

Melunak



INTRODUCTION

The Standard Malaysian Name for the timber of *Pentace* spp. (Tiliaceae). Vernacular names applied include *balong ayam* (Peninsular Malaysia), *baru* (Sarawak), *janda baik* (Peninsular Malaysia), *kebal ayam* (Peninsular Malaysia), *kempayang hantu* (Peninsular Malaysia), *melunak* (Peninsular Malaysia) with various epithets, *pinang baik* (Peninsular Malaysia) and *takalis* (Sabah) with various epithets. Major species include *P. adenophora*, *P. curtisii*, *P. laxiflora*, *P. macrophylla* and *P. triptera*. The sapwood is yellow or light straw-coloured and is moderately sharply defined from the heartwood, which is brown with a red or pink tinge or red-brown.

Also known as Melunak (Brunei); Sisiet and Tassiet (Cambodia); Kayu pinang and Pinang (Indonesia); Mai si siat and Sisiet (Laos); Kashit, Thitka, Thit-kashit and Thitsho (Myanmar); Si-Sat, Sisiat, Sisiat-pluak and Tongsuk (Thailand); and Nghien (Vietnam).

DENSITY

The timber is a Light Hardwood with a density of 530-755 kg/m³ air dry.

NATURAL DURABILITY

Based on the standard graveyard test on *melunak* conducted at the Forest Research Institute Malaysia (FRIM), the average service life of the untreated specimens was 2.1 years. *Melunak* is therefore classified as moderately durable under exposed conditions. When the specimens were treated with creosote to an average absorption of 90 kg/m³ (5.6 lb/ft³) by the open tank method and tested, it was found that all the 40 test sticks were destroyed after 14.2 years, showing that treated *melunak* can be rendered durable by treatment.

PRESERVATIVE TREATMENT

The timber is very difficult to treat with preservatives.

TEXTURE

Texture is moderately fine and even with shallowly to deeply interlocked grain.

STRENGTH PROPERTIES

The timber falls into Strength Group C (Engku, 1988b) or SG 5 (MS 544:Part 2:2001).

Strength Properties of Melunak (*P. triptera*)

Condition	Moisture Content(%)	Modulus of Rupture(MPa)	Modulus of Elasticity(MPa)	Impact bending(m)	Compression parallel to grain (MPa)	Side hardness(Newton)	Shear parallel to grain (MPa)
Green	63	69	10,600	790	35.4	4,050	7.7
Air dry	16.1	85	12,000	710	43.6	4,090	10.8

MACHINING PROPERTIES

It is slightly difficult to difficult to resaw and is easy to slightly difficult to cross-cut. Planing is easy to slightly difficult and the quality of finish is generally smooth but the green material shows some grain pick-up in the radial direction.

Machining Properties of Melunak (*P. triptera*)

Test Condition	Sawing		Planing		Boring		Turning	
	Re-sawing	Cross Cutting	Ease of planing	Quality of finish	Ease of boring	Quality of finish	Ease of turning	Quality of finish
Green	slightly difficult	easy	easy	tangential smooth; radial rough due to grain pick-up	-	-	-	-
Air dry	difficult	slightly difficult	slightly difficult	smooth	easy	smooth	easy	moderately smooth

NAILING PROPERTY

The nailing property is rated as good.

AIR DRYING

The timber seasons fairly slowly with very few defects. Slight bowing, twisting, end-checking and staining are the main sources of degrade. 13 mm thick boards take 3.5 months to air dry, while 38 mm thick boards take 5 months.

SHRINKAGE

Shrinkage is moderate, radial shrinkage averages 1.4% while tangential shrinkage averages 2.5%.

DEFECTS

Melunak logs are normally free from defects. The timber of *P. triptera* has been recorded to be very slightly attacked by powder-post beetles and shot-hole borers (Desch, 1954). *Melunak* timber is classified as rarely susceptible to powder-post beetles attacks (Menon, 1957). No sap-stain infection has been recorded.

USES

The timber is suitable for interior finishing, decorative works, panelling, mouldings, superior joinery, cabinet making, furniture, flooring, ornamental items, joists, railway sleepers, plywood, staircase (apron lining, carriages, riser, stringer, tread, bullnose, round end and winder), pallets (expendable and permanent light duty types) and other light construction. There is a suggestion that this timber will make good diving boards. In Burma, similar timber is sold under the name of 'Burma Mahogany' or 'Thitka' and is a very popular wood for high class furniture.