

## DATA SHEET

### SOLID TOP STRUCTURAL PANELS

**Solid Top panels are constructed using open mesh fibreglass grating with a laminated top plate.  
There are many variations combination available designs to suit load requirements**

#### **Definition**

Glass-reinforced plastic (GRP or fibreglass) is a composite material made of a thermosetting plastic resin reinforced by fine fibres of glass along with the use of additives and is commonly referred to by the name of fibreglass.

#### **Applications**

GRP is an immensely versatile material which combines lightweight with inherent strength to provide a resilient finished product with a variety of surface textures and a virtually unlimited colour range available. By selecting the appropriate combination of fibreglass reinforcements, resins and processing techniques, the engineer can create a product or component to meet the most demanding of specifications.

#### **Benefits**

High strength, light weight, dimensional stability, corrosion/chemical/electrical resistance, low tooling/installation cost, long life. GRP products compete very favorably on a performance/life cycle cost basis versus traditional materials.



## Load and Deflection table

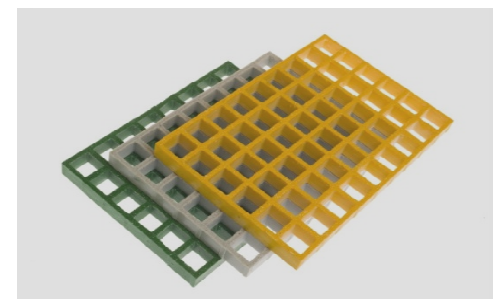
STRUCTURAL PANELS - Covered Top			Unsupported Span (unfixed) over a 1m length							
Panel Thickness	construction	Weight/m2	Load Type	500mm	750mm	1000mm	1200mm	1500mm	1750mm	2000mm
30mm	25+5mm	24kg	Point Load	2010kg	894kg	503kg	349kg	223kg	164kg	126kg
			UDL	5063kg	1922kg	811kg	469kg	240kg	151kg	101kg
43mm	38+5mm	30kg	Point Load	4637kg	2077kg	1168kg	811kg	519kg	381kg	292kg
			UDL	9645kg	5248kg	2214kg	1281kg	656kg	413kg	277kg
55mm	50+5mm	34kg	Point Load	6462kg	3000kg	1686kg	1170kg	750kg	551kg	422kg
			UDL	12926kg	8617kg	3795kg	2196kg	1125kg	708kg	474kg

## MATERIAL

### Raw Material Characteristics

Two main components produce composite GRP: Isophthalic polyester resin and glass fibres. There are several types of resin systems depending on the application: Isophthalic, Orthophthalic, Vinylester and Phenolic. Isophthalic & Orthophthalic polyesters are the most widely used resin types and are suitable for most industrial applications. Phenolic & Vinylester are available by special order.

Typical Material Properties	Resin	Glassfibre
Tensile Strength Mpa	55	207
Modulus of Elasticity GPa / (Tensile Modulus)	3.5	16
Compressive Strength MPa	140	18
Flexural Strength MPa	78	182
Interlaminare Shear Strength MPa	Na	9
Thermal Conductivity W/m°C	0.21	0.29
Max Operating Temp (deg. °C)	140	200



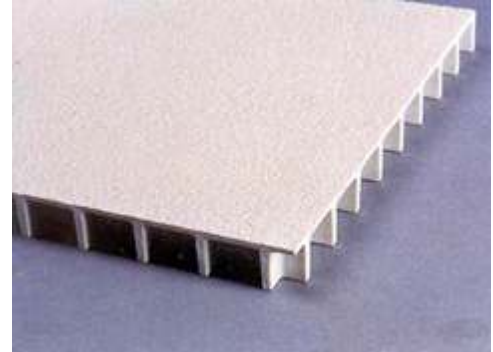
## Material Characteristics

### Definition

Glass-reinforced plastic (GRP or fibreglass) is a composite material made of a thermosetting plastic resin reinforced by fine fibres of glass along with the use of additives and is commonly referred to by the name of fibreglass.

### Composition

Glass fibres, thermosetting plastic resin, catalysts, styrene, aluminium oxide, pigments. Components are chemically and thermally cured and bonded together.



Characteristics	Unit	Reference
Voltage breakdown	18K volts/mm	ASTM D149
Density kg/m <sup>3</sup> (Specific Gravity)	2100	ISO 9001
Thermal Expansion Factor	13 x 10 <sup>-6</sup> mm/mm °C	ISO 9001
Water Absorption rate	0.45 x 24 hrs	ASTM D570
Operating Temperature	-100 °C to +200 °C	ISO 9001
Flammability resistance	Class 2, option of Class 1 or Class 0	BS476 Part 7
Frost resistance	No Effect	DD CEN/TS 772-22:2006
Weatherability	Pass	MOAT 22
Anti-Slip Surface	1.04 CoF (Enhanced slip resistance)	BS 4592-0

## Product

**Decksafe Industrial Grating** is a moulded non-slip composite floor grating system constructed from fibreglass as an ideal and cost effective alternative to traditional floor grating materials like mild steel, stainless steel grating, aluminium or wood. The grid flooring is durable, lightweight and chemical and corrosion resistant which makes it ideal for the industrial, chemical, construction and shipping industries.

### **Manufacturing Tolerances**

Standard Panel Size	+2mm -0mm
Cut Panel Size	+3mm -3mm
Thickness	+1mm -1mm
Mesh Pattern	+0.5mm-0.5mm

### **Colour and Surface Finish**

The product can be made in any RAL colour. (Colour range is more limited for Class 0 fire rated product)  
Natural concave, Gritted anti-slip or smooth.

### **Chemical Resistance**

Fibreglass Grating is resistant against wide a range of chemicals across wide temperature spectrum. Material can be made of different resin systems to achieve specific chemical resistant properties. Refer to chemical resistance charts.

### **Hazard Identification**

None by contact. Dust produced by cutting or grinding can penetrate pores and skin causing itching. Avoid breathing dust, skin contact or dust inhalation when cutting. People with a condition that could be aggravated by dust should avoid cutting or grinding.

### **Product Appearance**

Open mesh or solid, flat panels. Sharp edges, grit applied to top surface. Zero odours. Not soluble in water.

### **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 / tungsten carbide tipped tools for cutting.