

# BoatCraft Pacific

## ENGINEERING PROPERTIES OF PLYWOODS

The following engineering data are those specified in Australian Standards, particularly AS 1684, 1720 and 2269 for structural plywood having stress gradings of F8, F11 and F14. These stress gradings are strictly only applied to plywood manufactured to that standard, such as Hoop Pine F14 plywood. However it is considered that Gaboon plywood can be approximately equated to an F8 stress grading, and Pacific Maple (Meranti) plywood can be approximately equated to an F11 stress grading.

Stress grade		F8	F11	F14
Typical plywood		Gaboon	Pacific Maple	Hoop Pine
Density	kg/cu m	455	500	530

### Engineering properties parallel to face grain

Basic working stress

Bending	Mpa	8.6	11.0	14.0
Tension	Mpa	5.2	6.6	8.4
Compression	Mpa	6.5	8.3	10.5
Shear	Mpa	1.6	1.80	2.05
Elastic Modulus	MPa	9100	10500	12500
Rigidity Modulus	Mpa	455	525	625

### Engineering properties perpendicular to face grain

Basic working stress

Compression (perpendicular)	Mpa	3.3	4.1	5.2
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DATA FROM UNDEFINED SOURCE Feb 97 (possibly Plywood Assoc)

	Gaboon	Hoop
Stress grade	F8	F11
Density	490	630
Elastic Modulus Mpa	9100	10500
Safe working stresses:		
Bending	8.6	11.0
Tension in plane	6.9	8.6
Shear	1.58	2.79
Compression in plane	6.5	8.3
Compression perp. To sheet	2.8	3.4

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