

Grade stresses for tropical hardwoods graded in accordance with BS 5766 rules: for service classes 1 and 2

Standard Name	Grade	Bending parallel to grain ^a N/mm ²	Tension parallel to grain ^a N/mm ²	Compression		Shear parallel to grain N/mm ²	Modulus of elasticity	
				Parallel to grain N/mm ²	Perpendicular to grain ^b N/mm ²		Mean N/mm ²	Minimum N/mm ²
Balau	HS	23.4	14.1	23.0	5.3	2.8	20 900	16 700
Ekki	HS	25.0	15.0	24.6	5.6	3.0	18 500	15 500
Greenheart	HS	26.1	15.6	23.7	5.9	2.6	21 600	18 000
Iroko	HS	12.6	7.5	12.6	2.8	1.6	10 600	8 500
Jarrah	HS	13.8	8.2	14.2	3.1	2.0	12 400	8 700
Kapur	HS	18.1	10.9	18.0	4.1	1.9	19 200	15 800
Karri	HS	17.1	10.3	15.2	3.9	1.7	17 800	13 500
Kempas	HS	19.3	11.6	19.4	4.3	2.3	19 100	16 000
Keruing	HS	16.2	9.7	16.0	3.6	1.7	19 300	16 100
Merbau	HS	18.1	10.9	15.7	4.1	2.3	15 900	11 700
Opepe	HS	17.0	10.2	17.6	3.8	2.1	14 500	11 300
teak	HS	13.7	8.2	13.4	3.1	1.7	10 700	7 400

^a Stresses applicable to timber 300mm deep (or wide)

^b When the specifications specifically prohibit wane at bearing areas, the HS grade compression perpendicular to the grain stress may be multiplied by 1.33