Re-Grid Open Mesh Grating

Re-Grid Open Mesh Grating

Re-Grid GRP Grating is designed to provide safe, robust GRP Open Mesh flooring access for pedestrians on industrial walkways, catwalks and over channels.

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

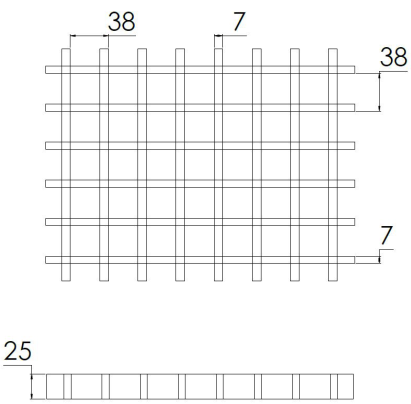
Our product solutions are manufactured to the highest specification and use high quality raw materials which ensures our products can be used in some of the most aggressive and challenging environments.
With a 50+ year design life this is an eco friendly and sustainable choice.

Type	Depth (mm)	Mesh size base (mm)	Standard panel size (mm)	Open Area %	Approx Weight (kg/m^2)	Standard Surface	Standard Colours
Re-Grid 2538	25	38 x 38	3000 x 1000 3660 x 1220	70	13.5	Meniscus, Grit	Light Grey
Re-Grid 3038	30	38 x 38	3000 x 1000 4038 x 1000 3660 x 1220	70	15.5	Grit	Light Grey
Re-Grid 3838	38	38 x 38	3000 x 1000 4038 x 1000 3660 x 1220	70	18.5	Meniscus, Grit	Light Grey, Charcoal
Re-Grid 5050	50	50 x 50	3660 x 1220	78	21.20	Grit	Light Grey

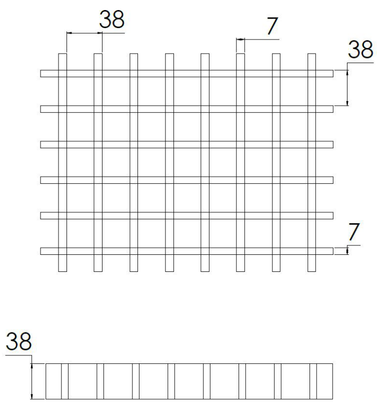
Dimensional Drawings

Other mesh sizes, colours and finishes are available upon request. Please note that if a grit finish is required please add approximately 2mm to the nominal depth.

