BIG RIVER GROUP PTY LTD
BIG RIVER BRAND
GRAFTON NSW

ARMOURPANEL™

DESIGN DATA

ALLOWABLE POINT LIVE LOADS (kN)

DEFLECTION LIMIT – SPAN/200 (RECOMMENDED MINIMUM REQUIREMENT TO MEET AS1170.1)

Identification Code	Thickness (mm)	Stress Grade	Span (mm)						
			400	450	480	600	800	900	1200
15-30-5	15	F11	2.2	1.8	1.5	1.0	0.6		
		F14	2.5	2.0	1.8	1.1	0.6	0.5	
		F17	3.0	2.3	2.1	1.3	0.7	0.6	
		F22	3.4	2.7	2.3	1.5	0.8	0.7	
		F27	3.9	3.1	2.7	1.7	1.0	0.8	
		F34	4.5	3.6	3.2	2.0	1.1	0.9	0.5
18-30-6	18	F11	3.6	2.8	2.5	1.6			
		F14	4.1	3.2	2.9	1.8	1.0		
		F17	4.8	3.8	3.3	2.1	1.2		
		F22	5.5	4.3	3.8	2.4	1.4		
		F27	6.3	5.0	4.4	2.8	1.6		
		F34	7.4	5.8	5.1	3.3	1.8		
21-30-7	21	F11	6.1	5.0	4.4	2.8	1.6	1.3	0.7
		F14	7.2	5.7	5.0	3.2	1.8	1.4	0.8
		F17	8.4	6.7	5.9	3.7	2.1	1.7	0.9
		F22	9.6	7.6	6.7	4.3	2.4	1.9	1.1
		F27	11.1	8.8	7.7	4.9	2.8	2.2	1.2
		F34	12.9	10.2	9.0	5.8	3.2	2.6	1.4
27-30-9	27	F11	10.9	9.7	9.1	6.5	3.6	2.9	1.6
		F14	13.8	12.3	11.5	7.4	4.2	3.3	1.9
		F17	16.8	14.9	13.5	8.6	4.9	3.8	2.2
		F22	21.7	17.5	15.4	9.9	5.6	4.4	2.5
		F27	23.9	20.3	20.3	11.4	6.4	5.1	2.9
		F34	23.9	23.6	23.6	13.3	7.5	5.9	3.3
33-30-11	33	F11	15.4	13.7	12.8	10.3	6.4	5.0	2.8
		F14	19.6	17.4	16.4	12.9	7.3	5.8	3.2
		F17	23.8	21.2	19.9	15.1	8.5	6.7	3.8
		F22	29.2	27.4	25.7	17.2	9.7	7.7	4.3
		F27	29.2	29.2	29.2	19.9	11.2	8.9	5.0
		F34	29.2	29.2	29.2	23.2	13.0	10.3	5.8

For single spans, reduce the allowable point loads in the Table by 40%. Unshaded spans are movement or beam shear limited.

Armourpanel is for Interior Use Only

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BigRiver

UNIFORMLY DISTRIBUTED LIVE LOADS (kPa)

DEFLECTION LIMIT – SPAN/200 (RECOMMENDED MINIMUM REQUIREMENT TO MEET AS1170.1)

