PYINKADO

Cross section (×10)

Cross section (×50)

Xylo dolabriformis Benth.
PYINKADO

BOTANICAL NAME - Xylica dolabriformis Benth.

FAMILY - Mimosaceae.

VERNACULAR NAME - Pyinkado (Myanmar), Irl (India), Sokram (Cambodia), Cam Xe (Vietnam), Deng (Thailand). Myanma Iron wood, PYINKADO (Standard)

THE TREE - Occurs throughout the country, chiefly in upper and lower deciduous forests and evergreen forests, often gregariously. It grows to 30-37 m (100-120 ft) in height and 3.7 m (12 ft) in girth. A clean bole of 12 m (40 ft) is common.

WOOD DESCRIPTION

Colour - Uniform reddish-brown with few markings or faintly veined with darker lines. Often streaky and speckled with gum, that gives it a stickily or oily feel. Turns to dark reddish-brown with ageing. Without characteristic odour or taste. Sapwood is pale reddish-white and narrow.

Grain - Variable from straight to broadly interlocked, sometimes wavy. The texture is moderately fine and even.

TECHNICAL PROPERTIES

Specific gravity - 0.779 green and 0.816 air dry. Extremely heavy, 1150 kg/m³ (72 lb/ft³) green and 890 kg/m³ (56 lb/ft³) air dry.

Strength - A hard and extremely strong timber possessing high strength properties.

<table>
<thead>
<tr>
<th>Moisture content</th>
<th>Bending Strength</th>
<th>Mod. of Elasticity</th>
<th>Compression parallel to grain</th>
<th>Hardness (Radial)</th>
<th>Impact Max. drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td>lb f/in²</td>
<td>1000 lb f/in²</td>
<td>lb f/in²</td>
<td>lb</td>
<td>inches</td>
</tr>
<tr>
<td>(N/mm²)</td>
<td>(N/mm²)</td>
<td>(N/mm²)</td>
<td>(N/mm²)</td>
<td>(Kg)</td>
<td>(mm)</td>
</tr>
<tr>
<td>48.6 (48.6)</td>
<td>15555 (107)</td>
<td>2265 (15628)</td>
<td>8015 (55.3)</td>
<td>1925 (874)</td>
<td>43 (109)</td>
</tr>
<tr>
<td>10.3 (10.3)</td>
<td>20580 (142)</td>
<td>2530 (17457)</td>
<td>11515 (79.6)</td>
<td>2165 (983)</td>
<td>50 (1270)</td>
</tr>
</tbody>
</table>

Movement - Medium. Shrinkage from green to oven dry is 3.3% radially and 6.7% tangentially.

STRUCTURE OF THE WOOD

Growth rings - Distinct but barely discernible with a hand-lens (10X), delimited by a faint narrow line of terminal parenchyma, 4-6 per cm.

Vessels - Large to medium-sized or small, the orifices of the larger barely discernible with the naked eye, slightly larger and more numerous through the medium portion of the ring but exhibiting little variation in size within the growth
increment, encircled by a narrow or relatively narrow sheath of parenchyma, generally with contiguous rays, open or rarely plugged with deposits of orange-brown gum or rarely with white deposits, forming narrow close vessel lines along the grain which usually appear darker than the background and contain occasional gum deposits, the majority solitary and in radial rows of 2-4 (mostly 2-3) some of which may cross the boundary of the ring, rarely in short double rows or 2-several contiguous in the tangential plane, close and quite evenly distributed, 0-22 per mm²; perforations simple, nearly horizontal to somewhat oblique; pits leading to contiguous vessels numerous, minute, orbicular to oval, with broad border and short oval (punctate) orifice, with 'sieve-like' membrane, seldom confluent; pits leading to ray parenchyma numerous to each cell and often in horizontal rows, minute, orbicular to oval, with broad border and short oval orifice with 'sieve-like' membrane, occasionally confluent; incipient formation of tyloses evident, the tyloses small, appearing bud-like and intruding into the vessel cavity; orange-brown gummy deposits common, in parietal lumps, or occluding the narrow segments; white deposits occasional.

**Parenchyma**

- Paratracheal, paratracheal-zonate, terminal and metatracheal in cambiform rows of 2-7 units along the grain or further divided into locules containing solitary crystals; (a) paratracheal parenchyma abundant, visible with a hand-lens and confined to the vicinity of the vessels or vessel groups; (b) paratracheal-zonate parenchyma but never form bands; cells contiguous to the vessels peripherally flattened, cells more remote from the vessels ('a' or 'b' parenchyma) rounded and frequently oval; (c) terminal parenchyma forming a narrow, 1-several (mostly 1-2) seriate interrupted line; (d) metatracheal parenchyma very sparse, scattered in the extensive tracts of fibrous tissue, the cells generally solitary; orange-brown gummy infiltration relatively sparse or abundant, occluding occasional cells or forming globules; crystals abundant in the 'c' and 'd' types of parenchyma; starch deposits not observed.

**Fibres**

- Libriform, fine, rounded in the transverse section and arranged in radial rows, solidly banked in broad tracts between the vessels and the rays, non-gelatinous, non-septate; inter-fibre pits mostly confined to the radial walls, simple, slit-like, steeply oblique; lumina frequently plugged with deposits of orange-brown gum.

**Rays**

- Not visible with the naked eye, fine, close (10-13 per mm.), of the same colour as the background and forming a fine, irregular, inconspicuous fleck on the radial surface, homogeneous, very variable in height (tangential surface); pits leading to contiguous vessels numerous to each cell and often in horizontal rows, minute, orbicular to oval, with broad border and short oval orifice, with 'sieve-like' membrane, not confluent; orange-brown gummy infiltration sparse or relatively abundant, occluding occasional cells or forming 'globules'; crystals wanting; starch deposits not observed.
SEASONING
- Not a readily refractory timber to season, but may have a tendency to surface check, split and warp. Air dries slowly but with little degrade. Kiln seasons satisfactorily with low shrinkage, but hair-checks and warping may develop during the process.

WORKING PROPERTIES
- Hard to saw and work in all machine processes. It is also hard to work with hand tools. Sawing green is preferable. It has a severe blunting effect on cutting edges, but with moderate care a fine, smooth finish can be obtained. Predrilling is necessary in nailing.

POLISHING AND STAINING
- Takes an excellent and lasting polish. Very attractive after polishing.

DURABILITY AND USES
- Very durable and resistant to termite attack, but not entirely immune from it. It is also resistant to marine borers. The heartwood is extremely resistant to preservative treatment and sapwood is moderately resistant.
- Suitable for heavy, structural work especially as piles, bridge girders, harbour work, and wharf decking. It is an excellent timber both for ground and water contacted structures. Good to use as posts, beams, scantlings and framing of high grade houses and public buildings. One of the best railway sleepers. It makes an attractive and decorative floor for public buildings and in highly resistant to abrasion. Other uses are railway wagon construction, telegraph posts, cart wheels, tool handles, boat building and pit props. Pyinkado is one of the most useful timbers where strength, durability, beauty, and resistance to wear and tear are required. Large sized timbers are available.