

# Vitaglass FRP Gratings

## Vitaglass Moulded Grating

Manufactured with continuous glass fibre strand interwoven in both directions, thoroughly wetted with thermosetting resin, **Vitaglass FRP Grating** is a cost-effective, lightweight solution for walkways, platforms, decking, gullies, trenches, mezzanine floors & decorative ceilings & walls offering good and enhanced chemical resistance. It is non-conductive and non-magnetic, low in maintenance together with excellent anti-slip properties and available with or without a grit top surface. **Vitaglass FRP Grating** are easy to install and available in a variety of thicknesses, mesh sizes, panel sizes and colours.

Grating Depth	Mesh (mm)	Open Area %	Approx. Weight Kg/m <sup>2</sup>
13mm	50 x 50	72%	5.9 kgs/m <sup>2</sup>
25mm	38 x 38	68%	12.3 kgs/m <sup>2</sup>
30mm	38 x 38	68%	14.6 kgs/m <sup>2</sup>
30mm	20 x 20	42%	18.0 kgs/m <sup>2</sup>
38mm	38 x 38	68%	19.5 kgs/m <sup>2</sup>
50mm	50 x 50	71%	23.5 kgs/m <sup>2</sup>

Also available with 3mm or 5mm smooth or gritted solid top.

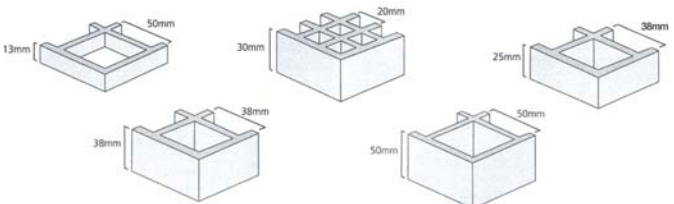
Standard panel sizes 2440 x 1220mm.

Larger panel sizes available on request.



Resin Types	Resin Code	Description	Corrosion Resistance	Flame Spread Rating ASTM E84	Standard Colours
Ortho	OFR-25	Moderate corrosion & fire resistant	Moderate	Class 1, 25 or less	Green, Light Grey
Polyester	IFR-25	Industrial grade corrosion & fire retardant	Very good	Class 1, 25 or less	Green, Grey
Polyester	IFR-30	Food grade corrosion & fire retardant	Very good	Class 1, 30 or less	Green, Grey
Vinylester	VEFR-25	Superior corrosion resistance & enhanced fire retardant	Excellent	Class 1, 25 or less	Grey, Yellow, Orange
Phenolic*	PH-5	Corrosion resistance, superior fire resistance & low toxic smoke	Very good	Class 1, 5 or less	Brown

\*Phenolic grating is designed to withstand prolonged fire exposure without sustaining structural damage where fire resistance, low smoke & toxic emissions are critical. US Coast Guard Approval Level 2 is available.



# Vitaglass FRP Gratings

## Vitaglass Pultruded Grating

Manufactured with continuous glass fibre strand and resins pultruded through dies into 'I' section load bearing bars mechanically locked and bonded to transverse bars for maximum strength. Vitaglass Pultruded Grating is suitable for wide spans offering 1500mm clear span for 5kN/m<sup>2</sup> and conforming to BS4592 Part 4 1992 and BS5395 Part 3 1985 and withstands a 5kJ impact.

Grating Depth	Mesh Size (mm)	Standard Panel Size (mm)	Open Area%	Weight Kg/m <sup>2</sup>
25mm	38 x 150	3000 x 1000	60%	11.2
38mm	38 x 150	3000 x 1000	60%	16.1

Standard panel sizes 3000mm x 1000mm.

Other panel sizes available on request.

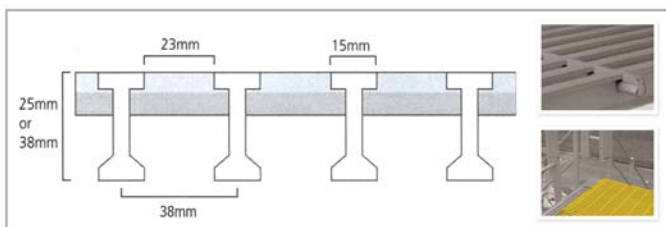
### LOAD DEFLECTION DATA

Loads giving deflections of 5mm (recommended maximum deflection for pedestrian comfort)

Load Bar Depth	Span (mm)	450	600	750	900	1050	1200	1500
25mm	Uniformly distributed load (kPa)	18	5.75	2.35	1.13	-	-	-
	Line load (kg/m <sup>2</sup> )	483	203	104	60	-	-	-
30mm	Uniformly distributed load (kPa)							
	Line load (kg/m <sup>2</sup> )							
38mm	Uniformly distributed load (kPa)	60	19	7.75	3.75	2	1.2	-
	Line load (kg/m <sup>2</sup> )	1697	710	365	210	132	89	-

## Vitaglass Moulded Stairtreads

Available in 38mm deep and 38mm x 38mm mesh in green with quartz grit top surface and black non-slip nosing. Standard lengths: 881mm, 767 and 729mm in widths of 235mm and 273mm.



