



GRP
AUSTRALIA®

DECKING PRODUCT GUIDE

GRP AUSTRALIA

Introduction

GRP Decking is an engineered decking solution made from pultruded glass reinforced polymer (GRP). GRP is a composite material made from a thermosetting resin, reinforced with glass fibers. The product contains additives such as colour pigments, UV stabilisers and fire retardants. GRP is a highly versatile material, with a high strength to weight ratio. It can be finished with a variety of surface textures and colours.

Applications

Structural flooring, duct cover, trench or gully covers, man hole cover, work platforms, tank covers, service duct covers, bridge decking, balcony flooring and warehouse/factory flooring.

Benefits

High strength, light weight, dimensional stability, high corrosion resistance, long life, low tooling and installation cost. GRP products compete favourably against traditional building materials such as steel, timber and aluminium.

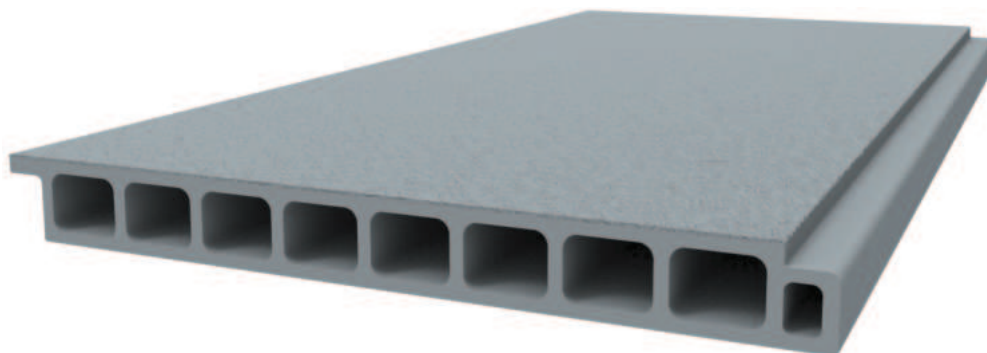
Specifications

Custom colours are available upon request, in accordance with the RAL colour chart. The decking can be supplied with a smooth or gritted (silicon) surface (different grit sizes are available upon request). The deck can be made to custom lengths up to 5.8m long.

Pultruded Decking Material Mechanical Properties

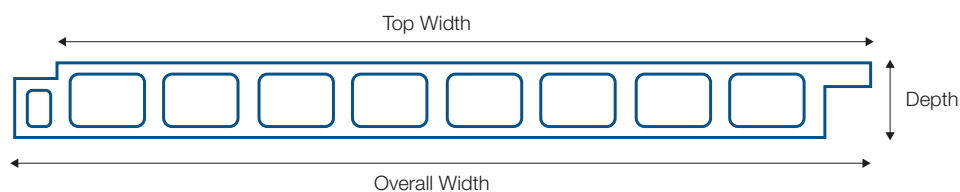
CHARACTERISTICS	UNIT	REFERENCE
Tensile Strength	220Mpa	ASTM D1037-93
Modulus of Elasticity	21Gpa	ASTM D1037-93
Flexural Strength	250Mpa	ASTM D1037-93
Compressive Strength	145Mpa	ASTM D1037-93
Density kg/m ³ (Specific Gravity)	1900-2000 kg/m ³	n/a
Thermal Expansion Factor	13 x 10 ⁻⁶ mm/mm°C	n/a
Flammability Resistance	Class 1	ASTM E84
Anti-Slip Surface	P5	AS4586:2013

