimized nature's toughest core material for modern composite applications

BALTEK® SBC.80

BALTEK® balsa wood is well known for its superior mechanical properties due to its natural honeycomb structure. However, products are mostly limited to a few specific densities. This often results in laminates which are over-engineered and heavier than necessary.

Wouldn't it be great to design with a balsa core having a slightly lower density but still strong properties, and without concern of limited supply?

By utilizing our own plantations and state of the art production facilities, **3A Composites Core Materials** is in the unique position to offer a weight optimized balsa density: BALTEK® SBC.80.

www.3ACorematerials.com

3A COMPOSITES CORE MATERIALS

BALTEK® SBC.80

New weight optimized density grade

What is BALTEK® SBC.80?

BALTEK® SBC.80 is a new product introduced by **3A Composites Core Materials**, the world's market leader in structural core materials. With SBC.80 customers have the exclusive opportunity to reduce the weight of their laminates. Even high volume applications can benefit from SBC.80 with 3A Composites' global sourcing potential: We own and manage over **13.000 ha of FSC®-certified balsa wood** plantations in Ecuador and Papua New Guinea. Studies from 3A Composites solutions' engineering team together with **WINDnovation Engineering Solutions GmbH** have shown that even though the weight reduction is 10%, the decrease of sandwich properties is minimal. BALTEK® SBC.80 balsa core material is still incredibly stiff. This makes SBC.80 perfectly suitable for demanding applications such as wind turbine blades and boat hulls.

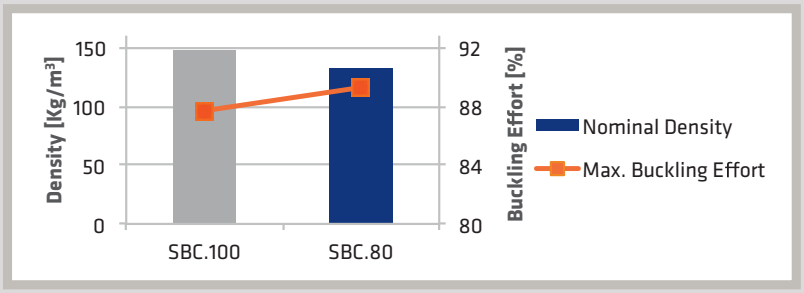
Key properties

- Average sheet density of 132 kg/m³ (8.25 lb/ft³).
- 10% lower sheet density in comparison to SBC.100.
- Lower resin uptake due to lower density provides additional weight saving.
- Minimal impact on sandwich properties due to superior stiffness of balsa.
- Global supply from Ecuador and Papua New Guinea.
- Optimized use of forest resources, positive impact on supply & availability.
- Ecological product from 3A Composites balsa wood plantations (FSC-C019065) and (FSC-C125018)

Fig. 1: 3A Composites Core Materials Ecuador balsa nursery overview.

Wind rotor blade case study

A wind rotor blade design study by **WINDnovation Engineering Solutions GmbH** on a 63.5 m rotor blade (IEC S, B) confirms the suitability of BALTEK® for modern blade designs. When replacing BALTEK® SBC.100 for SBC.80, despite a decrease in properties of ca. 10% the increase in buckling effort (= ratio of load applied vs critical buckling load) only increased by absolute 1.6%. Hence the influence of material shear stiffness is not decisive in this case. Certainly the core material weight reduction of ca. 10% was well appreciated. *To discuss your specific case, please contact* **3A Composites Core Materials** *(corematerials@3acomposites.com).*



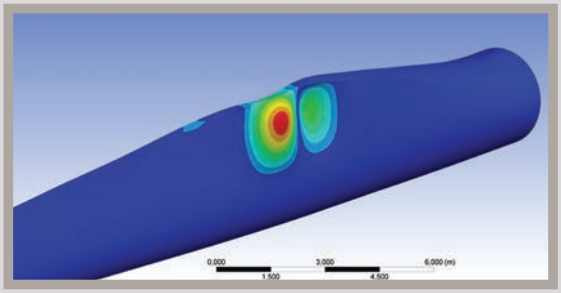


Fig. 2: Global buckling analysis of wind energy rotor blade.

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