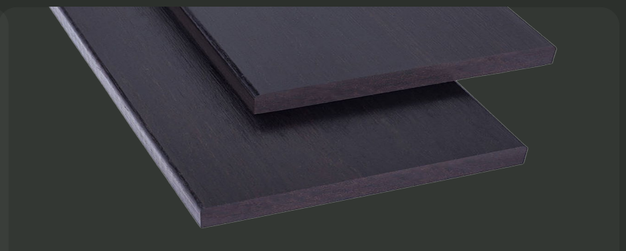
BAMBOO CONSTRUCT
CONSTRUCT

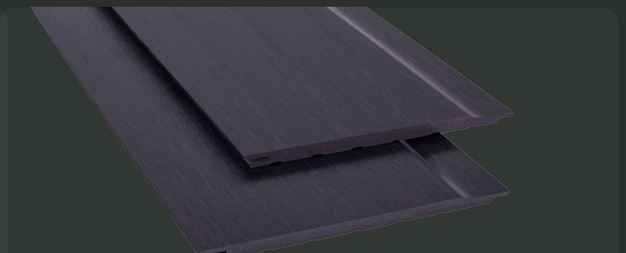
BambooConstruct
by Bamboologic

TECHNICAL DATASHEET

Bamboo Wall Panels.

Strandwoven THERMO bamboo cladding — verified test data, third-party certifications, full life-cycle environmental declaration. Profiles BIE-1 to BIE-4, brandklasse B.





AT A GLANCE

Panel size	1860 × 140 mm
Thicknesses	mm 12 mm / 18 mm
Fire rating	Bfl-s1 (Euroclass)
Hardness	107 N/mm² Brinell
Durability	Class 1 / UC 4
EPD verified	EN 15804+A2

PRODUCT

Specifications & Composition.

Heat-treated strandwoven bamboo wall cladding — heat carbonization at 160 °C with high pressure removes sugars, organic matter and insects, then strands are pressed with phenolic resin to a solid panel and finished with water-based exterior oil.

PANEL DIMENSIONS

1860 × 140

mm · per panel area 0.2604 m²

THICKNESS

12 / 18

mm · brandklasse B both

DENSITY

1.20

g/cm³ · 1200 kg/m³

Material Composition · per kg

Component	Mass	Share
Bamboo (biogenic)	**0.841 kg**	**84.1 %**
Phenolic resin (binder)	**0.157 kg**	**15.7 %**
Vegetable oil (water-based finish)	**0.002 kg**	**0.2 %**
Mass per m²	**14.4 / 21.6 kg**	12 / 18 mm

MANUFACTURING PROCESS

1. Split flattened bamboo into strips
2. Heat-carbonize at 160 °C — remove sugars, eggs, nutrients
3. Soak strips in phenolic resin
4. Hydraulic press into into solid panel
5. Cut to profile + water-based oil finish

Mechanical Properties.

Tested by Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) Dresden — DIBt-notified body 0766. Brinell hardness, four-point bending strength and bending strength and modulus of elasticity per EN 1534 and EN 408.

BRINELL HARDNESS

107

N/mm² · EN 1534, n=50

BENDING STRENGTH

87

N/mm² mean · EN 408, n=10

MODULUS (BENDING)

18,700

N/mm² mean · EN 408

Brinell hardness — comparison to common hardwoods

European Oak		34 N/mm²
Teak		28–39 N/mm²
Thermo Bamboo		107 N/mm² · ~3× harder

NOTE ON VALUES

Bending tests use outer-dimension cross-section. Mean values are characteristic; not for direct construction-design use — request structural-design values if required.

FIRE

Fire Performance — Bfl-s1.

Reaction-to-fire tested per EN ISO 9239-1 (radiant heat, critical heat flux) and EN ISO 11925-2 (single-flame source). Classified per EN 13501-1.

EUROCLASS

Bfl-s1

Highest practical class for floor coverings — no significant flame contribution + no significant smoke production.