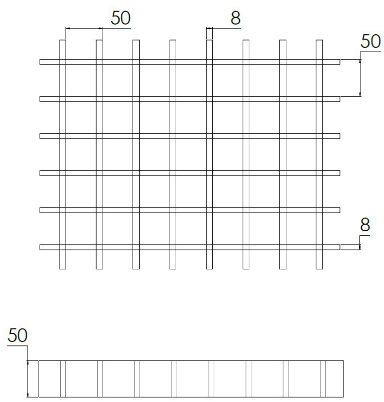
Re-Grid 2538



Re-Grid 3838

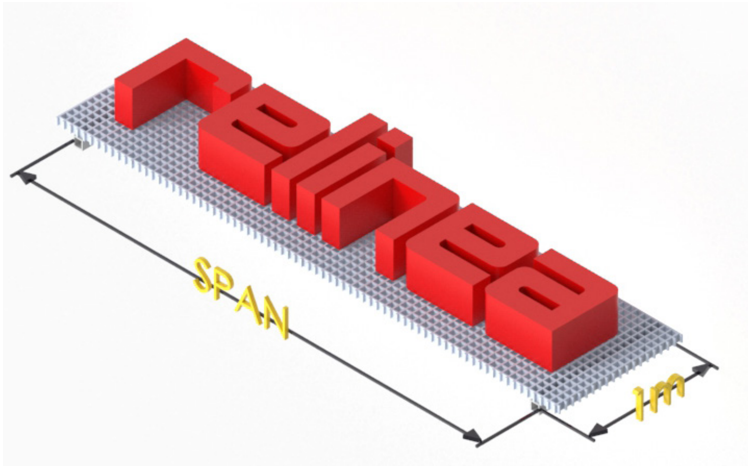


Re-Grid 5050



Re-Grid Open Mesh Load Table - Uniform

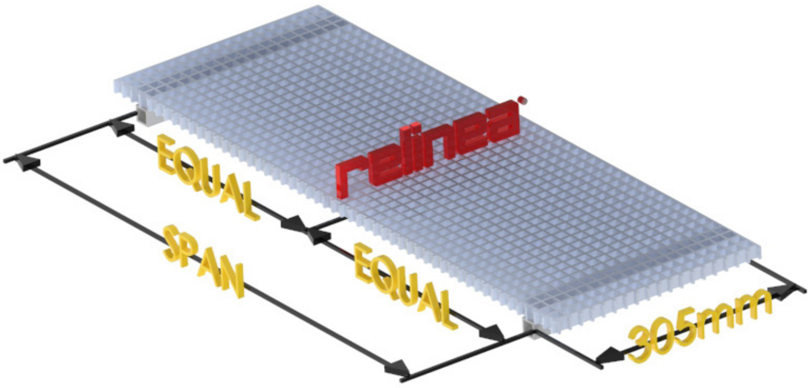
Deflections in mm



Span	Type	Mesh (mm)	Depth (mm)	Uniform Loading (kN/m²)								
				1.19	2.37	4.75	7.12	9.5	11.87	14.24	18.99	28.48
300	Grid 2538	38.1 x 38.1	25.4	<0.5	<0.5	0.51	0.64	0.76	1.14	1.53	2.16	3.18
	Grid 3838	38.1 x 38.1	38.1	<0.5	<0.5	<0.5	<0.5	<0.5	1.60	2.14	3.02	4.45
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
450	Grid 2538	38.1 x 38.1	25.4	0.62	0.67	1.02	1.53	2.03	2.54	2.79	3.81	6.86
	Grid 3838	38.1 x 38.1	38.1	<0.5	0.51	0.77	0.95	1.14	1.71	2.29	3.24	4.76
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	0.57	0.77	0.86	1.19	1.53	1.81	2.67
600	Grid 2538	38.1 x 38.1	25.4	1.14	1.52	3.05	4.82	6.35	7.87	9.40	12.45	-
	Grid 3838	38.1 x 38.1	38.1	0.83	0.90	1.02	1.27	1.52	2.29	3.05	4.32	6.35
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	0.76	1.02	1.15	1.59	2.04	2.41	3.56
750	Grid 2538	38.1 x 38.1	25.4	1.78	3.56	6.86	10.41	13.97	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	0.57	1.15	2.29	3.43	4.57	5.72	6.86	9.4	13.97
	Grid 5050	50.8 x 50.8	50.8	<0.5	0.51	1.27	1.78	2.29	2.93	3.56	4.57	6.86
900	Grid 2538	38.1 x 38.1	25.4	3.81	7.87	15.75	-	-	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	1.27	2.54	5.08	7.62	10.16	12.70	14.99	-	-
	Grid 5050	50.8 x 50.8	50.8	0.76	1.02	2.29	3.3	4.57	5.59	6.60	8.89	13.46
1050	Grid 2538	38.1 x 38.1	25.4	6.35	12.45	-	-	-	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	2.16	4.32	8.64	13.21	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	1.02	2.03	4.06	6.10	8.13	10.16	11.94	-	-
1200	Grid 3838	38.1 x 38.1	38.1	5.3325	7.11	14.22	-	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	2.6775	3.56	7.11	10.67	14.22	-	-	-	-
1350	Grid 3838	38.1 x 38.1	38.1	8.0025	10.67	21.34	-	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	3.99	5.33	10.67	16	-	-	-	-	-
1500	Grid 5050	50.8 x 50.8	50.8	7.1475	9.4	18.67	-	-	-	-	-	-

