Re-Deck Covered Grating

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Re-Deck

Re-Deck, Relinea's standard pedestrian solid top grating system is a moulded one piece GRP fibreglass grating flooring product that combines our GRP **Re-Plate** with our **Re-Grid** open mesh grating.

The resulting product is over 30% stiffer than our standard **Re-Grid** open mesh flooring and offers excellent impact resistant properties.

Our grating products have been classified as having very low slip risk to BS4592 due to Relinea's embedded grit system on the top surface.

Re-Deck is classified to an A15 load under BS EN1254 up to 1000mm span making it ideal for trench cover applications in pedestrian zones.

Type	Depth (mm)	Mesh Size Base (mm)	Top Plate Thickness (mm)	Standard Panel Size (mm)	Approx Weight (kg/m^2)	Standard Surface	Standard Colours
Re-Deck 254	30	38 x 38	3	3660 x 1220	19	Grit	Light Grey, Charcoal
Re-Deck 384	42	38 x38	3	3660 x 1220 4038 x 1000	25	Grit	Light Grey, Charcoal
Re-Deck 504	55	50 x 50	3	3660 x 1220	27	Grit	Light Grey

Other Colours and finishes are available upon request

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Registered number: NI053745. VAT number: GB 854 0334 42.

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Re-Deck Load Table

Clean Span (mm)	Type	Panel Depth (mm)	Firm Concentrated Line Load (kg/305mm) *L/100	Standard Concentrated Line Load (kg/305mm) *L/100	Firm Uniform Loading (kg/m^2) *L/200	Standard Uniform Loading (kg/m^2) *L/100
300	Re-Deck 254	30	337	621	4634	9801
	Re-Deck 384	42	877	1514	9801	19264
	Re-Deck 504	55	1215	2135	19575	39069
500	Re-Deck 254	30	189	283	1073	3253
	Re-Deck 384	42	215	918	33064	6201
	Re-Deck 504	55	519	1082	5385	11981
750	Re-Deck 254	30	60	121	405	762
	Re-Deck 384	42	158	342	1032	2099
	Re-Deck 504	55	326	653	2095	4212
1000	Re-Deck 254	30	31	60	162	337
	Re-Deck 384	42	90	159	403	798
	Re-Deck 504	55	191	390	988	1624
1200	Re-Deck 384	42	64	130	261	621
	Re-Deck 504	55	128	256	621	1156
1500	Re-Deck 504	55	83	148	297	506

- *L = clear span
- *L/200 = 0.5% deflection (L= 1000mm then deflection = 5mm)
- *L/100 = 1% deflection (L= 1000mm then deflection = 5mm)

British Standard BS5395 Part 3 states that the deflection should not exceed 10mm or L/200 of the span. Data is provided as a guide only as different resins and temperatures can produce variations of ±20%

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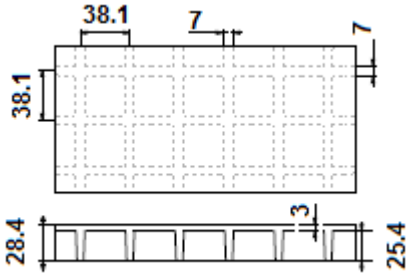
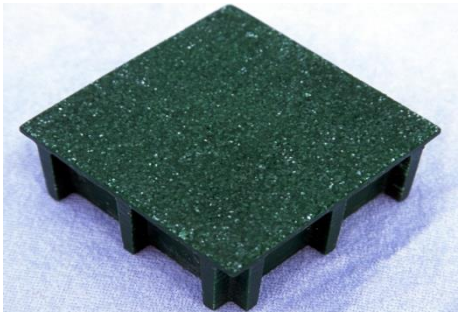
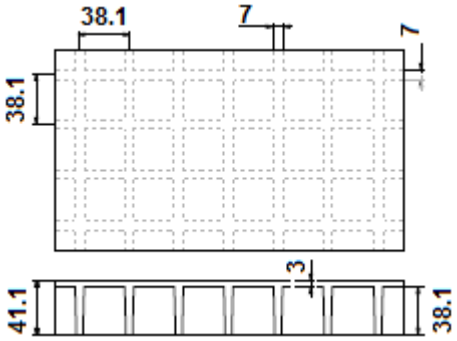
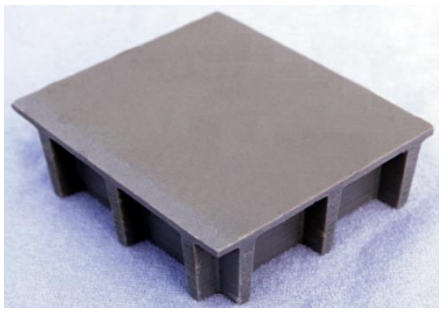
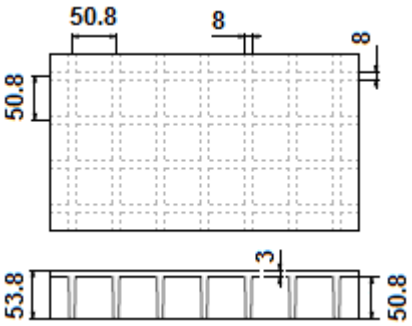
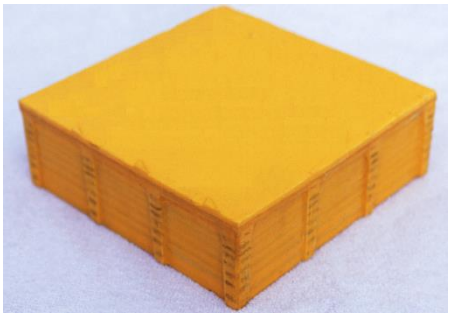
Re-Deck Grating Details

