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Wood Technical Fact Sheet

Dryobalanops spp.

Kapur

Family: Dipterocarpaceae

Other Common Names: Keladan, Kapur (Malaya), Kapoer (Indonesia), Borneo camphorwood (Great Britain).

Distribution: Malaya, Sumatra, and Borneo including Sabah and Sarawak; mostly on well-drained soils, often grows gregariously.

The Tree: Very large trees to a height of 200 to 250 ft with straight clear boles 90 to 100 ft. in length above well-developed buttresses; trunk diameters often 3 to 5 ft and may reach 11 ft.

The Wood:

General Characteristics: Heartwood reddish brown; clearly demarcated from the whitish- to yellowish brown sapwood, rather narrow. Texture moderately coarse; grain straight to shallowly interlocked; luster high; without distinctive taste but with strong camphor-like smell when freshly cut which is lost after exposure; contains resin ducts that normally do not exude over wood surfaces. Silica content of 0.12

0.91 is reported.

Weight: Basic specific gravity (ovendry weight/green volume) usually 0.57 to 0.65; air-dry density 45 to 50 pcf.

Mechanical Properties: (First set of data based on the 2-cm standard; second set on the 2-in. standard.)

Moisture content Bending strength Modulus of elasticity Maximum crushing strength

(%) (Psi) (1,000 psi) (Psi)

Green (35) 11,700 1,580 5,980

12% 16,900 1,930 9,630

Green (9) 12,150 2,305 6,740

15% 16,480 2,710 8,940

Janka side hardness 1,230 lb for dry material.

Drying and Shrinkage: Dries rather slowly and with only slight cup and some shake. Kiln schedule T10-D4S is suggested for 4/4 stock and T8-D3S for 8/4 (D. lanceolata). Shrinkage green to oven-dry: radial 4.6%; tangential 10.2%. Movement in service is rated as medium.

Working Properties: The wood works fairly well with hand and machine tools, blunting of cutters may be severe particularly when machining dry wood because of silica content. Slight gumming may take place during sawing. Nails and screws well. Wet wood will stain in presence of iron. Glue lines reported not durable in exterior plywood bonded with phenolic adhesives.

Durability: Heartwood is rated resistant to attack by decay fungi but is reported to be vulnerable to termites; sapwood liable to powder-post beetle attack.

Preservation: Heartwood is extremely resistant to preservative treatments; sapwood is rated permeable.

Uses: Heavy construction work, furniture components, flooring, cores and backs of plywood (glues well with urea formaldehyde), boat framing, joinery.

Additional Reading: (9), (11), (17),