



TECHNICAL INFORMATION SHEET

3-LAYER CONIFEROUS WOOD AND DECIDUOUS WOOD

TILLY natural wood panels are multi-layer solid wood panels in which two top layers running parallel to each other are glued together with a middle layer set at an angle of 90° (seal effect). The strip and board middle layers are butt-jointed lengthwise. The top layers are made of continuous single lamellas glued together joint-tight. The top layer and middle layer consist of the same wood type. TILLY three-layer natural wood panels are produced in accordance with the EN 13353 standard. **Subject to production-related changes.**

Product description:

Wood types coniferous:

spruce, pine, larch, Douglas fir, Swiss stone pine

Wood types deciduous:

maple, birch, beech (steamed), oak, alder, ash, cherry



Number of layers:

L3	three-layer	spruce, pine, larch, Douglas fir, Swiss stone pine; all deciduous wood types
L5	five-layer	spruce, pine, larch and Douglas fir on request

Panel dimensions:

Total thicknesses for coniferous wood:	13, 15, 19, 22, 26, 27, 32, 42 mm
Total thicknesses for deciduous wood:	20 mm (26 mm on request)
Length sizes for coniferous wood:	5000 mm (4000, 4500)
Length sizes for deciduous wood:	720, 800, 950, 1250, 1650, 1900, 2050, 2300, 2500 mm (3000 and 3500 mm according to occurrence)
Width measurements for coniferous wood:	1250; 2050 mm
Width measurement for deciduous wood:	1250 mm
Special sizes on request	

Top layer measurements:

Top layers in coniferous wood:	3.5; 5.5; 8.0; 9.5 mm
Top layers in deciduous wood:	5.0 mm
Lamella widths coniferous wood:	90-140 mm
Lamella widths deciduous wood:	71 mm

Coniferous wood classes:

Class A (or 0 under EN 13017-1) for spruce, pine, larch, Douglas fir, Swiss stone pine:

Joint-tight surface, straight-grained wood, healthy firmly intergrown small knots, individual small resin pockets, virtually free of compression wood and pith, even colour, individual natural knot plugs and repaired resin pockets permissible, no sapwood (in the case of larch, pine, Swiss stone pine), generally balanced structure and furniture front quality.

Class AB (or A under EN 13017-1) for spruce, larch, Douglas fir:

Joint-tight surface, plain to slightly coarsely ringed wood, healthy firmly intergrown knots, individual black point knots permitted, individual slight compression wood occurring, slight pith portions possible, slight colour deviations permissible, slight cracks on panel edges permissible, natural knot plugs, resin pockets and resin pocket repairs to a large extent permissible, individual sapwood permissible (for pine, larch and Douglas fir), overall homogeneous wood pattern.

Class B (B under EN 13017-1) for spruce, pine, larch, Douglas fir, Swiss stone pine:

Joint-tight surface, strong and pronounced wood pattern, largish knots and resin pockets permissible, increased repairs with natural knot plugs and resin pocket patches possible, compression wood, slight discolorations, pith and sapwood (for pine, larch, Douglas fir and Swiss stone pine) permissible.

Class C (C under EN 13017-1) for spruce, pine, larch, Douglas fir, Swiss stone pine:

No particular quality standards, discolorations, pith, compression wood, knots, resin pockets and cracks to a large extent possible, generally without special requirements in respect of the surface and shape stability, without repairs.
The C side can on request be closed with wood putty. (C+)

Deciduous wood classes

Class A:

Joint-tight surface, colour-sorted front quality

Class B:

Joint-tight, colour-sorted surface, strong and pronounced wood pattern, as well as knots and individual natural knot plugs permissible.

1-LAYER CONIFEROUS WOOD

Single-layer solid wood panels consist of solid continuous strips of one wood type in each case running parallel to the longitudinal side which are glued together joint-tight. The individual laths are finger-jointed (designation: LINC). Single-layer TILLY natural wood panels are produced in accordance with the EN 13353 standard.

Product description

Wood types:	spruce, pine
Panel thicknesses:	spruce: 18, 21, 24, 27, 32, 42, 52 mm; special thicknesses on request pine: 18, 27, 42 mm; special thicknesses on request
Lengths:	5000 mm (4000, 4500 mm)
Width:	1210 mm
Strip widths:	special formats on request 40 - 43 mm



Classes:

Class A (or 0 under EN 13017-1) for spruce and pine:

As a rule perfect front and furniture quality. Joint-tight surface, healthy firmly intergrown small knots, individual small resin pockets, virtually free of compression wood and core pith, even colour, individual natural knot plugs and repaired resin pockets permissible, virtually free of sapwood (in the case of pine), reverse side closed.

Class B (or A under EN 13017-1) for spruce and pine:

Joint-tight surface, plain to slightly coarsely ringed wood. Healthy, firmly intergrown knots, individual black point knots permitted, black-edged knots (in the case of pine) permissible, small proportions of pith possible, slight colour deviations permissible, shallow cracks on the panel edges permissible. Natural knot plugs, resin pockets and resin pocket repairs permissible, reverse side closed.

Class BK (or B under EN 13017-1) for spruce:

Is a furniture-body quality. Surface closed on one side. Strong and pronounced wood structure, largish knots, resin pockets, compression wood, pith and discolorations as well as shallow surface cracks permissible.

