



relinea[®]

Re-Deck Covered Grating

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Relinea’s Re-Deck 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 Re-Deck is ideal in applications such as trench covers, odour control units and walkways.

Relinea’s unique ‘Embedded Grit Technology’ ensures our grating products offer exceptional long lasting anti-slip properties in all conditions and have been classified as a very low slip risk to BS4592.



Re-Deck is a 1/3rd of the weight of equivalent steel decking and can be easily fabricated making it very easily installed. Also due to the bi-directional strength the grating does not have to be end-banded, eliminating the need for additional supports around pipework.

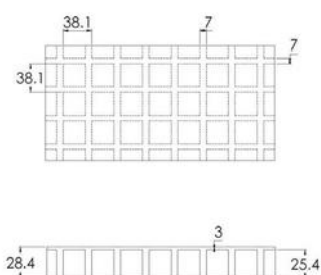
Our product solutions are manufactured to the highest specification and use high quality raw materials which ensures our products can be used in some of the most aggressive and challenging environments.

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	29	38x38	3	3660 x 1220	19	Grit	Light Grey, Charcoal
Re-Deck 384	41	38x38	3	3660 x 1220 4038 x 1000	25	Grit	Light Grey, Charcoal
Re-Deck 504	54	50x50	3	3660 x 1220	27	Grit	Light Grey

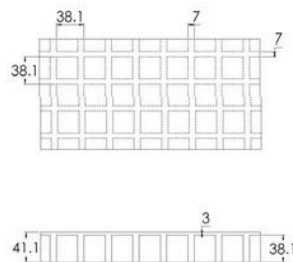
*Other colours and finishes available on request

Dimensional Drawings

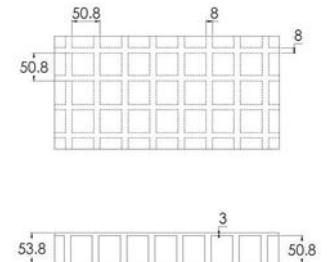
Re-Grid 254



Re-Grid 384

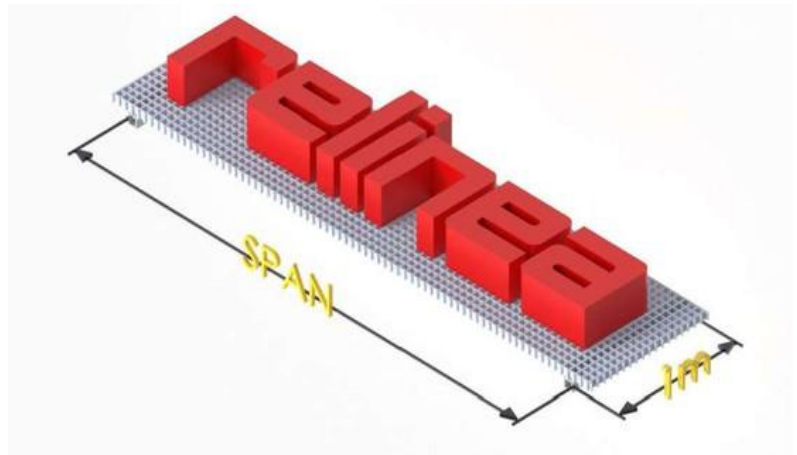


Re-Grid 504



Re-Deck Uniform Load Table

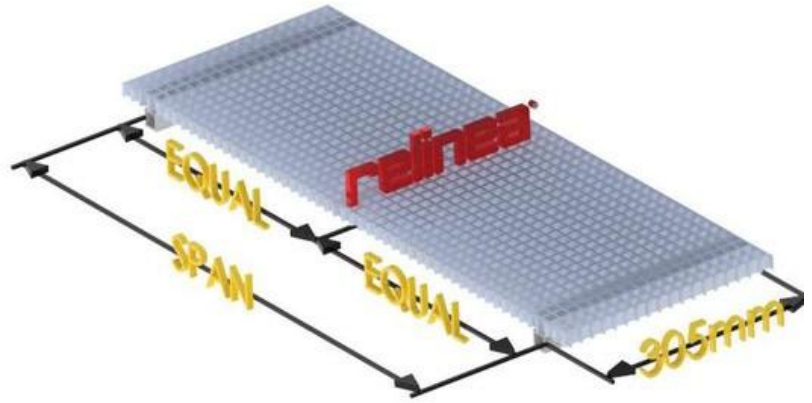
(Deflection in mm)



