

## GRP SELECTION

When choosing the correct depth of GRP to install, the factors to take into account should include :-

- Intended use and associated loading requirements.
- Types of equipment that will be placed on it in both the temporary and permanent condition.
- Cuts required for M&E and services.

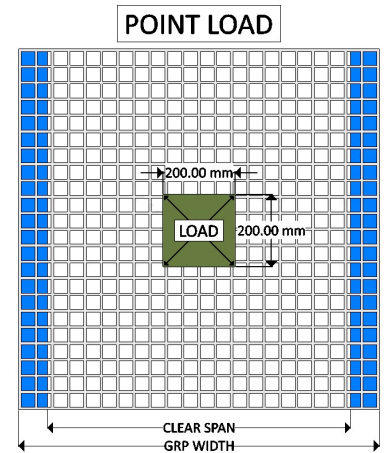
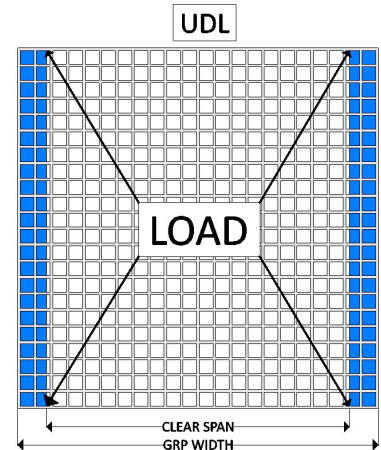
## GRP LOADING STANDARDS

- 1 BS 4592 PART 0+A1:2012 and BSEN14122 standards for walkways & working platforms state the minimum loads to take into account are:
  - 2.0kN/m<sup>2</sup> Uniformly Distributed Load (UDL) to account for structure.
  - 1.5kN concentrated load applied in the most unfavourable position over an area of 200mm<sup>2</sup> of the floor.
- 2 Standard GRP design deflection allowance is L/200 up to a maximum of 10mm.

## LOADING DEFINITIONS

**Uniformly Distributed Load (UDL)** - Where the load is considered evenly distributed across a defined area, usually denoted as per m<sup>2</sup>.

**Point Load** - A static load considered to act over a small area (in this case 200mm<sup>2</sup>) when compared to the total surface area to which the load is applied.



Load Table	25mm		38mm		50mm		28mm Solid Top		41mm Solid Top	
Mesh Size	38 x 38		38 x 38		50 x 50		38 x 38		38 x 38	
Open Area	70%		70%		78%		Closed top		Closed top	
Weight kgpm <sup>2</sup>	13.5		18.5		21.2		24		30	
Clear Span (W)	UDL kg	PL kg	UDL kg	PL kg	UDL kg	PL kg	UDL kg	PL kg	UDL kg	PL kg
600mm	425	161	1589	589	2472	1207	425	161	1589	589
750mm	217	103	917	377	1877	772	217	103	917	377
1000mm	N/A	N/A	387	212	792	434	N/A	N/A	387	212
1200mm	N/A	N/A	224	147	458	301	N/A	N/A	224	147
1500mm	N/A	N/A	N/A	N/A	234	193	N/A	N/A	N/A	N/A

The data listed above is for general guidance only. Due to environmental & operational conditions as a third party supplier, First Fix Formwork Ltd is unable to guarantee that the performance of the grating will correspond to the loadings indicated above.

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## Section 1 - Physical / Chemical Characteristics / Reactivity Data

Resin type	Isophalic polyester
Solubility in water	No
Appearance and odour	1 phase solid with various colours and possible slight odour
% Volatiles by volume	None (75°F)
pH (Neutral =7)	6 - 8
Evaporation rate	0
Stability	Stable
Hazardous polymerisation	Will not occur

## Section 2 - Fire and Explosion Hazard

Flash point	N/A
Extinguishing Media	Water, foam : Type A, B, or C extinguishers
Special fire fighting procedures	Use self-contained apparatus
Unusual fire & explosion hazards	Heavy smoke, products of combustion (CO, CO2, HBr)
Fire tested	ASTM E84 class A, 25 or less
Approvals	US Coast Guard, ABS Approved, Det Norsk Veritas

## Section 3 - Health Hazard Data / Safe Handling

Threshold limit value	N/A
Effects of overexposure	Dust from grinding or finishing can cause mild irritation to the eyes and skin. Nuisance dust.
Emergency first aid procedures	Wash skin well without rubbing. For the eyes, use a sterile solution and flood the eye area. Change clothing after exposure. Apply antiseptic to abraded skin areas.
Movement	Care should be taken when lifting full sheets and attention paid to any manual lifting restrictions.

