



**USDA Forest Service
Forest Products Laboratory
One Gifford Pinchot Drive
Madison, WI 53705-2398**

(608) 231-9200

Wood Technology Transfer Fact Sheet

Dipterocarpus spp.

Keruing or Apitong

Family: Dipterocarpaceae

Other Common Names: Eng, In (Burma), Yang, Heng (Thailand), Lagan, Keroeing (Indonesia), Dau (Vietnam, Cambodia), Gurjun (India).

Distribution: Widely scattered throughout the indo-Malayan region. More than 70 species make up this group, and they are marketed collectively. Timbers from Malaysia contain a large number of species and are most variable in properties.

The Tree: Varies with species but commonly reach heights of 100 to 200 ft with clear, cylindrical boles 70 ft long; trunk diameters 3 to 6 ft, commonly with a small buttressed base.

The Wood:

General Characteristics: Heartwood varies from light to dark red brown or brown to dark brown, sometimes with a purple tint; usually well defined from the gray or buff sapwood. Texture moderately coarse; grain straight or shallowly interlocked; luster

low; strong resinous odor when freshly cut, without taste. Resin exudation may be troublesome. Silica content variable, generally less than 0.5%.

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

Mechanical Properties: (2-in. standard)

Moisture content Bending strength Modulus of elasticity Maximum crushing strength
Psi 1,000 psi Psi

Green (3) 8,500 1,750 4,050

12% 16,700 2,510 8,600

Green (1) 11,900 1,710 5,690

12% 19,900 2,080 10,500

Janka side hardness about 1,520 lb for dry material. Forest Products Laboratory toughness 240 in.-lb for green material (2-cm specimen).

Drying and Shrinkage: Dries slowly often with considerable degrade due to checking and warp and sometimes collapse. Resin exudation is common, particularly at high temperatures. Kiln schedule T3-D2 is suggested for 4/4 stock and T3-D1 for 8/4.

Shrinkage green to air dry: radial 2.5 to 5.5%; tangential 7.5 to 11.5%. Movement in service medium to large.

Working Properties: Generally saws and machines well, particularly when green.

Blunting of cutters moderate to severe due to silica content. Sometimes difficult to glue. Resin adhering to machinery and tools may be troublesome. Resin may also interfere with finishes.

Durability: Durability varies with species, generally classified as moderately durable, but heartwood is susceptible to termite attack. Though silica content may be high, resistance to marine borers is erratic.

Preservation: Sapwood and heartwood are both rated as moderately resistant to preservative treatments using either open tank or pressure systems.

Uses: General construction work, framework for boats, flooring, pallets, chemical processing equipment, veneer and plywood, suggested for railroad crossties if treated.

Additional Reading:

1. Burgess, P. F. 1966. Timbers of Sabah. Sabah For. Rec. No. 6.
2. Farmer, R. H. 1972. Handbook of hardwoods. HMSO. London.
3. Lauricio, F. M. and S. B. Bellosillo. 1966. The mechanical and related properties of Philippine hardwoods. The Lumberman 12(5):66+A-H.
4. Pearson, R. S. and H. P. Brown. 1932. Commercial timbers of India. Gov. of India Central Publ. Br. Calcutta.

From: Chudnoff, Martin. 1984. Tropical Timbers of the World. USDA Forest Service. Ag. Handbook No. 607.