

TECHNICAL DATA SHEET

Vendia Woods Oy
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The Vendia marine plank is a **cross-laminated panel made from sliced (knife-cut) pine veneer** for boat and yacht building. It combines the appearance and workability of solid wood with the dimensional stability and moisture resistance of high-grade marine plywood. The raw material is slow-grown, knot-free Nordic pine from sustainably managed (PEFC) Finnish forests; only flawless veneers form the face layers.

CONSTRUCTION & MATERIAL

Product type	Marine plank, cross-laminated laminated-veneer material
Wood species	Nordic pine (<i>Pinus sylvestris</i>), slow-grown, knot-free; core partly spruce veneer
Veneer type	Sliced (knife-cut) veneer – not rotary-peeled
Veneer thickness	Core plies 1.2 mm · face plies 1.5 mm
Layup	Cross-laminated; face-ply grain runs lengthwise (solid-wood look). E.g. 9 mm: 7-ply
Adhesive	Melamine-urea-formaldehyde (MUF), waterproof (type MUF 1247 / Akzo Nobel); PUR bonding on request
Density	approx. 530 kg/m³ (manufacturer's figure)
Surface	uncoated, sanded smooth
Standard reference	based on marine plywood BS 1088 (exact standard designation to be confirmed with the manufacturer)

DIMENSIONS & AREA WEIGHT

Standard thickness range; area weight calculated from $\rho \approx 530 \text{ kg/m}^3$.

Thickness [mm]	Area weight [kg/m ²]	Note
3.6	1.9	thinnest standard thickness
4.2	2.2	
4.8	2.5	
6.6	3.5	
9.0	4.8	most common thickness (reference thickness of the test reports)
12.0	6.4	
15.0	8.0	special thicknesses on request

Widths (by cut)

Cut	Width [mm]
Crown cut	100–320
Quarter cut	100–425

Lengths & large format

Format	Size [mm]
Plank length (max.)	up to 3000
Large sheets	available

Further available components / special products

Component	Thickness [mm]	Width [mm]	Length [mm]
Keel	25–60	80–250	2600–3000
Bent frame	6 / 10.5	75–125	2000
Gunwale	12–18	75–125	on request

Custom sizes and single veneers on request. Manufactured where possible to project-specific final width/length to minimise offcuts and machining time at the yard.

PHYSICAL & PROCESSING PROPERTIES

- High bending stiffness together with good formability; **steam-bendable** (e.g. for traditional clinker construction).
- Low tendency to deform; easy to work, hardly splinters or breaks – little waste.
- Dense, resin-poor veneer – less sanding.
- Dimensionally stable and storage-tolerant under changing humidity and temperature; no climate-controlled storage required.
- Sliced (rather than rotary-peeled) veneer gives **more predictable moisture and swelling behaviour** than peeled-veneer plywood.

MOISTURE & WEATHERING BEHAVIOUR (INDEPENDENTLY TESTED)

Test laboratory: Savonia University of Applied Sciences (FI). Values refer to the tested, **uncoated** samples (9 mm) – they are comparative, not design values.

Surface water absorption – Cobb test to EN 20535:1994 (ISO 535), deionised water, 168 h, 23 °C.

Material (9 mm, uncoated)	Cobb 24h [g/m²]	Cobb 168h [g/m²]
Vendia pine plank	597	1297
Vendia Pro pine plank	649	1291
Birch plywood (reference)	827	2118

Result: Over 168 h Vendia absorbs about **39 %** less surface water than the reference birch plywood. Impregnating agents, by contrast, penetrate better because the MUF bond – unlike the phenol-formaldehyde in birch plywood – is permeable.

Weathering & torsion test (climate chamber, 336 h freeze / wetting / drying cycles under 45° torsion). Residual deformation against a flat surface.

Material (9 mm)	Cracking	Deflection [mm]	Twist
Vendia pine plank	none	approx. 3	even, linear
Spruce plywood	none	approx. 4	uneven (weak points)
Birch plywood	none	approx. 10	uneven (weak points)

No specimen cracked. Vendia twisted more evenly and with less lateral moisture migration than the peeled-veneer plywood.

SUSTAINABILITY

Origin / certification	Local Finnish pine, PEFC-certified forests; traceable
CO ₂ footprint	approx. 160 kg CO ₂ e per m³ of finished product (manufacturer's estimate); approx. 10 % lower than standard softwood plywood

CO₂ storage

approx. 800 kg per m³ → net negative climate impact over the life cycle

Emissions / environment

Non-toxic adhesive (largest share of the footprint, ~70 %); no microplastic emissions; virtually waste-free manufacture

APPLICATIONS

Traditional clinker boat building, modern composite boat building, yacht interiors, and other applications with high demands on durability and sustainability – from canoe to electric luxury yacht.

Sources: Manufacturer's data, Vendia Woods Oy, and test reports by Savonia University of Applied Sciences „Vendia Marine Plank – Comparative Weather and Torsion Test“ (2015) and „Absorption Test of Impregnating Agents“ (2015); Vendia Woods CO₂ calculation (2024) based on VTT Technology 115/2013.

Note: Test values apply solely to the samples examined and are not guaranteed design or limit values. Information without warranty; subject to technical change. Structural / load-bearing components require project-specific verification.