FL-A Decking



TYPE	TOP WIDTH (MM)	OVERALL WIDTH (MM)	DEPTH (MM)	WEIGHT (KG/M)	STD. SURFACE
FL-A DECK	482.6	508	50.8	19.7	Silicon Grit

Drawing

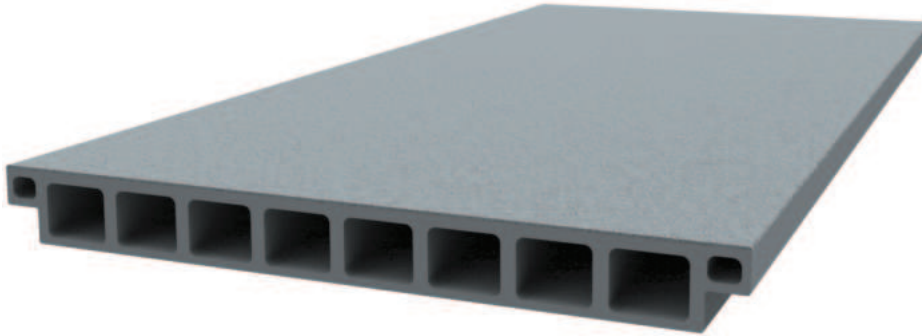


Load Tables

SPAN mm	Point Load kN				
	450	600	900	1200	1500
L/150	63	36	16	9	6
L/200	48	27	12	7	4
L/300	32	18	8	4	3

SPAN mm	Uniform Distributed Load kPa				
	450	600	900	1200	1500
L/150	467	197	58	25	13
L/200	350	148	44	18	9
L/300	234	99	29	12	6

Floor Plate



TYPE	BOTTOM WIDTH (MM)	TOP WIDTH (MM)	DEPTH (MM)	WEIGHT (KG/M)	STD. SURFACE
FP500-50 (light)	450	500	48.5	16.4	Silicon Grit
FP500-50	550	600	48.5	18.5	Silicon Grit
FP725-45	675	725	45	17.9	Silicon Grit

FP500-50 (light)



FP500-50



FP725-45



FP500-50-6 (Light)

SPAN mm	Point Load kN				
	450	600	900	1200	1500
L/150	88	49	22	12	8
L/200	66	37	16	9	6
L/300	44	25	11	6	4

SPAN mm	Uniform Distributed Load kPa				
	450	600	900	1200	1500
L/150	625	264	78	33	17
L/200	469	198	59	25	13
L/300	313	132	39	16	8

FP500-50-9 (Heavy)

SPAN mm	Point Load kN				
	450	600	900	1200	1500
L/150	91	51	23	13	8
L/200	68	38	17	10	6
L/300	46	26	11	6	4

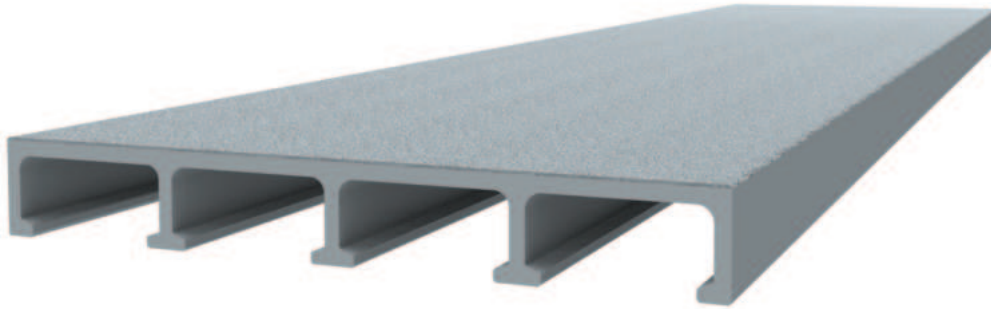
SPAN mm	Uniform Distributed Load kPa				
	450	600	900	1200	1500
L/150	649	274	81	34	18
L/200	487	205	61	26	13
L/300	324	137	41	17	9

FP75-45

SPAN mm	Point Load kN				
	450	600	900	1200	1500
L/150	92	52	23	13	8
L/200	69	39	17	10	6
L/300	46	26	11	6	4

SPAN mm	Uniform Distributed Load kPa				
	450	600	900	1200	1500
L/150	467	197	58	25	13
L/200	350	148	44	18	9
L/300	233	99	29	12	6