Type RE-DECK 254

Mesh Size	Top Plate Depth	Dimensional Drawing	Actual Photo
38.1 x 38.1	3mm		
Depth	**Weight (kg/m²)**		
28.4	19		
Panel Size (L*W)	**Std. Surfaces**		
3660 x 1220 mm	Grit		
	Std. Colours		
	Light Grey		

Type RE-DECK 384

Mesh Size	Top Plate Depth	Dimensional Drawing	Actual Photo
38.1 x 38.1	3mm		
Depth	**Weight (kg/m²)**		
41.1	24		
Panel Size (L*W)	**Std. Surfaces**		
3660 x 1220 mm	Grit		
	Std. Colours		
	Light Grey		

Mesh Size	Top Plate Depth		
50.8 x 50.8	3mm		
Depth	**Weight (kg/m²)**		
55	27		
Panel Size (L*W)	**Std. Surfaces**		
3660 x 1220 mm	Grit		
	Std. Colours		
	Light Grey		

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Re-Deck

Manufacturing Methodology

Molded grating is manufactured in an open, heated mold that resembles a large waffle iron. Continuous glass fibres are placed in the mold in alternating layers and thoroughly wetted out with resin. This continuous process produces an integral, one-piece construction, which offers bi-directional strength. The grating is then fixed onto a moulded plate whilst still 'green' ensuring an integral bond between the two surfaces. All Re-Deck panels are fully weighted down during the curing process to avoid issues with warped panels.

The high percentage of resin at 65% ensures Relinea's GRP moulded grating offer superior chemical resistance and exceptional impact resistance.

Our standard gratings are made with Isopthalic, Class 1 Fire Rated to BS476 part 7 and come with an integral grit finish that will not chip or peel away. Post manufacture all panels are visually inspected and checked against specification for weight, dimension and flatness. 10% of panels are load tested to ensure compliance with specification.

Relinea can supply all our gratings in a range of resin system to suit any chemical environment. Please see our chemical resistance chart for moulded products.

Typical Material Properties

Property	Fibreglass	Resin	Re-Deck
Tensile Strength (MPa)	201	69	240
Tensile Modulus (GPa)	3.5	17	
Flexural Strength (GPa)	182	107	240
Compressive Strength (MPa)	19	146	200
Inter Laminar Shear	9	--	
Barcol Hardness	45	38	50
Water Absorption (% Max.)	2100	1200	0.57
Density (kg/m3)	2100	1200	1700
Coefficient of Thermal Expansion ($10^{-6}/^{0}C$)			4
Flammability	BS476 Part 7		Class 1
Flammability Extinguishing	ASTM D635	--	Self-Extinguishing
Anti-slip	BS4592-0:2006	CoF	0.9 (Dry)
			0.72 (Wet)

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Slip Testing and Fixings

Slip Testing

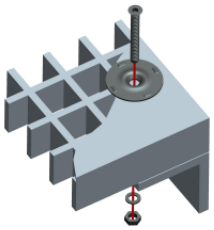
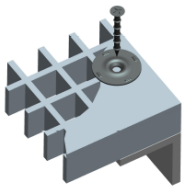
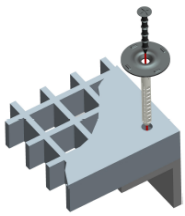
Relinea's products have been slip tested by the Highway Engineering Research Group at the University of Ulster and were assessed for their dry and wet slip resistance properties using a pendulum test as specified in BS7976-2. The results are shown in the table below

Summary of slip resistance data

Sample Ref	Slip resistance value using TRL rubber		Slip resistance value using 4S rubber	
	Dry	Wet	Dry	Wet
Medium Grit	90	72	75	67

As per BS 4592-0:2006 'Industrial type flooring and stair treads' the Coefficient of Friction (CoF) would be 0.72 in wet conditions which would be classified as '**enhanced slip resistance'**

Fixings

Clip	Application	Image
Stainless Steel 316 W Clip with M8 x 50/70/90mm bolt , nut & washer.	• When the beams can be drilled. • Requires access to underneath panel.	
Stainless Steel 316 W Clip with M8 self tapping screw.	• When the beams can be drilled. • No access to underneath panel.	
Stainless Steel 316 W Clip with M8 x 92mm Hammer Fixing with plug.	• When the fixing into concrete. • No access to underneath panel.	

