

Statement of Approval

DNV·GL

Approval No. **WP 1610007 HH**

The material described below complies with the applicable requirements as given in the Rules and Regulations of GL. On this basis the material is

approved as **Sandwich Core Material**

for the construction of components provided that the recommendations for use as specified by the producer are observed.

Type **BALSAFLEX - Series**

Description **End Grain Balsa Wood**

Producer **Gurit Balsa SL.
Avda. Jaume I, 76 4rta. 1a.
17001 Girona
Spain**

Normative Reference **GL Rules for Classification and Construction,
II - Material and Welding Technology
Part 2 Non-Metallic Materials**

Remarks **Approved production site:
Gurit Balsaflex Cia. Ltda. Gurit (TianJin)
KM, 19 Via a Ventanas No.1 Hengtong Road
120501 Quevedo - El Yat Sen Park,WuQing District,Tianjin
Ecuador China 301726**

This document consists of this page and a one-page annex which is integral part of the approval.

This Statement of Approval is valid until 2020-06-30.

Hamburg, 2016-06-28

DNV GL


Stefan Röhr


Guido Michalek

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ANNEX

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Date: 2016-06-28

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Reference Documents Technical specifications deposited at DNV GL Approval Center

Assessed Documentation - Technical Data Sheet
 - Test Report No. 10/2036-3166 and 3167 issued by Applus, dated on 2011-01-18
 - Test Report No. 11/3896-2793 and 2794 issued by Applus, dated on 2011-01-18
 - Test Report No. 10737 issued by the DNV GL accepted testing laboratory of Gurit Americas, dated on 2016-06-06

Fields of Application Construction of FRP sandwich laminates of components, at the condition that the core material complies with the applicable requirements of DNV GL and are compatible to the resins material.

Approved Variants - BALSAFLEX 110
 - BALSAFLEX 150

Confirmed Values For the material the following average values (minimum values within brackets) have been verified by testing:

Variant	Nominal Density (1)	Compr. Strength (2)	Compr. Modulus (2)	Compr. Strength (3)	Compr. Modulus (3)	Shear Strength (4)	Shear Modulus (4)
BALSAFLEX 150	155 (135)	13.0 (9.9)	3518 (2312)	0.75 (0.47)	57 (35)	2.8 (2.1)	163 (121)

- (1) Density according to ISO 845 in kg/m³.
- (2) Compressive behaviour parallel to the grain according to ISO 844 (method B) in MPa.
- (3) Compressive behaviour perpendicular to the grain according to ISO 844 (method B) in MPa.
- (4) Shear behaviour according to ISO 1922 in MPa.

Limitations Any significant changes in design and/or quality of the material may render the approval invalid.

Remarks This certificate supersedes the approval WP 1510003 HH.

End of Annex

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