Decking



TYPE	WIDTH (MM)	DEPTH (MM)	WALL THICKNESS (MM)	WEIGHT (KG/M)	STD. SURFACE
Deck 250x32x5	250	32	5	4.5	Silicon Grit
Deck 250x40x6	250	40	6	5.3	Silicon Grit

Deck 250x32x5:

Point Load kN			
SPAN mm	450	600	900
L/150	9.1	5.1	2.3
L/200	6.9	3.9	1.7
L/300	4.6	2.6	

Uniform Distributed Load kPa			
SPAN mm	450	600	900
L/150	32.5	13.7	4.1
L/200	24.4	10.3	3.0
L/300	16.2	6.9	2.0

Deck 250x40x6:

Point Load kN				
SPAN mm	450	600	900	1200
L/150	17.8	10.1	4.5	2.5
L/200	13.4	7.5	3.4	1.8
L/300	8.9	5.0	2.2	

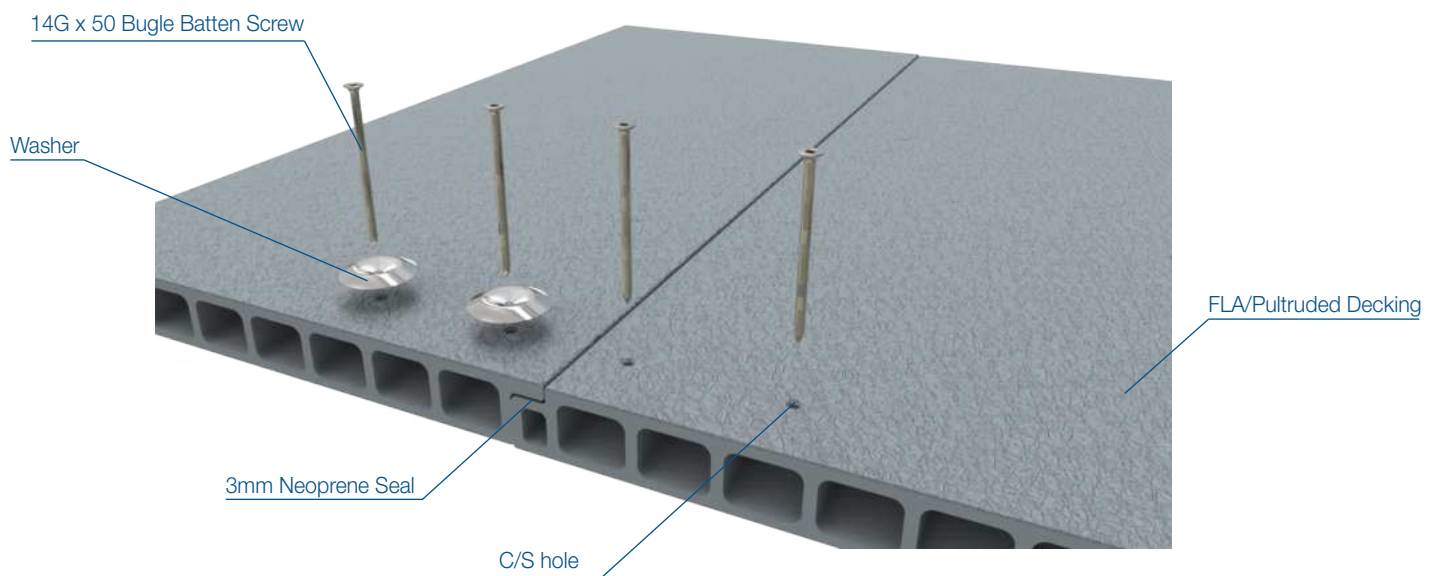
Uniform Distributed Load kPa				
SPAN mm	450	600	900	1200
L/150	63.5	26.8	7.9	3.4
L/200	47.6	20.1	5.9	2.5
L/300	31.7	13.4	3.9	

Clip Fastening & Installation Methods

The section below illustrates standard installation methods that can be applied to all moulded decking. Clip and fastening selections should be made according to the substrate material in use. For further info regarding installation please contact the team at GRP Australia.