## Section 4 - Control Measures

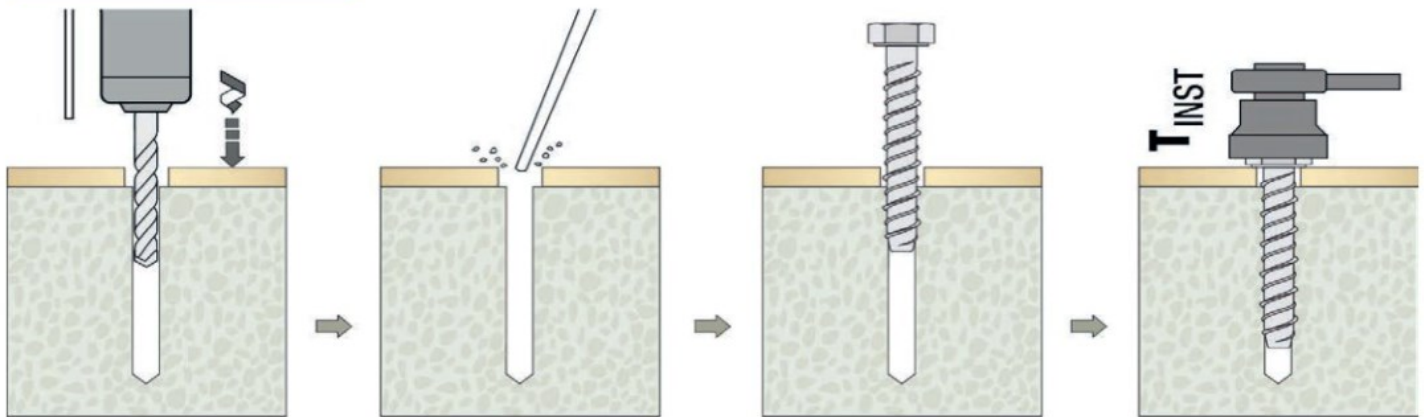
Respiratory Protection	Wear respirator mask when cutting : 3M No 4251 is recommended.
Ventilation	Cut in a well ventilated area. Use vacuum/dust collector with cutting tools.
Protective equipment	Suitable protective clothing covering all exposed body parts should be worn. Equipment such as safety glasses, cut resistant gloves and respirator mask should be worn when cutting and handling GRP.
Cutting	Heavy duty rotary saw with masonry, carbide or diamond coated blade.
Grinding	Use coarse grit, open coated (resin) grinding discs.
Finishing	In corrosive environments cut edges may be coated with resin to prevent possible corrosion of glass fibres. A light coating of two-part resin or urethane spray paint is satisfactory, subject to environmental conditions.

## Zinc Plated Concrete Bolt and Washer



M8/10 x 60mm - 15mm AF Hex Head	Min distance from an edge	50mm
8mm drill diameter	Rec tensile resistance	3.9kN
75mm min hole depth	Rec shear resistance	6.5kN
M10 x 28mm x 2mm zinc plated washer	Rec tightening torque	40(T <sub>inst</sub> )

### INSTALLATION INSTRUCTIONS





-Position fixture and drill correct diameter hole to corresponding depth by using the rotary hammer drilling mode

-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through fixture into concrete using suitable impact wrench

-Tighten with torque wrench to recommended torque

Fixings	M10 x 50 bolt set	38mm tek screw	75mm tek screw	Domed Washer
Zinc coated	Carbon Steel	A2 Stainless	Carbon Steel	Carbon Steel
				
Steel thickness	Less than 40mm	4 - 12.5mm	1.2 - 3.5mm	
Ult pull out value		10.0kN	6.5kN	
Tensile strength	3.3kN	5.9kN	2.9kN	
Shear strength	9.6kN	3.9kN	2.8kN	
Number per box	100	100	Boxes of 50 No sets	

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