54mm Solid top decking							
Loading							
Span		119kg	237kg	361kg	500kg	712kg	950kg
	400mm	0.02	0.04	0.06	0.09	0.12	0.17
	600mm	0.08	0.16	0.24	0.33	0.47	0.62
	750mm	0.17	0.34	0.52	0.72	1.03	1.38
	900mm	0.34	0.67	1.02	1.41	2.01	2.68
	1000mm	0.50	0.99	1.51	2.09	2.98	3.98
	1200mm	1.00	1.98	3.02	4.18	5.96	7.95
	1350mm	1.57	3.12	4.75	6.58	9.37	12.50
42mm Solid top decking							
Loading							
Span		119kg	237kg	361kg	500kg	712kg	950kg
	400mm	0.03	0.06	0.09	0.13	0.18	0.24
	600mm	0.13	0.25	0.38	0.53	0.76	1.01
	750mm	0.29	0.58	0.88	1.22	1.73	2.31
	900mm	0.58	1.15	1.75	2.43	3.46	4.62
	1200mm	1.76	3.50	5.33	7.39	10.52	
28mm Solid top decking							
Loading							
Span 1500		119kg	237kg	361kg	500kg	712kg	950kg
	400mm	0.07	0.14	0.21	0.29	0.41	0.55
	600mm	0.32	0.65	0.98	1.36	1.94	2.59
	750mm	0.77	1.54	2.35	3.26	4.64	6.19
	900mm	1.59	3.16	4.82	6.67		
	1200mm	4.96	9.87				

Re-Deck Concentrated Line Load Table

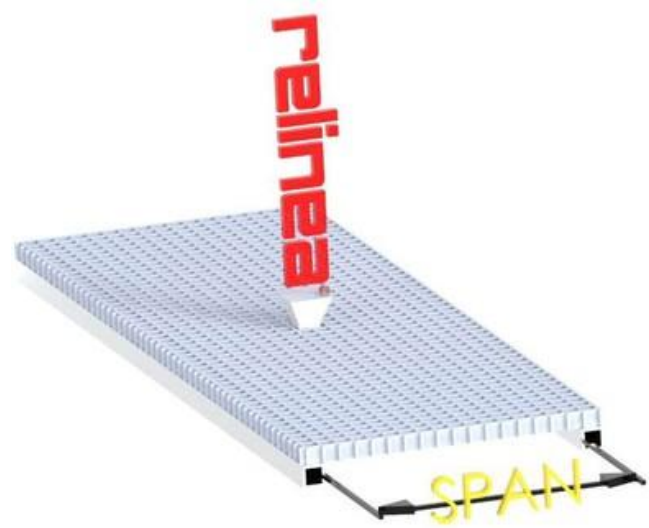
(Deflection in mm)



54mm Solid top decking							
Loading							
Span		24kg	36kg	47kg	95kg	142kg	191kg
	400mm	0.02	0.03	0.03	0.07	0.10	0.13
	600mm	0.04	0.06	0.08	0.17	0.25	0.34
	750mm	0.07	0.11	0.15	0.29	0.44	0.59
	900mm	0.12	0.18	0.24	0.48	0.71	0.96
	1000mm	0.16	0.24	0.31	0.64	0.95	1.28
	1200mm	0.27	0.40	0.52	1.06	1.58	2.13
	1350mm	0.37	0.56	0.73	1.48	2.21	2.98
42mm Solid top decking							
Loading							
Span		24kg	36kg	47kg	95kg	142kg	191kg
	400mm	0.04	0.06	0.08	0.17	0.25	0.34
	600mm	0.07	0.10	0.13	0.27	0.40	0.54
	750mm	0.12	0.19	0.24	0.49	0.74	0.99
	900mm	0.21	0.31	0.41	0.82	1.23	1.65
	1000mm	0.28	0.42	0.55	1.11	1.65	2.23
	1200mm	0.47	0.71	0.93	1.87	2.80	3.76
28mm Solid top decking							
Loading							
Span		24kg	36kg	47kg	95kg	142kg	191kg
	400mm	0.06	0.08	0.11	0.22	0.33	0.44
	600mm	0.17	0.26	0.34	0.69	1.03	1.39
	750mm	0.33	0.50	0.65	1.32	1.97	2.65
	900mm	0.57	0.85	1.11	2.25	3.37	4.53
	1000mm	0.78	1.17	1.52	3.08	4.60	6.18
	1200mm	1.33	2.00	2.61	5.28	7.89	10.61