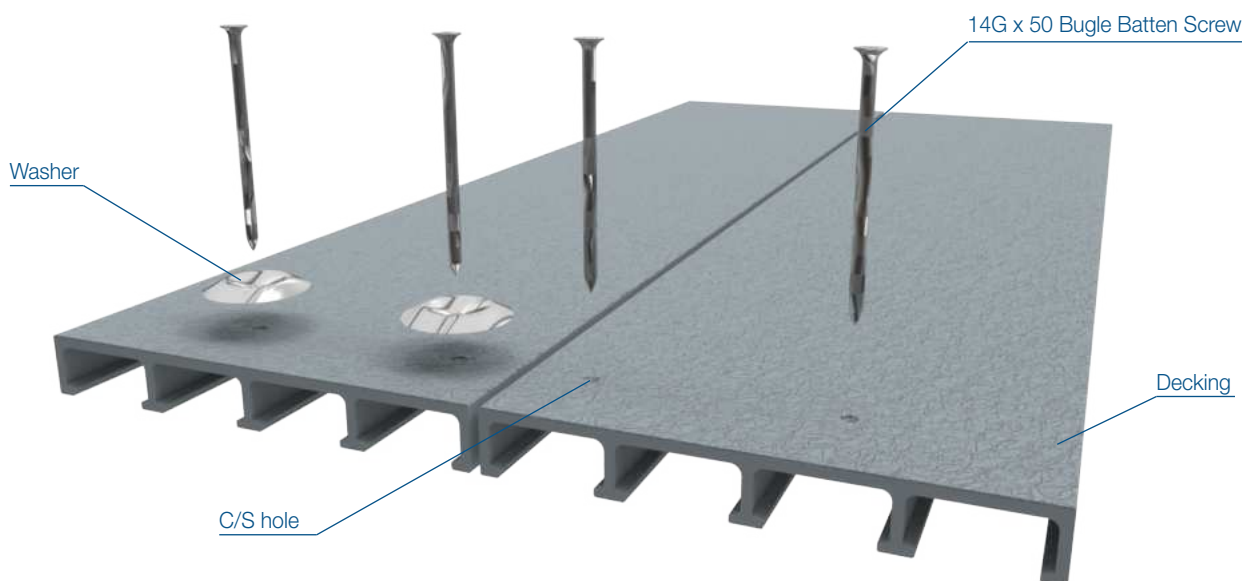
BUGLE BATTEN SCREW AND WASHER

BUGLE BATTEN SCREW



BUGLE BATTEN SCREW AND WASHER

BUGLE BATTEN SCREW



A typical 5mm gap between decking.

This chemical resistance guide provides guidance to engineers for the selection of resin type of pultruded sections to be used in the particular application. The selection of the resin type depends on the following:

- Corrosion environment
- Normal operating chemical concentration
- Normal operating temperature

This table is to be treated as a guide only, further testing or field trials may be required prior to final selection.

		ISOPHTHALIC	VINYL ESTER
CHEMICAL ENVIRONMENT	% CONC.	MAX TEMP. °C	MAX TEMP. °C
Acetic Acid	0-50	NR	38
Acetone	100	NR	NR
Aluminium Hydroxide	5-20	NR	65
Ammonium Bicarbonate	10	NR	65
Ammonium Chloride	15	NR	50
Ammonium Hydroxide	5-20	NR	50
Ammonium Sulphate	15	50	65
Barium Sulphate	100	NR	38
Benzene	100	NR	NR
Benzoic Acid	5-20	NR	38
Borax	5-20	38	65
Calcium Carbonate	10	NR	38
Calcium Hydroxide	5-20	NR	38
Calcium Hypochlorite	10	NR	50
Calcium Nitrate	5	50	65
Chlorine - Dry Gas	ALL	NR	70
Chlorine Water	10	NR	50
Chromic Acid	50	NR	38
Citric Acid	5-30	50	65
Copper Chloride	5	65	82
Copper Cyanide	5	65	82
Copper Nitrate	ALL	65	NR
Crude Oil	ALL	NR	65
Ethanol Glycol	ALL	38	65
Ferric Chloride	10	50	65
Ferric Nitrate	10	50	65
Ferrous Chloride	ALL	65	70
Fluoro Silicic Acid	10	NR	70