AREAS OF APPLICATION

FOR 3-LAYER AND 1-LAYER SOLID WOOD PANELS:

- As **furniture manufacture panel:** for living room, bedroom, children's room and kitchen furniture, small items of furniture, kindergarten furniture, office, bathroom furniture, shelves etc.
- As **interior work panel:** wall and ceiling panelling, door cases, panels, decorative beams etc.
- As **construction panel:** in building construction, exterior panelling, balcony panelling, false floors, facade panels (not directly exposed to weathering), gate planking; use as **load-bearing and/or reinforcing planking for timber structures** on the basis of approvals (building inspectorate approval Z-9.1-320 and CE marking under EN 13986)
- For **door manufacture:** patented 5-layer **door blank** (European Patent No. 0756058) and 3-layer **door frame, panel** with extra thick 8.0 mm top layers
- As **floor panels and Country House floor panels**



CHARACTERISTIC PROPERTIES OF TILLY NATURAL WOOD PANELS

Available technical classes of solid wood panels (SWP) under EN 13986 and wood moisture on delivery:

SWP/1:	Solid wood panels for internal use in dry areas; moisture on delivery 8% ± 2%
SWP/2	Solid wood panels for internal use in damp areas; moisture on delivery 10% ± 3%

Gluing:

Three- and five-layer coniferous wood panels and three-layer deciduous wood panels (apart from beech and maple panels) are glued using a thermoset gluing system on a melamine-resin basis (MUF). The gluing corresponds to use class AW 100 (under ÖN B 3008).

Beech and maple panels are glued using a high-temperature-resistant thermoplastic gluing system on the basis of PVAC. This gluing corresponds to use class IF 20 (under ÖN B 3008).

Single-layer solid wood panels are with the exception of thickness 52 mm (PVAC) glued with a thermoset gluing system on a melamine-resin basis (MUF). This gluing corresponds to the use class AW 100 (under ÖN B 3008).

The AW 100-glued natural wood panels can be used in protected outdoor areas. The weather-resistant gluing does not, however, remove the need for perfect construction in accordance with the principles of construction physics as well as for perfect surface and edge protection. Cracking and joint marks can occur to a considerable extent if used outdoors.

Physical properties:	Raw density at 8% u	Heat conductivity λ under EN 13986	Water vapour diffusion resistance μ under EN 13986
Spruce:	470 kg/m ³	0.13 W/mK	67/192
Pine:	550 kg/m ³	0.14 W/mK	71/201
Larch:	580 kg/m ³	0.15 W/mK	75/205
Douglas fir:	510 kg/m ³	0.13 W/mK	78/208

Sound insulation properties under EN 13986:

Air-borne sound R:	$R = 13 \times 1g (m_A) + 14 < dB >$ m_A surface area weight $< kg/m^2 >$
Degree of noise absorption:	0.10 at 250 - 500 Hz 0.30 at 1000-2000 Hz

Fire Behaviour Class under EN 13986:

D-s2,d0	(Fire Behaviour Class D: normal combustibility; smoke development s2: weakly smoking; d0: no burning dropping or falling debris)
D_{Fl}-s1	when used as floor covering (Fire Behaviour Class of floor coverings D _{Fl} : normal combustibility; smoke development s: smoke ≤ 750%.min)
	Higher combustibility ratings can be attained by using fire protection agents on site.

Emissions:

All TILLY natural wood panels are glued virtually free of formaldehyde!

Formaldehyde Class E1 (< 0.1 ppm or ≤ 3.5 mg/m³h) determined in accordance with EN 717-2; formaldehyde content at 0.03 ppm

TILLY natural wood panels are free of pentachlorophenol (PCP), wood protection agents and organic solvents.

Strength values:

Solid wood panels are suitable for applications in the load-bearing and reinforcing sector. Three-layer panels of coniferous wood have received building-inspectorate approval by the DIBt Berlin (Ü Z-9.1-320). The building-inspectorate approval for three-layer coniferous wood panels and the CE conformity declarations for all TILLY products under EN 13986 can be downloaded at www.tilly.at or can be requested direct.

Identification:

All building products are identified with a CE marking under EN 13986 and EN 13353 or with the approval number of the building inspectorate Z-9.1-320 of DIBt Berlin along the longitudinal edges of the panels and on the pallet label.



IMPORTANT INFORMATION

Origin of the wood:

All wood raw materials are from sources which are acceptable under forestry law and from sustainably managed forests. The products of TILLY Company are certified in accordance with PEFC CoC (PEFC Certificate PEFC/06-38-116; HolzCert Austria).

Surface:

Thickness-calibrated and finely sanded, top and bottom sides with grinding belt abrasive grain K60

Edge profiling / Surface processing:

On request edge profiling and surface processing can be carried out.

Foil packing:

Individual foil packing possible on request (max. format 5000 mm length x 1250 mm width)

Processing:

The processing of TILLY natural wood panels is possible problem-free with all standard wood processing machines and methods. All methods of craft-trade and industrial surface treatment as well as structuring surface techniques (brushing, sand blasting etc.) can also be used.

Waste disposal:

Wood cuttings as well as saw and planing shavings can be burnt in all wood-firing units virtually residue-free and with extremely low emissions.

Recommendations:

As a result of transport from the factory to the customer the wood moisture of the panels can change in a short time. Climatisation is therefore recommended before they are further processed.

For high front elements an increased warping risk applies. Experienced processors and users know how to avoid this by taking correct precautions in the construction of such elements.

Make sure that the room climate is balanced (approx. 20 °C, 40-50% relative air humidity) especially during the heating period in order to avoid cracking. Check the quality of the natural wood panels before processing. Do not process faulty merchandise.

Storage:

The panels must be stored horizontally in closed and dry rooms and must be evenly supported at least once per running metre. The packets and individual panels must be covered with sheeting.

Quality features:

- TILLY natural wood panels are a natural wood material
- TILLY natural wood panels are virtually formaldehyde-free
- TILLY natural wood panels are produced in accordance with the relevant standards
- TILLY natural wood panels are environmentally produced
- TILLY natural wood panels are regularly checked by accredited institutes

TILLY NATURAL WOOD PANELS are a TOP PRODUCT from the wood industry.

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