Re-Grid Open Mesh Load Table - Concentrated Line

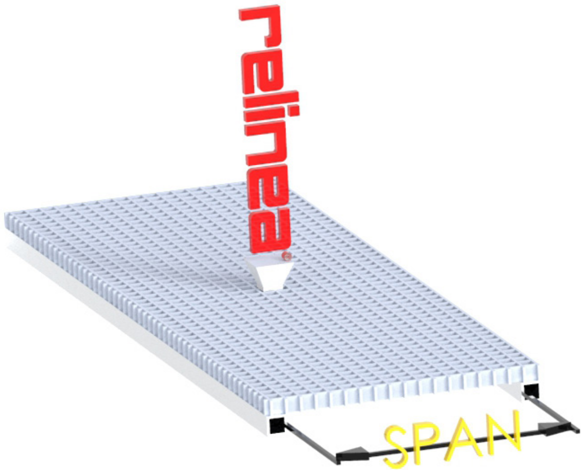
Deflections in mm



Span	Type	Mesh (mm)	Depth (mm)	Concentrated Line Load (kN/305mm)								
				0.24	0.36	0.47	0.95	1.42	1.91	2.38	2.85	3.33
300	Grid 2538	38.1 x 38.1	25.4	<0.5	<0.5	<0.5	0.76	1.02	1.36	1.52	2.03	2.54
	Grid 3838	38.1 x 38.1	38.1	<0.5	<0.5	<0.5	0.70	0.99	1.29	1.69	1.98	2.28
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	<0.5	<0.5	0.56	0.74	0.87	1.05	1.24
450	Grid 2538	38.1 x 38.1	25.4	0.51	0.77	1.02	2.03	3.05	4.06	5.08	6.10	7.11
	Grid 3838	38.1 x 38.1	38.1	<0.5	<0.5	0.48	1.11	1.59	2.06	2.70	3.18	3.65
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	<0.5	0.59	0.89	1.19	1.39	1.69	1.98
600	Grid 2538	38.1 x 38.1	25.4	1.27	1.78	2.54	5.08	7.62	10.16	12.45	14.99	-
	Grid 3838	38.1 x 38.1	38.1	<0.5	<0.5	0.76	1.78	2.54	3.30	4.32	5.08	5.84
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	<0.5	0.95	1.43	1.91	2.23	2.70	3.18
750	Grid 2538	38.1 x 38.1	25.4	2.29	3.30	4.57	8.89	13.46	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	0.76	1.14	1.52	3.05	4.57	5.84	7.37	8.89	10.41
	Grid 5050	50.8 x 50.8	50.8	<0.5	0.505	0.76	1.52	2.29	3.05	3.56	4.32	5.08
900	Grid 2538	38.1 x 38.1	25.4	4.06	6.22	8.38	16.76	25.15	33.53	41.91	-	-
	Grid 3838	38.1 x 38.1	38.1	1.27	2.03	2.79	5.33	8.13	10.67	13.46	-	-
	Grid 5050	50.8 x 50.8	50.8	0.51	0.89	1.27	2.29	3.56	4.83	5.84	7.11	8.38
1050	Grid 2538	38.1 x 38.1	25.4	5.84	8.64	11.43	-	-	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	2.03	3.05	3.81	8.13	11.94	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	1.02	1.27	1.78	3.56	5.59	7.37	9.14	10.92	12.95
1200	Grid 3838	38.1 x 38.1	38.1	2.79	4.315	5.84	11.43	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	1.52	2.03	2.79	5.59	8.38	11.43	-	-	-
1350	Grid 3838	38.1 x 38.1	38.1	3.81	5.59	7.62	15.24	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	1.78	2.79	3.81	7.62	11.43	15.24	-	-	-

