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BALTEK® SealX
Closing the gap on
foam core material

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BALTEK® SealX is an innovative balsa coating that reduces the resin-uptake and generates the lowest total cost of ownership and highest performance.

The Total Cost of Ownership (TCO) is a function of both direct and indirect material cost – the resin uptake is a major driver of the indirect material cost.

Balsa is the best universal core material in terms of its mechanical properties, weight, and cost. However, its naturally high resin-uptake is a weakness for manufacturing.

SealX reduces the balsa total cost of ownership (TCO) by a significant decrease in the resin uptake, resulting

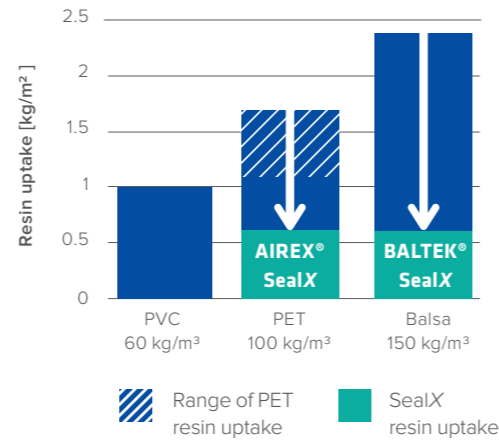
from a newly developed DNV-GL approved balsa coating. The coating closes the gap on the commonly used foam core materials. With the drastic reduction in the resin-uptake, the specific balsa performance is elevated to a new level.

Externally verified weight reduction

BALTEK® SealX lowers the resin uptake by more than **80% for rigid panels and 50% for flexible panels**.

For a flexible panel with 25 mm thickness, the resin uptake is reduced from 3.5 kg/m² to 1.8 kg/m². The resin savings of 1.7 kg/m² close the gap between the market foam core and balsa core material, setting a new benchmark for balsa coatings available on the market.

The natural resin uptake of uncoated balsa is highly dependent on thickness, but **SealX** eliminates the thickness dependency.



Resin uptake comparison of PVC, PET and **BALTEK® SealX** based on 25 mm rigid panels.

Photographic documentation of BALTEK® SealX



Visualization of resin uptake in cross section of infused balsa wood. Left: resin filled vessels in standard balsa. Right: **BALTEK® SealX**.

DNV-GL verified properties

The **SealX** process maintains excellent mechanical properties of the balsa core itself. Numerous tests run by the **3A Composites Core Materials** R&D team as well as by leading OEMs have confirmed its high adhesion properties for both drum peel and flatwise tensile strength well above the polymer foam cores.

The **SealX** finishing has been externally tested and approved by DNV-GL confirming the resin savings of 1.9 kg/m² for 25.4 mm rigid panels and the material properties for shear and compression strength.



SealX preserves the naturally high fatigue properties of **BALTEK®**.

Application example

— Use in wind turbine rotor blades

The impact of weight reduction is illustrated by the use of a state-of-the-art 70 m hybrid core rotor blade.

Wind turbine blade example	
Infused balsa area	200 m ²
Average balsa thickness	30 mm
Finishing option	ContourKore 2" x 1"
Resin uptake BALTEK SBC.100 LP	800 kg
Resin uptake BALTEK SBC.100 SX	400 kg
Net resin economy in weight (+ cost)	400 kg

3A Composites Core Materials solutions engineering teams support industrial customers during material qualification and homologation.

The coating has the following positive side effects:

- / **Reduced moisture uptake, therefore less dimensional variation**
- / **Less dimensional variation improves the kit nesting making the core lay-up more efficient**
- / **Reduced risk of exothermic reactions**

BALTEK® SealX is compatible with all the commonly used epoxy resins.

BALTEK® Balsa core

— Truly sustainable core material

The importance of sustainability has increased continuously. **3A Composites Core Materials** balsa plantations are FSC®-certified, and sustainable as confirmed by external audits.

Global availability and sustainability

3A Composites Core Materials has a global sourcing base and manufacturing set-up. Over 13.000 ha of FSC®-certified plantations in two independent regions ensure global supply for industrial customers.

At a glance:

- / **Resin uptake reduction of 80% for rigid balsa panels and 50% for flexible balsa panels**
- / **Significant reduction in weight and cost**
- / **Externally tested and verified properties by DNV-GL**

