

TEAK

Botanical name:

Tectona grandis

Trade names:

Teca, Teck, Teak Genuine, Java Teak, Kyun, Jati, Deleg Y Kulidawa, Sak Y Mai-Sak, Gia Thi, Tadi, Sagwan, Kembal, Semarang, Djati, May-sak, (place of occurrence-Teak)

Location:

Native to the fertile and humid regions in South Asia. Widely planted in tropical and subtropical areas of Asia, Africa and America in monoculture plantations and in combination with other species in important genetic improvement programmes and applied research related to changing wood properties according to tree age.

General description of wood:

Heartwood colour variable (golden yellow, yellow-brown, brown-green) later darkens to brown tones, often with dark brown or black veining (stripes 2-8 mm wide). The wood is oily on the surface and contains oily resins. Very decorative wood. Thanks to the high proportion of silica (up to 1.4%), it has a significant numbing effect.

NATURAL DURABILITY INDEX						
1	2	3	4	5	6	7
1 = VERY HIGH LIFESPAN				7 = LOW LIFESPAN		

Wood properties:

Density (at W = 12 %)	500-560-750 kg/m³
medium-heavy wood	
Shrinkage in radial direction	2,6 %
Shrinkage in tangential direction	5,3 %
Total volume shrinkage	7,2 %
Low dimensional changes, dimensionally stable	
JANKA hardness (at W = 12%, radial direction)	47,95 MPa
Group	MPa
Soft	<40

Medium hard	≥40
Hard	≥80
Flexural strength (<i>perpendicular to the fibres of the tng. and rad.</i>)	98,55 MPa
Compressive strength (<i>in fibre direction</i>)	44,9 MPa

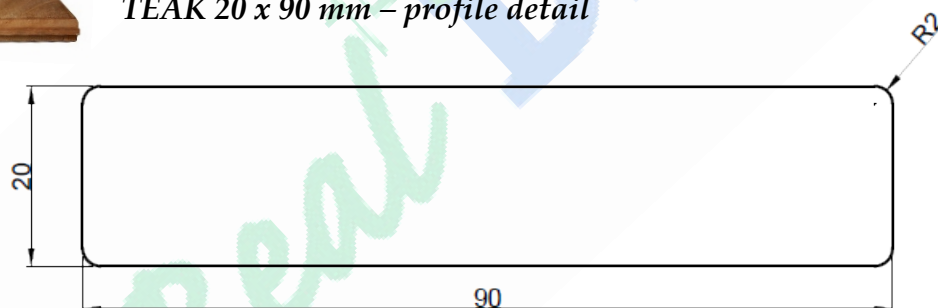
Terrace boards made of TEAK wood

DIMENSIONS (mm)	LENGTHS (m)	GRADE	DRYING	VIEW SIDE
20 x 90	0,9 – 2,2*	A/B	16–18 %	smooth
20 x 120	0,9 – 2,2 *	A/B	16–18 %	smooth

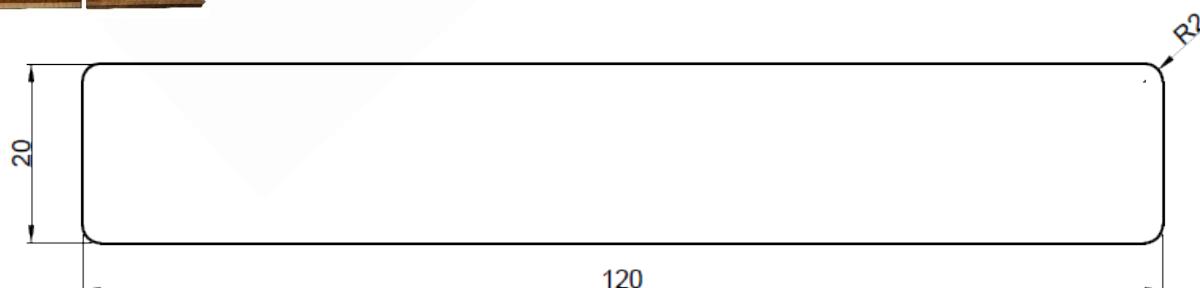
*stock lengths are multiples of 30 cm = 0.9 m, 1 m, 1.1 m, 1.2 m, 1.3 m, 1.4 m, 1.5 m, 1.6 m, 1.7 m, 1.8 m, 1.9 m, 2.0 m, 2.1 m, 2.2 m



TEAK 20 x 90 mm – profile detail



TEAK 20 x 120 mm – profile detail



GRADE

Terrace boards made of Teak wood are supplied in A grade. In practice, this means that the material has no defects on the face side.

The back side may show fine surface cracks and end cracks, but these must not run through the entire thickness of the board but up to a maximum of 1/3 of the length of the board.

Healthy overgrown knots without restrictions, the possibility of local insect holes. Permitted occurrence of pitcherworms.

DRYING

Wood is a hygroscopic material that changes its moisture content according to its surroundings through absorption, in an attempt to reach a state of moisture equilibrium. Terrace boards made of Teak wood are kiln dried to a moisture content of 16-18%, which minimizes the risk of undesirable shape changes, significantly increases its mechanical properties with greatly improved resistance to bio attack. Shape changes caused by slumping and swelling can never be completely prevented. As a result of the anisotropic nature of slumping and swelling with simultaneous internal stresses in the wood, transverse and longitudinal buckling and the formation of drying cracks can occur.

