

# Light Weight Vendia

Lightweight panel with paulownia core and pine face veneer

TECHNICAL DATA SHEET · DRAFT

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Light Weight Vendia is a **cross-laminated lightweight panel** with a **paulownia** core and pine face veneers on both sides. It follows the same principle as the standard Vendia (sliced knife-cut veneer, waterproof MUF bonding) but markedly reduces weight. The paulownia core can be laid lengthwise or crosswise, so stiffness and behaviour can be tuned to the application.

## CONSTRUCTION & MATERIAL

|              |                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| Product type | Lightweight panel, cross-laminated; paulownia core with pine face veneer                                                       |
| Face veneer  | both sides pine ( <i>Pinus sylvestris</i> ), 1.5 mm each, sliced knife-cut veneer                                              |
| Core         | Paulownia ( <i>Paulownia</i> spp.) – can be laid lengthwise or crosswise                                                       |
| Layup        | cross-laminated; core grain direction tunable to the application                                                               |
| Adhesive     | Melamine-urea-formaldehyde (MUF), waterproof (as standard Vendia); PUR on request                                              |
| Thickness    | freely selectable 6–40 mm to order                                                                                             |
| Density      | thickness-dependent approx. 300–405 kg/m <sup>3</sup> (see table) – provisional, core-density assumption 280 kg/m <sup>3</sup> |
| Surface      | uncoated, sanded smooth                                                                                                        |

## THICKNESS, WEIGHT & DENSITY

Area weight and density calculated: face veneer 2 × 1.5 mm pine (530 kg/m<sup>3</sup>), remainder paulownia core (assumption 280 kg/m<sup>3</sup>).

| Thickness [mm] | Area weight [kg/m <sup>2</sup> ] | Density [kg/m <sup>3</sup> ] | Note                        |
|----------------|----------------------------------|------------------------------|-----------------------------|
| 6              | 2.4                              | ~405                         | thinnest version            |
| 9              | 3.3                              | ~363                         |                             |
| 12             | 4.1                              | ~342                         |                             |
| 15             | 5.0                              | ~330                         |                             |
| 18             | 5.8                              | ~322                         |                             |
| 24             | 7.5                              | ~311                         |                             |
| 30             | 9.2                              | ~305                         |                             |
| 40             | 11.9                             | ~299                         | thickest version (to order) |

**Important – provisional figures:** the weights are based on an **assumed** paulownia core density (280 kg/m<sup>3</sup>). Once the actual core / panel density is available, the figures will be replaced. Formula: area weight = 1.59 kg/m<sup>2</sup> (face veneer) + (thickness – 3 mm) × core density.

**Lightweight advantage:** at 9 mm this gives about **3.3 kg/m<sup>2</sup>** versus ~4.8 kg/m<sup>2</sup> for the standard pine Vendia – roughly **31 %** lighter (at equal thickness).

#### Widths (by cut)

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

#### Lengths & large format

| Format        | Size [mm]  |
|---------------|------------|
| Length (max.) | up to 3000 |
| Large sheets  | available  |

Dimensions shown as guide values (as standard Vendia); Light Weight is made to order per project – please confirm sizes on enquiry.

## PROPERTIES

- Markedly **reduced weight** while keeping the solid-wood look of the pine face.
- Good stiffness-to-weight ratio; **core laid lengthwise or crosswise** to set stiffness / directional behaviour.
- Easy to work; the cross-laminated build stabilises the panel.
- Waterproof MUF bonding as on the standard Vendia.
- Low weight reduces transport and handling effort.

## TEST STATUS

The available independent tests (Cobb water absorption, weathering / torsion test, Savonia University of Applied Sciences) were carried out on the **standard pine Vendia**. For the light-weight variant with paulownia core, **no separate test values are available yet**. The construction principle (sliced veneer, cross-laminated build, MUF bonding) is identical; however, the moisture and strength behaviour of the lighter paulownia core differs and should be verified separately for load-bearing applications.

## SUSTAINABILITY

|             |                                                                                             |
|-------------|---------------------------------------------------------------------------------------------|
| Face veneer | Pine from PEFC-certified Finnish forests; traceable                                         |
| Core        | Paulownia – very fast-growing raw material                                                  |
| Bonding     | Non-toxic MUF bonding; no microplastic emissions                                            |
| Weight      | Low weight → lower transport emissions (product-specific CO <sub>2</sub> balance to follow) |

## APPLICATIONS

Weight-critical boat and yacht building, interior fit-out, lightweight panels and core layers for composite parts – wherever low weight with good stiffness is required.

**Sources:** Manufacturer's data, Vendia Woods Oy. Weight and density values calculated from the face / core build-up (core-density assumption 280 kg/m<sup>3</sup>, to be confirmed).

**Note:** Draft. Weight and density figures are provisional calculated values based on an assumed paulownia core density and are not guaranteed values. Information without warranty; subject to technical change. Load-bearing components require project-specific verification.