



Kempas

Atibt

Kempas/tualang; NEN-EN 13556: kempas (GB), kempas (F), Kempas (D), Code KOML

Other names

Menggeris, tualang (Indonesia), mengris, mengaris, tualang, impas, tapang (Malaysia), manggis (Philippines).

Botanic name

Koompassia malaccensis Benth. (Kempas), *Koompassia excelsa* (Becc.) Taub. (Tualang).

Family

Leguminosae (Caesalpinaceae).

Growth area

Malaysia, Indonesia, Philippines and Thailand.



Tree Description	Height up to 85 m with large plank roots. The straight branch-free trunk is 24-27 m long with a diameter of 0.6 - 1.2 m, maximum 3 m.
Supply	Sawn wood.
Wood Description	Freshly sawn, the color of the heartwood of cempas is pale brick red. Under the influence of daylight, it soon turns orange-red to deep reddish-brown, sometimes to dark brown. In appearance, the wood resembles merbau. The sapwood is whitish to pale yellow and about 50 mm wide. A typical feature is sometimes the presence of streaks or veins. This is ingrown phloem. These spots can be 6 mm deep in the radial direction and 50 mm or more in the tangential direction. Longitudinally, they extend several hundred millimeters. This abnormal tissue is mechanically inferior to normal wood and causes defects in the wood during drying.
Wood Recognition	Red in color, on head surface aliform and banded parenchyma, ingrown bark.
Grain	Cross wire or wavy wire.
Texture	Coarse, but even.
Voluminous mass	(670)-860(-1290) kg/m ³ at 12% moisture content.
Shrinkage	Radial 2,5% and tangential 3,0%.
Drying	Fairly good air drying. For artificial drying, use the same drying schedule as for keruing. If ingrown bark is present, split during drying. A calibration line is available for making electrical wood moisture measurements.



Hardness	Longitudinal plane 7600 N.
Machinability	Difficult to moderately difficult to machine. Planing gives a smooth surface, but that depends on the cross grain present.
Nailing & Screwing	Pre-drilling required. Iron in contact with damp kempas causes discoloration.
Adhesives	Moderate; compounds with urea formaldehyde adhesives hold poorly.
Bend	Not known.
Surface finish	Well, in smooth work use a pore filler.
Impregnability	Heartwood 3, sapwood 1-2 (according to NEN-EN 350).
Applications	Parquet (floors), interior paneling, furniture (blindwork), tongue-and-groove boards for facade cladding, garden wood, hydraulic timber and pallets.
Strength class	Classified as D60 depending on origin and quality (see Table D).

Sustainability

Relative resistance to mold

Heartwood class 2 for kempas (NEN-EN 350: practical experience and field research) and class 3 for Tualang (literature).

Relative resistance to animal organisms

Heartwood: drywood borers, termites and marine borers all S; sapwood: sapwood beetle S (EN 350).