Re-Deck Concentrated Point Load Table

(Deflection in mm)



Clean Span (mm)	Type	Depth (mm)	Point Load(kN)								
			0.98	1.47	1.96	2.45	2.95	3.93	5.89	7.85	9.81
450	Deck 254	28.4	0.92	1.36	1.80	2.20	2.60	3.18	3.98	4.97	6.22
	Deck 384	41.1	<0.5	<0.5	0.61	0.75	0.90	1.16	1.69	2.21	3.04
	Deck 504	50.8	<0.5	<0.5	<0.5	<0.5	0.58	0.77	1.16	1.55	1.85
600	Deck 254	28.4	1.64	2.52	3.37	4.26	5.34	6.68	8.35	10.45	-
	Deck 384	41.1	0.53	0.72	0.92	1.13	1.35	1.74	2.53	3.32	4.42
	Deck 504	53.8	<0.50	0.50	0.61	0.72	0.86	1.16	1.75	2.32	2.78
750	Deck 254	28.4	0.74	1.05	1.37	1.67	1.98	2.60	3.83	4.44	5.54
	Deck 384	41.1	0.83	1.17	1.53	1.86	2.21	2.90	4.27	4.94	6.18
	Deck 504	53.8	<0.5	<0.5	0.91	1.09	1.30	1.73	2.62	3.49	4.17
900	Deck 254	28.4	3.55	5.69	10.31	-	-	-	-	-	-
	Deck 384	41.1	0.99	1.17	1.53	1.86	2.21	2.90	4.26	-	-
	Deck 504	53.8	0.85	1.04	1.34	1.68	2.01	2.01	4.04	5.46	6.40
1050	Deck 254	28.4	5.09	6.46	-	-	-	-	-	-	-
	Deck 384	41.1	1.82	2.56	3.39	4.15	-	-	-	-	-
	Deck 504	53.8	0.85	1.71	3.42	2.59	3.08	4.08	6.08	-	-
1200	Deck 384	41.1	2.35	3.48	4.52	5.83	7.46	-	-	-	-
	Deck 504	53.8	2.25	3.00	5.99	3.62	4.34	5.25	6.38	-	-
1350	Deck 384	41.1	3.04	4.45	7.49	-	-	-	-	-	-
	Deck 504	53.8	2.81	3.22	4.02	5.51	7.36	-	-	-	-
1500	Deck 504	53.8	3.15	3.75	4.94	6.44	-	-	-	-	-

Manufacturing Methodology

Moulded 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 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 Isophthalic, Class 1 Fire Rated to BS476 part 7 and come with Relinea’s unique embedded 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-Grid
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/m ³)	2100	1200	1700
Coefficient of thermal expansion 10 ⁻⁶ /°C			4
Flammability	BS476 Part 7		Class 1
Flammability extinguishing	ASTM D635	CoF	Self Extinguishing
Anti-slip	BS4592-0:2006		Dry - 0.9 Wet - 0.72

Material Safety Data Sheet

Section 1

Product & Company

Identification

Emergency phone number	+44 (0) 28 9447 0010
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
Appearance 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 monoxide 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 by products	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 & Symptoms 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 products 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.
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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 sleeves shirts with closed collars, long trousers or protective clothing may be worn to prevent dust exposure when cutting or grinding product.
Work Hygienic Practices	Use personal protection equipment to minimize skin, respiratory and eye exposure to dust and fumes when cutting or grinding products. 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.

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