		ISOPHTHALIC	VINYL ESTER
CHEMICAL ENVIRONMENT	% CONC.	MAX TEMP. °C	MAX TEMP. °C
Formaldehyde	0-50	NR	38
Gasoline	100	NR	NR
Glucose	5-20	NR	65
Glycerin	10	NR	65
Hydrobromic Acid	15	NR	50
Hydrogen Peroxide	5-20	NR	50
Lactic Acid	15	50	65
Lithium Chloride	100	NR	38
Magnesium Chloride	100	NR	NR
Magnesium Nitrate	5-20	NR	38
Magnesium Sulphate	5-20	38	65
Mercuric Chloride	10	NR	38
Mercurous Chloride	5-20	NR	38
Nickle Chloride	10	NR	50
Nickle Sulphate	5	50	65
Nitric Acid	ALL	NR	70
Oxalic Acid	10	NR	50
Phosphoric Acid	50	NR	38
Potassium Chloride	5-30	50	65
Potassium Dichromate	5	65	82
Potassium Nitrate	5	65	82
Potassium Sulphate	ALL	65	NR
Propylene Glycol	ALL	NR	65
Sodium Acetate	ALL	38	65
Sodium Bisulfate	10	50	65
Sodium Bromide	10	50	65
Sodium Cyanide	ALL	65	70
Sodium Hydroxide	10	NR	70
Sodium Nitrate	ALL	65	70
Sodium Sulphate	10	NR	70
Sulphuric Acid	10	50	65
Sulphuric Acid	10	50	65
Sulphuric Acid	ALL	65	70
Tartaric Acid	10	NR	70
Vinegar	ALL	65	70
Water (Distilled)	10	NR	70

NR = Not recommended for the Concentrations and Temperatures listed.

GRP Australia believes the data to be true and accurate but no guarantee is expressed or implied as to specific performance. Testing for specific environments is recommended. Responsibility for claims arising from breach of warranty, negligence or otherwise is limited to the purchase price of the material sold.

This section provides data for protection against substances hazardous to health.

Material Identification and Use

Chemical Name: Fiberglass Reinforced Polyester
Common Name: GRP (Glass Reinforced Plastics, Fiberglass)
Uses: Structural Flooring, Duct Cover, Trench or Gully Covers, Man Hole Cover.

Composition

E Glass fibers (Uni-Directional), Woven Roving Comb Matt, thermosetting plastic resin, catalysts, aluminum oxide, pigments. UV Inhibitor. Components are chemically and thermally cured and bonded together.

Hazard Identification

None by contact. Dust produced by cutting or grinding can penetrate pores and skin causing itching. Avoid breathing dust. First Aid procedure: Skin – shower with water and soap. Eyes – flush with sterile eye wash solution.

Product Appearance

Open or closed profiles. Sharp edges. Zero odours. Not solvable in water. Standard colour Grey RAL 7047, others available on request.

Fire Fighting Measures

Standard extinguishing equipment, water, foam, A, B or C fire extinguishers. Produces black smoke while burning, carbon particles. Use air respirator.

Waste Disposal

Product is not considered a hazardous waste. Abide by local laws and procedures.

Handling/Cutting

Wear masks and goggles when cutting or grinding. Cover exposed parts of the body. Wear gloves when moving or lifting. Use diamond tipped tools for cutting.

Product Warranty

25 Year Warranty.



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