VIEW SIDE

Each terrace board profile has a predefined face to which the grading applies. Quality claims using any other side as a view side will not be taken to consideration.

20 x 90 mm view side-smooth

20 x 120 mm view side - smooth

TECHNICAL INFORMATION

Board contraction and expansion joints:

Due to the hygroscopicity and anisotropy of the wood, there can always be a slight deformation of the terrace boards in the longitudinal direction (curvature). These shape changes are not a defect in the material and do not prevent the installation of the terrace boards. To minimize the formation of shape changes, it is necessary to store the material tightly jointed until the time of installation. For easier assembly of curved boards, it is possible to use clamps designed for this purpose. Due to swelling and shrinking of wood due to weathering, it is necessary to leave a minimum of 8 mm of expansion between the individual terrace boards. The dimension of the expansion joint will change throughout the year as the dimensions of the terrace boards change due to weather changes. The main function of the expansion joint is the free movement of the terrace boards without the risk of damage.

Spectrum of colours:

Heartwood colour variable (golden yellow, yellow-brown, brown-green) later darkens to brown tones, often with dark brown or black veining (stripes 2-8 mm wide). Colour is not subject to grading.

The greying of the wood:

As soon as the terrace boards are exposed to the weather, they are degraded by the action of so-called inanimate nature. Several interacting influences (water, radiation, flow, temperature changes, smog, emissions, etc.) cause the lignin to decompose by photochemical reactions in the first phase. This decomposition does not cause any observable darkening of the wood under outdoor conditions, because the disturbed lignin is subsequently washed away by rainwater, producing a lighter shade due to the light colour of the unremoved cellulose. In practice, however, the light shade is disturbed by the deposition of dust particles and impurities from the air into the porous structure of the wood surface, or by the co-growth of microscopic fungi, resulting in the well-known greying of the wood.

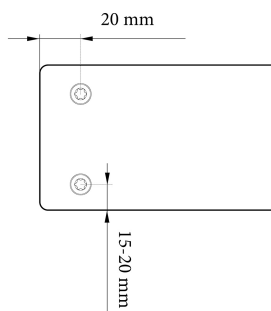
Choice of fasteners:

Teak terrace boards are moderately stable and can be installed with both visible and invisible anchoring systems. Only material that does not cause a chemical reaction with the wood must always be used to prevent deterioration. This involves the use of steel grade at least A4 for visible bolted connections, or 4 composite materials meeting the strength requirements for EURO Tec invisible anchoring.

TECHNICAL INFORMATION

Recommended fasteners:

TERRACE BOARD	STEEL GRADE	DIMENSION OF THE ROLL	INVISIBLE ANCHORING
TEAK 20 x 90 mm	A4	5 x 50 mm	YES
TEAK 20 x 120 mm	A4	5 x 50 mm	YES



Screw Positioning:

Position the screws as close as possible to the edges of the board to minimise the risk of cupping.

The recommended distance is 15–20 mm from the edge of the decking boards.

At butt joints, position the screws at least 20 mm from the end of the board.

Substructure:

Installation of terrace boards can only be done on a solid wood substructure in one piece in available lengths of 2 - 5 m of the same or higher bio-resistance with a minimum profile of 45 x 70 mm (exotic wood Jarana, Bangkirai). Substructures made of laminated and glued together slats of the same or higher bio-resistance wood species can be used exclusively for the construction of covered terraces without permanent weathering. The aluminium profile substructure is shape stable, weatherproof, UV-resistant, insect and mould resistant and suitable for the construction of any terrace, regardless of the type of wood. The minimum axial spacing of the substructure for individual thicknesses of terrace boards is given in the following table:

Minimum permitted axial spacing:

TERRACE BOARD	MAXIMUM AXIAL SPACING OF THE UNDERLYING PRISMS
TEAK 20 x 90 mm	400 mm
TEAK 20 x 120 mm	400 mm

Contains:

Exotic wood is very rich in extractives and natural pigments. These substances can leach out of the wood and cause colour stains on the surface of the wood and surrounding structures. During installation, care must be taken to ensure rainwater drainage and structural protection.

TEAK P+D mm

The 20 x 120 and 20 x 90 mm terrace boards are fitted with a tongue and groove on the transverse side of the conical shape, which allows for length adjustment outside the substructure, as long as the joint does not exceed 1/3 of the axial spacing (*maximum 13 cm overlap*).



Detail of length adjustment



Surface treatment

A terrace made of Teak wood should be coated with one of OSMO's pigmented terrace oils for increased protection against biotic and abiotic degradation (*colourless coating is not recommended*). The application is carried out at the earliest two months after exposure to the weather in order to allow the leaching of the contained substances and the penetration of the paint into the pores of the wood. In order to maintain the best possible hydrophobic properties, it is advisable to carry out the renovation coating at an interval of about six months. To reduce the risk of face cracking, it is recommended that all transverse cuts are coated with OSMO 5735 cutting edge wax.

Remark:

The Technical Data Sheet serves as a supplement to the "Technical and Warranty Conditions of Real DECK"

Please note that our recommendations for the processing of boards for terraces are not binding installation guidelines, but recommendations. Each terrace is characterised by different parameters and the correct installation and use of materials is always the responsibility of the installation company.

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