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## Wood Technical Fact Sheet

*Shorea* spp.

### Balau group

**Family:** Dipterocarpaceae

**Other Common Names:** Red Selangan Batu (Sabah), Guijo (Philippines), Balau Merah, Membatu (Malaya), Balau Merah (Indonesia).

**Distribution:** Malay Peninsula including Indochina, Indonesia, Philippines; often in almost pure stands.

**The Tree:** Reaches a height of 200 ft, boles straight and regular; trunk diameters to 6 ft over large buttresses.

### The Wood:

**General Characteristics:** Heartwood light to deep red brown; sapwood lighter in color, not always sharply demarcated. Texture moderately fine to slightly coarse; grain typically interlocked; without characteristic odor or taste; rather dull; resin canals with white contents in concentric lines on end surfaces.

**Weight:** Basic specific gravity (ovendry weight/green volume) about 0.70; air-dry density 53 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 (67) 15,350 2,040 7,710

14% 20,670 2,170 10,050

Green (34) 11,400 2,060 5,300

12% 18,400 2,560 10,000

Janka side hardness 1,230 to 1,420 lb for green material and 1,480 to 1,640 lb for dry. Forest Products Laboratory toughness 430 in.-lb for green and 490 in.-lb for dry material (2-cm specimen).

**Drying and Shrinkage:** Rather difficult to season, dries slowly, liable to end splitting, warping is variable. Kiln schedule T8-B3 is suggested for 4/4 stock and T5-B1 for 8/4. Shrinkage green to oven-dry: radial 6.2%; tangential 11.4%. Movement in service is rated as medium.

**Working Properties:** Rather difficult to machine because of high density, saws cleanly, dresses to a smooth finish, some tearing of interlocked grain, only moderate blunting of cutters, wood should be prebored for nailing.

**Durability:** Heartwood durability very variable and should be classified as nondurable. Sapwood is very susceptible to attack by powder-post beetle.

**Preservation:** Heartwood is extremely resistant to preservative treatments; sapwood classified as permeable.

**Uses:** Heavy construction, framing of boats, parquet flooring, heavy-duty flooring, utility furniture.

**Additional Reading:** (9), (34), (67)

9. Burgess, P. F. 1966. Timbers of Sabah. Sabah For. Rec. No. 6.

34. Lauricio, F. M., and S. B. Bellosillo. 1966. The mechanical and related properties of Philippine woods. *The Lumberman* 12(5):66 +A-H.

67. United Kingdom: For. Prod. Res. Lab. 1965. Report on a consignment of Selangan Batu Merah (*Shorea guiso* (Blanco) B1.). Consignment No. 1272. Princes Risborough Lab.

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