evergrip

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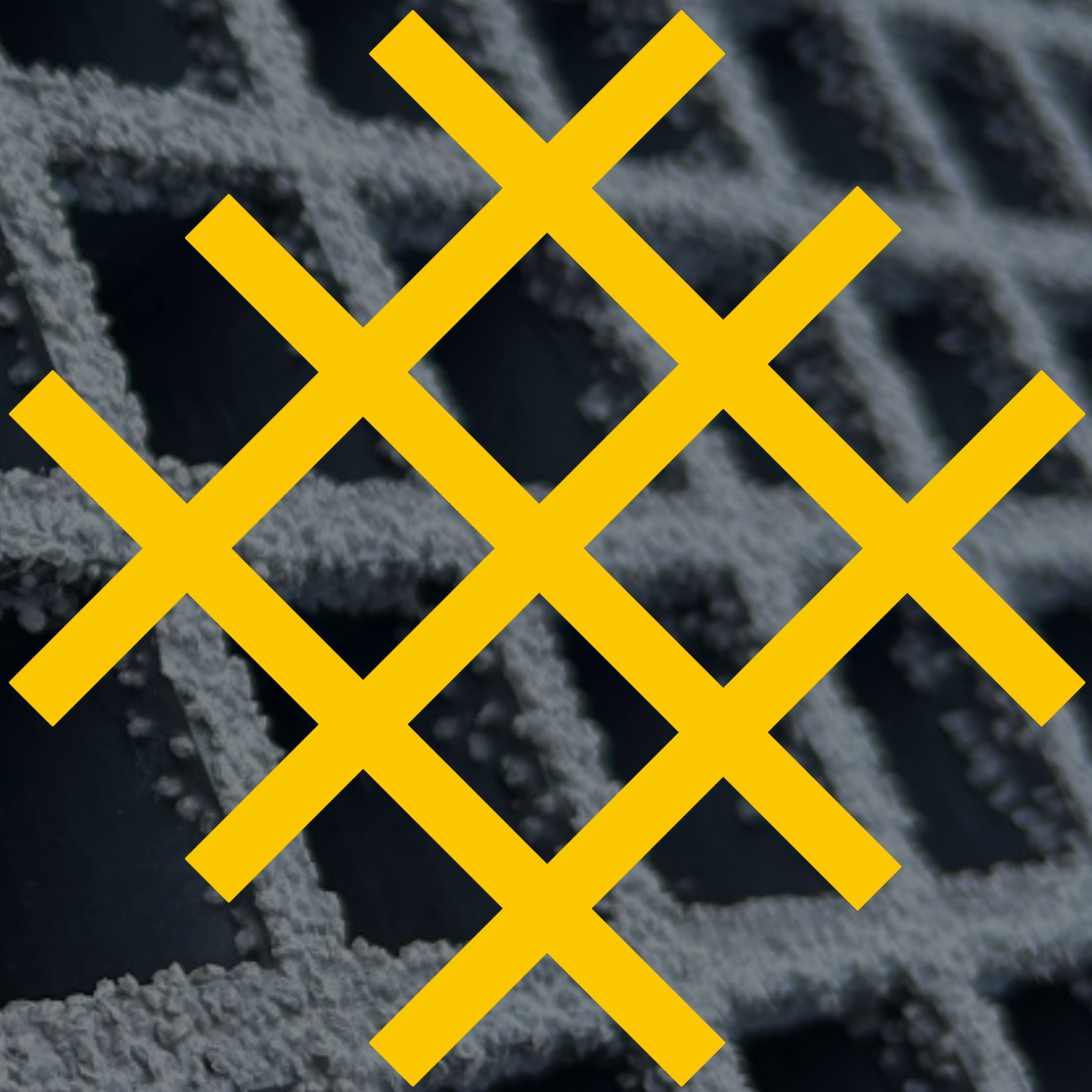
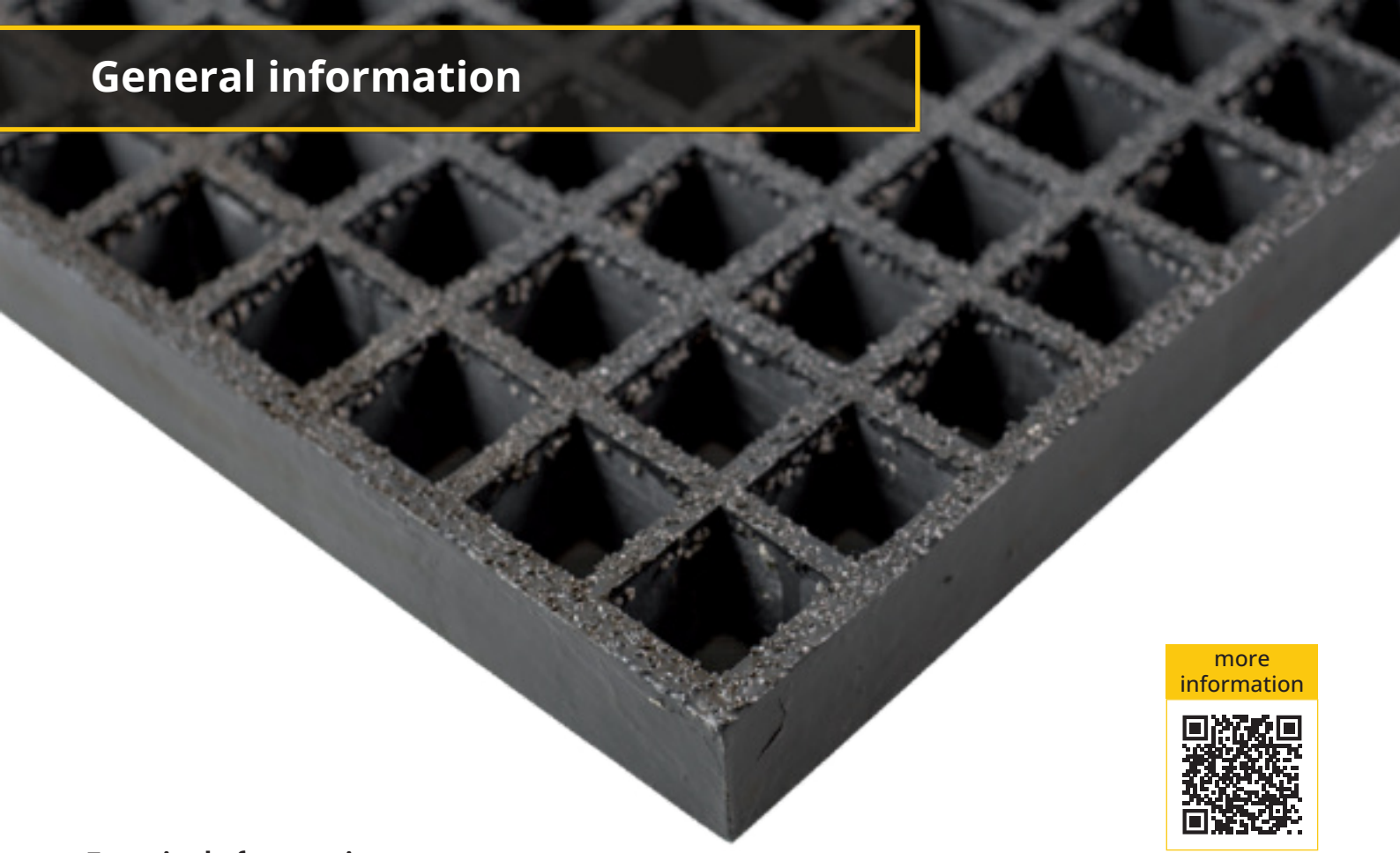