Test Results · EPH Dresden (Feb 2018)

Parameter	Result	Threshold
Critical heat flow (EN ISO 9239-1)	**11.02 kW/m²**	≥ 8.0 → Bfl
Smoke production	**0.2 % × min**	≤ 750 → s1
Single-flame ignitability	**Fulfilled**	Flame ≤ 150 mm

ABOUT THIS RATING

Bfl-s1 was tested on the same Thermo bamboo product family (20 mm decking variant) per EN 13501-1. The Fireclass-B Thermo wall-cladding variants are part of this product line. A wall-cladding-specific fire-rating certificate (B-s1,d0 or B-s2,d0 vertical-surface notation) is available on request from Bamboo Construct.

WEATHER

Durability & Outdoor Performance.

Independently tested by RISE Research Institutes of Sweden (Mats Westin, Bioeconomy) per ENV 12038 (basidiomycetes) + ENV 807 (soft rot) + EN 350 + EN 335.

Slip-resistance per Intertek DIN 51130 ramp test.

DURABILITY CLASS

Class 1

Very durable — EN 350 (RISE 2018-01-19)

USE CLASS

UC 4

Exterior, ground / fresh-water contact — EN 335

DECAY RESISTANCE — MEDIAN MASS LOSS AFTER FUNGAL EXPOSURE	BASIDIOMYCETES	SOFT ROT
Untreated pine (control)	**~50 %**	**high**
CCA-treated UC4 reference	**—**	**11–29 %**
Thermo Bamboo	**2.5 – 5.0 %**	**0.6 – 2.6 %**

R10

Slip resistance · DIN 51130 (oil-wet ramp test) · Slip angle 16.8° — outdoor decking sample 1880 × 140 × 20 mm. Standard rating for outdoor terraces, balconies, walkways and residential garden decking.

HEALTH

Chemical Safety & Emissions.

Three independent test reports cover formaldehyde emission to both EU and US standards, and substance-of-very-high-concern screening per EU REACH Article 33(1).

FORMALDEHYDE · EU

E1

EN 717-1 / EN 13986

ND (Not Detected)

MDL 0.050 mg/m³ · threshold E1 ≤ 0.124 mg/m³

SGS test report · Oct 2019

FORMALDEHYDE · USA

ND

ASTM D6007-14

Below 0.01 ppm detection limit

Compliant CARB Phase 2 + TSCA Title VI

SGS test report · May 2022

REACH SVHC

All ND

EC 1907/2006 Art. 33(1)

Substances of Very High Concern

All < 0.010 % w/w · meets WFD requirement

Intertek test report · Mar 2023

SUSTAINABILITY

EPD, FSC & Stored Carbon.

Verified Environmental Product Declaration per EN 15804+A2 — third-party verified life-cycle assessment, publicly registered with The International EPD® System.

BIOGENIC CO_2 STORED IN PRODUCT

1.15

kg CO_2eq per kg of product

Cradle-to-gate biogenic carbon captured during bamboo growth (per published EPD). For an 18 mm panel (1860 × 140 mm): ≈ 6.5 kg CO_2eq stored per panel · ≈ 24.8 kg per m².

EPD · Environmental Product Declaration

Status	Registered with international EPD programme
Standard	EN 15804+A2 / ISO 14025
Programme	International EPD System
Verifier	Independent third-party verifier
Valid	8 Dec 2023 – 7 Dec 2028

FSC · Chain of Custody

Claim	FSC 100%
Certificate	On file (available on request)
Standard	FSC-STD-40-004
Issuer	DNV Business Assurance Sweden AB
Valid	12 May 2025 – 11 May 2030

LCA HEADLINE · PER 1 KG OF M-SERIES BAMBOO (EPD A1-A3)

Fossil GWP **1.45** · Biogenic GWP **–1.15** · Net GWP-total **0.300 kg CO_2eq/kg** · Renewable primary energy **34.2 MJ/kg** · Water deprivation **0.525 m³/kg** · Biogenic content **84.1 %** · Carbon storage **0.345 kg C/kg**

THANK YOU

Need more detail?

Original test reports, EPD background documents and product samples are available on request. Get in touch for project-specific specifications, custom dimensions or volume pricing.

GET IN TOUCH

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