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Re-Deck Data Sheet

Section 1 – Product & Company Identification	
Emergency Phone Number	+44 (0) 28 944 70010
Product	RE-DECK in standard Polyester, Isophthalic, and Vinyl Ester fire retardant resin.
PPE	Refer to MSDS Section 8, Control Measures
Section 2 – Chemical Ingredients	
Chemical Component:	**Percentage**
Glass Reinforced Plastic	N/A
Polymerized Resin	50-55
Fibreglass Strand	35-55
Silica Sand	10-15
Section 3 – Physical & Chemical Properties	
Property	**Measurement**
Boiling Point	N/A
Vapour Pressure	N/A
Vapour Density	N/A
Melting Point	N/A
Evaporation Rate	N/A
Solubility in Water	None
Apperance and Odour	Various coloured meshes and solid shapes. Low to no odour
Section 4 – Fire and Explosion Data	
Flash Point	N/A
Flammable limits	N/A
Extinguishing Media	Water , Foam Type A, B or C extinguishers
Special Firefighting Procedures	Use Self-Contained Breathing Apparatus (SCBA) with full face operated in pressure mode
Unusual fire & explosion hazards	Burning FRP creates a complex mixture of solid, liquid, particulate and gases. Carbon Monoxidxide and other organic compounds may be given off.
LEL	N/A
UEL	N/A
Section 5 – Reactivity Data	
Stability	Stable
Conditions to Avoid	Sources of ignition, sparks or flames, extremely high temperatures
Incompatibility	Strong oxidising acid
Hazardous Decomposition or Byproducts	N/A
Hazardous Polymerization	Will not occur

Section 6 – Health Hazard Data	
Routes to Entry	Inhalation – X Skin – X Ingestion – X
Health Hazards	Dust from cutting may act as a mechanical irritant to skin, eyes and upper respiratory system. Vapours or products of thermal degradation generated by cutting or grinding may aggravate or cause respiratory conditions.
Carcinogenicity	NTP – N/A IARC Monographs – N/A OSHA – N/A
Signs & Symtoms of Exposure	Temporary Irritation and itching to skin or eyes. Scratchiness or burning of the nose and/or throat if exposed to large amounts of airborne dust from cutting or machining.
Medical Conditions Generally Aggravated by Exposure	Chronic Dermatitis or respiratory conditions
Emergency and First Aid Procedures	Wash skin well without rubbing. For eyes, use a sterile solution and flood the eye area. Change clothing after exposure. Apply antiseptic to any abraded skin area.
Section 7 – Spill or Leak Procedures	
Steps to be taken in case material is released or spilled	No material is released in the product's solid form. However, when cutting, grinding or machining, if airborne dust is generated, the wearing of respirators is recommended. Control and collect any dust. Place in sturdy containers for proper disposal.
Water Disposal Method	Control and collect any dust generated in sturdy containers to prevent dispersal. Dispose of in accordance with all local and government regulations. Generally the dust is not considered a hazardous waste.
Other Precautions	Do not allow dust to go uncontrolled
Section 8 – Control Measures	
Respiratory Protection	Approved for dusts and mists not less than 00.1mg/m^3
Ventilation	Mechanical dust collector with local exhaust recommended at point of generation of any dust due to cutting or grinding.
Protective Gloves	Wear gloves when handling product to prevent cuts, scratches or abrasions.
Eye Protection	Wear protective eye wear with side shields or ventilated goggles when cutting or grinding.
Other Protective Equipment	Long sleeve shirts with closed collars, long trousers or protective clothing may be worn to prevent dust exposure when cutting or grinding product.
Work Hygnic Practices	Use personal protection equipment to minimize skin, respiratory and eye exposure to dust and fumes when cutting or grinding product. Wash all exposed skin areas thoroughly after cutting or grinding. Launder clothing separately and frequently to prevent skin exposure.

We believe that the above information is valid and reliable. The information, however, is provided without any representation of warranty, express or implied regarding the accuracy of correctness. The conditions of methods of handling, storage, use, cutting, grinding, disposal, or any other use of the product are beyond our control. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use, cutting, grinding, disposal or any other use of this product.