COMPOSITE GRATINGS

General information



more information

Evergrip platform gratings

Glass fibre reinforced polyester resin gratings offer a unique combination of mechanical and physical properties. They are an excellent alternative to gratings made of steel. Different in structure, dimensions and chemical resistance, gratings are used in many industries.

Certificates

Distinctive features of the gratings:

- resistant to chemicals
- robust
- low weight
- cheap to maintain
- low electrical conductivity
- easy to process
- corrosion-resistant
- low thermal conductivity
- do not interfere with electromagnetic waves

Additional options:

- any RAL colour
- cut to any size
- professional installation service
- non-standard grating heights and surfaces

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Contents

Resin types and colours available

Compliance with standards

Evergrip gratings are manufactured in accordance with the following standards:

- **DIN24537-3 -** defines the requirements for gratings used on floors-part 3: plastic gratings,
- **DIN24531-3 -** defines the requirements for gratings as stair treads - part 3: plastic gratings.

Grating types available:

"ISO" isophthalic gratings

The most popular product

The most popular and versatile - distinguished by its excellent chemical and temperature resistance, long-term durability and versatile application in many industrial sectors.

"ORTHO" orthophthalic gratings

Gratings for less demanding conditions - ideal where durability at a reasonable price is important.

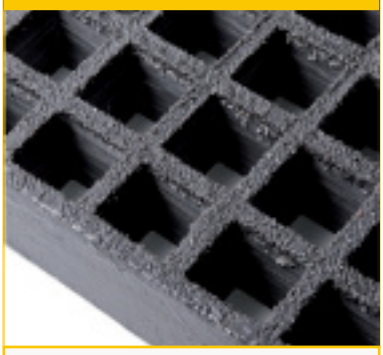
"VINYL" vinyl ester resin gratings

Highest level of durability under extreme conditions - resistant to strong acids, alkalis and high temperatures. Guaranteed reliability in the most demanding projects.

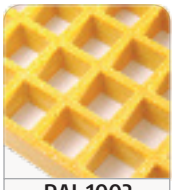
Colour variants of gratings

The colour of the grating is achieved by adding the appropriate pigment to the resin during the manufacturing process. ISO gratings in RAL 7046 grey are the most popular product among our customers. We can also produce gratings in any other RAL colour on request.

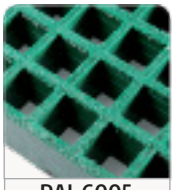
Standard colour



RAL 7046



RAL 1003



RAL 6005

RAL 1015

Example colours of gratings

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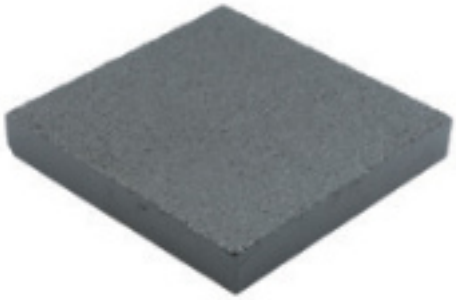
STANDARD

Grating with 38x38 mm mesh and anti-slip alumina coating. It provides very good adhesion in the presence of water, oil or dirt. The robust construction guarantees high load-bearing capacity and durability, making these gratings ideal for work platforms, stairs, footbridges and walkways in industrial plants.

MICROMESH

A 20x20 mm fine mesh grating with an anti-slip alumina coating. Its dense structure prevents small objects from falling out and facilitates the movement of service trolleys. It is a solution that ensures compliance with current standards and is recommended for bridges, technical footbridges and walkways in areas with increased safety requirements.

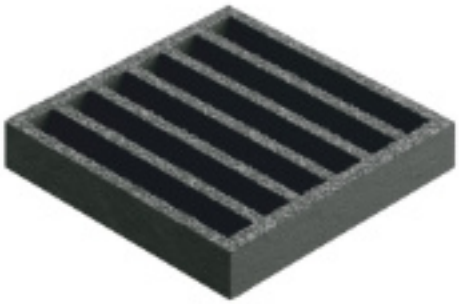


COVERED

Grating with 38x38 mm mesh, completed with full anti-slip plate. Thanks to its closed wear surface, it prevents the penetration of liquids and dirt, making it ideal for platforms, footbridges or walkways where cleanliness and safety are crucial.