Identification Code	Thickness (mm)	Stress Grade	Span (mm)						
			400	450	480	600	800	900	1200
15-30-5	15	F11	22.7	18.0	15.8	10.1	4.3	3.0	1.3
		F14	28.9	22.8	20.1	11.6	4.9	3.4	1.5
		F17	35.1	27.7	24.4	13.5	5.7	4.0	1.7
		F22	45.4	35.9	30.1	15.4	6.5	4.6	1.9
		F27	51.5	42.3	34.8	17.8	7.5	5.3	2.2
		F34	51.5	45.8	40.5	20.7	8.7	6.1	2.6
18-30-6	18	F11	30.8	24.3	21.4	13.7	6.9	4.9	2.1
		F14	39.2	31.0	27.2	17.4	7.9	5.6	2.3
		F17	47.6	37.6	33.1	21.2	9.2	6.5	2.7
		F22	61.6	48.7	42.8	25.0	10.6	7.4	3.1
		F27	61.8	55.0	51.5	28.9	12.2	8.6	3.6
		F34	61.8	55.0	51.5	33.6	14.2	10.0	4.2
21-30-7	21	F11	40.4	31.9	28.1	18.0	10.1	7.4	3.1
		F14	51.5	40.7	35.7	22.9	12.0	8.5	3.6
		F17	62.5	49.4	43.4	27.8	14.0	9.9	4.2
		F22	72.1	63.9	56.2	35.9	16.0	11.3	4.8
		F27	72.1	64.1	60.1	44.0	18.5	13.0	5.5
		F34	72.1	64.1	60.1	48.1	21.6	15.1	6.4
27-30-9	27	F11	62.4	49.3	43.3	27.7	15.6	12.3	6.2
		F14	79.4	62.7	55.1	35.3	19.8	15.7	7.1
		F17	92.7	76.2	66.9	42.8	24.1	19.0	8.3
		F22	92.7	82.4	77.3	55.4	31.2	22.5	9.5
		F27	92.7	84.4	77.3	61.8	37.1	26.1	11.0
		F34	92.7	82.4	77.3	61.8	43.1	30.3	12.8
33-30-11	33	F11	88.6	70.0	61.5	39.4	22.1	17.5	9.8
		F14	101.0	89.1	78.3	50.1	28.2	22.3	12.5
		F17	113.3	100.8	94.5	60.8	34.2	27.0	14.5
		F22	113.3	100.8	94.5	75.6	44.3	35.0	16.6
		F27	113.3	100.8	94.5	75.6	55.3	43.7	19.2
		F34	113.3	100.8	94.5	75.6	56.7	50.4	22.3

Unshaded spans are moment or beam shear limited.

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PROPERTIES OF TIMBER SPECIES

Species	Average density (kg/m3)	Colour	Hardness (JANKA kN)
Alpine Ash	650	Yellowish Brown through to pale pink	4.9
Blackbutt	900	Pale brown	9.1
Flooded Gum	750	Pink to pale red-brown Dark pink to red-brown	7.5
Spotted Gum	950	Light brown to light reddish brown	11.0
Sydney Blue Gum	800	Reddish pink to dark pink	9
Walnut	750	Pale to dark reddish brown	5.7

ALLOWABLE STRESS AND ELASTIC MODULI

Permissible stresses are obtained from factors appropriate to the service conditions. The basic working stresses for structural plywood given in the following table are applicable to plywood with a minimum of D quality veneer as defined in AS/NZS2269 "Structural Plywood".

The table also gives the basic working stresses and stiffness for the full range of plywood stress grades.

BASIC WORKING STRESS AND STIFFNESS FOR STRUCTURAL PLYWOOD

(MOISTURE CONTENT 15% OR LESS)

Stress grade	Basic working stress MPa						
	Bending	Tension	Shear	Compression in the plane of the sheet	Compression normal to the plane of the sheet	Short duration modulus of elasticity	Short duration modulus of rigidity
	Fb	Ft	Fs	Fc	Fp	MPa - E	MPA - G
F34	34.5	20.7	2.30	25.9	10.4	21 500	1 075
F27	27.5	16.5	2.30	20.6	9.0	18 500	925
F22	22.0	13.2	2.30	16.5	7.8	16 000	800
F17	17.0	10.2	2.30	12.8	6.6	14 000	700
F14	14.0	8.4	2.05	10.5	5.2	12 000	625
F11	11.0	6.6	1.80	8.3	4.1	10 500	525

NOTE: To establish design values the basic working stresses and elastic moduli must be modified in accordance with the factors in AS1720.1 "Timber Structures Code"

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