Re-Grid Open Mesh Load Table - Concentrated Point

Deflections in mm



Span	Type	Mesh (mm)	Depth (mm)	Point Load (kN)								
				0.98	1.47	1.96	2.45	2.95	3.93	5.89	7.85	9.81
450	Grid 2538	38.1 x 38.1	25.4	1.28	1.90	2.52	3.08	3.64	4.45	5.56	6.95	8.69
	Grid 3838	38.1 x 38.1	38.1	<0.5	0.60	0.77	0.95	1.13	1.45	2.11	2.77	3.81
	Grid 5050	50.8 x 50.8	50.8	<0.5	<0.5	<0.5	<0.5	0.68	0.92	1.38	1.84	2.20
600	Grid 2538	38.1 x 38.1	25.4	1.29	2.85	3.43	4.85	6.10	7.77	-	-	-
	Grid 3838	38.1 x 38.1	38.1	<0.5	0.90	1.15	1.42	1.69	2.18	3.17	4.16	5.55
	Grid 5050	50.8 x 50.8	50.8	<0.5	0.53	0.72	0.86	1.03	1.37	2.07	2.76	3.30
750	Grid 2538	38.1 x 38.1	25.4	1.83	3.80	5.64	7.49	8.96	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	1.04	1.47	1.92	2.33	2.77	3.64	5.35	6.20	7.75
	Grid 5050	50.8 x 50.8	50.8	0.66	0.80	1.08	1.29	1.54	2.06	3.11	4.14	4.95
900	Grid 2538	38.1 x 38.1	25.4	4.96	7.95	14.41	-	-	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	1.54	2.22	2.92	3.69	4.34	4.94	5.65	8.32	-
	Grid 5050	50.8 x 50.8	50.8	1.01	1.23	1.59	2.00	2.39	3.25	4.80	6.48	7.60
1050	Grid 2538	38.1 x 38.1	25.4	7.12	-	-	-	-	-	-	-	-
	Grid 3838	38.1 x 38.1	38.1	2.28	3.21	4.25	5.21	6.18	8.15	10.19	-	-
	Grid 5050	50.8 x 50.8	50.8	1.37	1.81	2.40	3.08	3.66	4.85	7.22	9.55	-
1200	Grid 3838	38.1 x 38.1	38.1	2.95	4.37	5.68	7.18	8.58	11.44	-	-	-
	Grid 5050	50.8 x 50.8	50.8	2.21	2.62	3.45	4.30	5.16	6.86	10.19	-	-
1350	Grid 3838	38.1 x 38.1	38.1	3.81	5.58	9.4	-	-	-	-	-	-
	Grid 5050	50.8 x 50.8	50.8	3.34	3.82	4.78	6.54	7.25	9.31	-	-	-
1500	Grid 5050	50.8 x 50.8	50.8	3.74	4.45	5.87	7.44	8.84	11.72	-	-	-

Manufacturing Methodology

Re-Grid 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 high percentage of resin at 65% ensures Relinea's Re-Grid 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 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, dimensions 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/m³)	2100	1200	1700
Coefficient of thermal expansion 10^{-6}/°C			4
Flammability	BS476 Part 7		Class 1
Flammability extinguishing	ASTM D635	-	Self-extinguishing
Anti-slip	BS4592-0:2006	CoF	Dry - 0.9 Wet - 0.72

Slip Testing and Fixings

Slip Testing

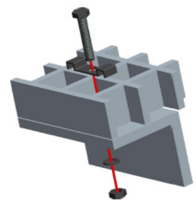
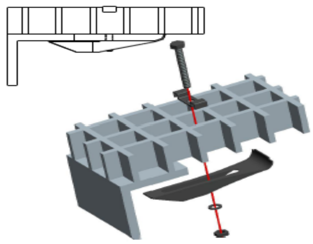
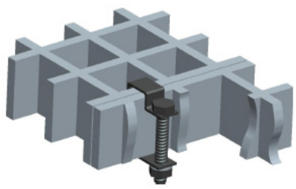
Relinea's products have been slip tested by the Highway Engineering Research Ground at the University of Ulster and were assessed for their dry and wet slip resistance properties using a pendulum test as specificed in BS7976-2.

The results are shown in the table below:

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 could be classified as 'enhanced slip resistance'

Fixings

Clip	Application	Image
Stainless steel 316 M clip with M8 x 25/50 bolt, nut and washer.	* When the beams can be drilled. * Requires access to underneath panel.	
Stainless steel 316 M clip with M8 x 25/50 bolt, nut and washer includes a base clamp.	* When the beams can not be drilled. * Requires access to underneath panel.	
Stainless steel 316 C Clip with M8 x 30/50 bolt, nut and washer.	* Used to join two panels together.	

relinea

Material Safety Data Sheet

Section 1
Product & Company

Identification

Emergency phone number	+44 (0) 28 9447 0010
Product	Re-Grid 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.
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/m³
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.