Resin Types	Resin Code	Description	Corrosion Resistance	Flame Spread Rating ASTM E84	Standard Colours
Polyester	IFR-25	Industrial grade corrosion & fire retardant	Very good	Class 1, 25 or less	Grey
Vinylester	VEFR-25	Superior corrosion resistance & enhanced fire retardant	Excellent	Class 1, 25 or less	Grey, Yellow, Orange
Phenolic*	PH-5	Corrosion resistance, superior fire resistance & low toxic smoke	Very good	Class 1, 5 or less	Brown

\*Phenolic grating is designed to withstand prolonged fire exposure without sustaining structural damage where fire resistance, low smoke & toxic emissions are critical. US Coast Guard Approval Level 2 is available.



## Fixing Clips

'M' and 'C' type fixing clips are available in 316 stainless steel for both moulded and pultruded grating. These fixings clip over the bars and consist of a bolt, nut and washer. A minimum of 4 clips per panel or per m<sup>2</sup> is recommended.

## Tailoring GRP Grating

Use a power circular saw or jigsaw with masonry carbide or diamond coated blades and cut the panel from the underside. Protective attire must be worn such as eye protection, dust protection, mask and gloves in terms of OH & S. All cut edges should be sealed with a light coating of UV stable resin or urethane spray coating. This can be performed prior to delivery. Costs available on application.

## Vitaglass Pultruded Handrailing & Kickflat

ISO resin GRP Tubular Handrailing and Connectors are available as an alternative to stainless steel in high corrosive areas such as food processing plants, mine leaching plants and oil & petrochemical platforms. Pultruded kickflat are also available in either flat or profiled sections.



## Vitaglass Pultruded & Structural Profiles

Fabricated using the same manufacturing pultrusion process as for the grating 'I' beams, wide flange beams and channels are available in IFR VEFR resins in both mm and imperial sizes. These GRP structural profiles offer lightweight alternatives to steel with equivalent tensile strengths.

# Chemical Resistance Table

Chemical Environment	Concentration	Isophalic Resin			Vinylester Resin		
		25°C	52°C	53 - 93°C	25°C	52°C	53 - 93°C
<b>MINERAL ACID &amp; ORGANIC ACID</b>							
Sulphuric Acid	10%	R	R	R	R	R	R
	25%	R	R	R	R	R	R
	50%	R	R	R	R	R	R
Hydrochloric Acid	10%	R	RSD	N	R	R	R
Nitric Acid	5%	R	R	N	R	R	R
	50%	R	N	N	R	RSD	N
	HIGH	N	N	N	N	N	N
Chromic Acid	30%	N	N	N	R	R	RSD
Phosphoric Acid	25%	R	R	R	R	R	R
	50%	R	R	R	R	R	R
Acetic Acid	50%	R	R	N	R	R	N
Oxalic Acid	15%	R	/	/	R	R	R
Lactic Acid		R	R	R	R	R	R
Tartaric Acid		R	R	R	R	R	R
<b>ALKALI</b>							
Sodium Hydroxide	5%	R	N	N	R	R	R
Barium Hydroxide	10%	RSD	RSD	N	R	R	R
Ammonia	28%	N	N	N	-	-	-
Calcium Hydroxide		R	R	N	R	R	R
Sodium Carbonate	10%	N	N	N	R	R	R
<b>ACID SALT</b>							
Ammonium Chloride		R	R	R	R	R	R
Ammonium Nitrate		R	R	R	R	R	R
Ammonium Sulphate		R	R	R	R	R	R
Ferric Chloride		R	R	R	R	R	R
Nickel Nitrate		R	R	R	R	R	R
Zinc Sulphate	10%	R	R	R	R	R	R
Sodium Sulphite		R	R	R	R	R	R
<b>ALKALI SALT</b>							
Sodium Hypochlorite	10%	R	R	R	R	R	R
Calcium Hypochlorite		R	R	N	R	R	R
<b>NEUTRAL SALT</b>							
Magnesium Chloride		R	R	R	R	R	R
Mercury Chloride		R	R	R	R	R	R
Potassium Dichromate		-	-	-	R	R	R
Potassium Permanganate		R	R	R	R	R	R
Sodium Nitrate		R	R	R	R	R	R
<b>ORGANIC COMPOUND</b>							
Petroleum		R	N	N	R	N	R
Kerosene		R	R	R	R	R	R
Methanol		RSD	N	N	R	R	N
Ethanol		R	/	/	R	R	/
Ethylene Glycol	25 - 75%	R	R	RSD	R	R	RSD
Toluene		RSD	N	N	RSD	N	N
Acetone		N	N	N	RSD	N	N
<b>OTHER</b>							
Water		R	R	R	R	R	R
Hydrogen Peroxide	5 - 10%	R	R	N	R	/	/
Chlorine Dioxide Bleach		R	R	N	R	R	R

**Key to Table:** R = good resistance, N = non-resistant, RSD = intermediate, / = use with care (depends on conditions), - = not tested. This table is for general guidance only. Users must determine the suitability of resins for particular application. No guarantee of specific performance is given or implied.