GROOVED

Grating without an alumina coating, equipped with specially profiled ribs, the so-called concave meniscus. It provides safe movement and easy maintenance and at the same time it stands out for its aesthetic appearance. Recommended for applications with less traffic.

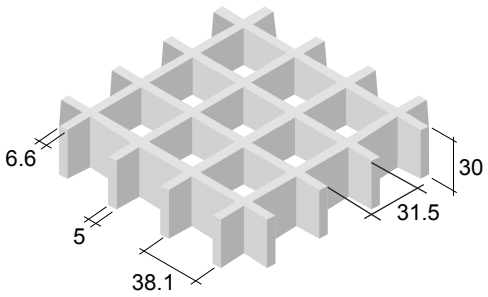


RECTANGULAR

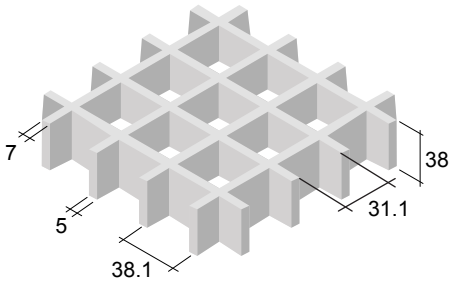
Rectangular mesh grating 152.4x25.4 mm designed for areas requiring effective drainage of liquids and dirt. Large hokes guarantee high throughput while maintaining structural strength. Used in sewage treatment plants, industrial plants and on service platforms. It is also ideal for use as stair treads or drain grates.

Examples of mesh heights and sizes

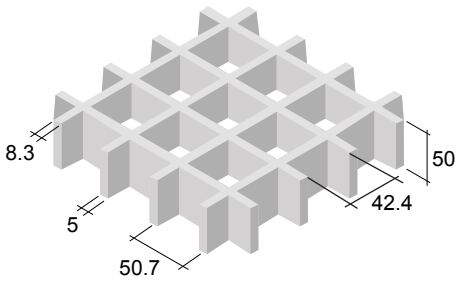
Grating 30mm high with 38x38mm mesh



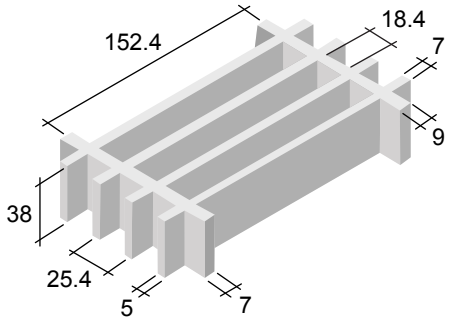
Grating 38mm high with 38x38mm mesh



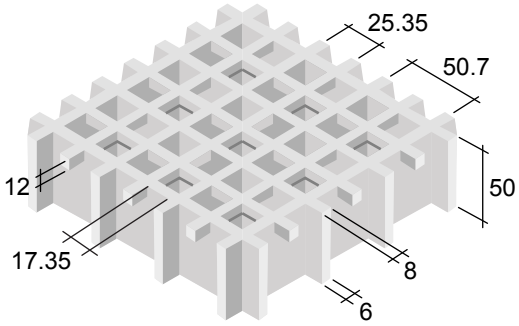
Grating 50mm high with a 50.7x50.7mm mesh



