

DendroLight[®] Middle Layer (ML) PROCESSING AND APPLICATION



1. Definition/structure

DendroLight[®] middle layer material consists of unique (with approx. 40% reduced weight and minimized internal tensions) spruce, pine or aspen (humidity rate of 12% + / - 2%) profiles (18-28mm*90-160mm), which are glued (PVAc (D3/D4) or EPI) together in perpendicular orientation. When correspondingly sawed and rotated by 90 degrees, DendroLight[®] ML strips are created.

- Lightweight solid wood material (270-300 kg/m³)
- Very low swelling characteristics – 0,5 %
- Low glue content (3-5%)
- Applicable for 3 and 5 layer panel production
- Applicable for 3D curved panel production
- Cost-effective logistics
- Easy to process. Perfect for 3; 5 layer panels with solid wood, HDF, chipboard, plywood decks. For creating solid surfaced stairs with improved stability. Also applicable for building and construction element production.

2. Dimensions & degree of readiness

The material is delivered from the factory calibrated in thickness (grain ~ 60, tolerance +/- 0,2 mm), packed in pallets 1120 (1200) * 1200 * 1000 – 3000. To keep the material from bonding together, layers are separated with cover sheets.

	Standard Formats (mm)									Min (mm)	Max (mm)
Length	2100									1000	3000
Width ML	560; 600									-	-
Width MLR*	504; 570									-	-
Thicknesses	14	17	19	22	31	32	36	42	52	14	200
PCS per pallet	156	128	114	100	70	68	60	52	42	-	-

Species of wood: pine, spruce

* DendroLight® middle layer with ribs

3. Technical data

	Standard	Unit	Result
Species of wood	Pine		
Glue type	PVAc (D3;D4); EPI		
Density	EN 323	kg/m ³	291
Bending strength	EN 310	N/mm ² long gr.	1,9
E - module	EN 310	N/mm ² long gr.	131
24 h swelling in thickness	EN 317	%	0,5
Thermal conductivity, λ	EN 12667	W/mK	0,085
Withdrawal of screws	EN 320	N (from plane)	330
		N (from margin)	380

4. Application

Indoors – ML with D3 min

Outdoors (does not apply to bearing constructions) – ML with D4 min;

Outdoors (building constructions) – ML with EPI ((emulsion polymer isocyanate) *system 1920 / 1992*) min;

5. Storage

Recommended climate – dry (65% relative humidity at 20°C).

Surface requirements – a flat surface that prevents the deformation of the material. **To prevent bending of the material** there must be used wood or similar material pallet legs in sufficient quantity and of equal size. The horizontal plane must form a straight line in all directions of the plate dimensions. Packages must be placed one above the other so that the package legs form a straight vertical line against the legs of each following package.

Package cover – packages must be covered at all times to prevent moisture transfer in the upper layer.

Exceptions – if the material is not stored in the above-mentioned climate, then before being used the material must be acclimated in the correspondent circumstances.

6. Mechanical processing

Unprocessed/unglued – sawing (recommended saws with neg. 5° tooth edge angle)

Processed/glued – *sawing* (recommended saws with neg. 5° tooth edge angle), *cutting*, *drilling*.

7. Gluing/covering – gluing of the deck layers

Material is perfect for 3 or 5 layer panels with different deck layers solid wood, MDF, chipboard, decks. (MDF, HDF, MDF laminated, chipboard, plywood, solid wood, magnesium).



If using a deck layer with distinct fiber orientation (solid wood), use ML with ribs, orientate them perpendicular to the deck layer fibers - it will provide extra stability against deck layer deformations.

The choice of the covering glue (PVAc, EPI, PUR, etc.) depends on the further use.

If the cellular material is glued with PVAc, temperature of further processing: max 80°C

If the cellular material is glued with EPI, temperature of further processing: max 120°C

Pressing pressure - Pressing pressure for gluing of the deck layers 0,8 – 0,96 kg/cm² in vacuum, with hydraulic or pneumatic technology - max 2 kg/cm².

Provide equal pressure on the entire pressing surface.

Pressing parameters may vary depending on the applied adhesive type, manufacturer and type of the deck layer production.

„Dendrolight Latvija” for deck layer covering chooses EPI and vacuum pressing.