Grating 38mm high with 25.4x152.4mm mesh



Grating 50mm high with 25.35x25.35mm mesh



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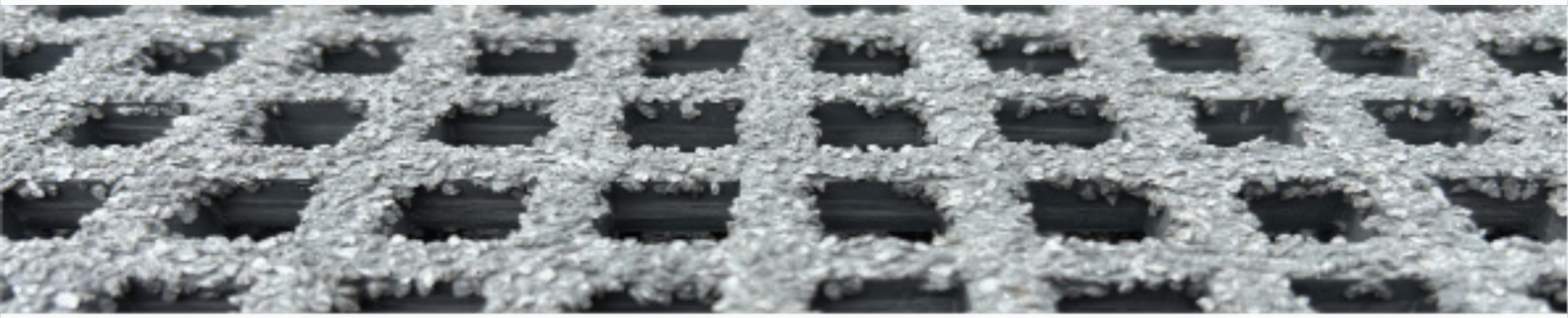
Mesh heights and sizes

STANDARD MESH

No.	Height (mm)	Mesh size (mm)	Wall thickness (top/bottom mm)	Weight (kg)*	Open space	Standard panels
1	13	50.8x50.8	6,4/5,4	5	76%	3660x1220
2	15	38,1x38,1	6,3/5,2	6,9	69%	3660x1220
3	30	38,1x38,1	6,6/5	14,5	68%	2028x997 | 2028x1220 | 2028x1525 | 3050x997 | 3660x1220 | 4005X1525
4	38	38,1x38,1	7/5	19	66%	
5	50	50,7x50,7	8,3/5	22	68%	3660X1225
6	50	38,1x38,1	8,5/5,8	28,7	58%	3660X1220
7	50 HD	38,1x38,1	11,5/9	40,5	48%	3665X1225
8	60	38,1x38,1	9/5,8	36,5	58%	3660X1220
9	60 HD	38,1x38,1	12/9	49,3	46%	3670X1230



MICROMESH AND MINIMESH

Lp.	Wysokość (mm)	Rozmiar oczka (mm)	Grubość ścianki (góra/dół mm)	Waga (kg)*	Otwarta przestrzeń	Standardowe panele
10	15	20X20 (40X40)	6,35/5,3	10	47%	4047X1247 | 3647x1247
11	30	20X20 (40X40)	7/5	17,8	42%	4047X1247 | 3007x1007
12	38	20X20 (40X40)	7/5	22,3	42%	4047X1247 | 3007x1007 | 3687x1247
13	50	25,35X25,35 (50,7X50,7)	8/6	26,6	47%	3660x1225

* - weight of gratings without alumina anti-slip coating

STANDARD PANEL SIZES CAN BE CUT TO ANY SIZE

Deflection table

Support spacing in the range 300-850mm

Grating model	Grating height [mm]	Mesh size [mm]	Weight [kg/m²]		Grating support spacing [mm]										
					300	400	450	500	550	600	650	700	750	800	850
Standard H30 x (38.1x38.1)	30	38.1x38.1	14,6	Fv	206,78	114,84	93,76	74,95	61,57	52,88	44,61	38,23	33,86	29,52	26,01
				fv	5,70	10,01	12,65	15,55	18,81	22,37	26,19	30,37	34,84	39,59	44,70
				Fp	19,85	11,36	9,69	8,11	7,13	6,45	5,72	5,21	4,79	4,41	4,11
				fp	6,04	9,99	12,49	14,96	17,88	21,25	24,45	28,14	32,07	36,22	40,66
Standard H38 x (38.1x38.1)	38	38.1x38.1	19	Fv	324,17	180,21	147,04	117,60	96,61	82,96	70,01	60,00	53,12	46,32	40,82
				fv	4,71	8,22	10,37	12,73	15,38	18,28	21,40	24,80	28,44	32,30	36,46
				Fp	31,32	17,97	15,32	12,81	11,25	10,19	9,03	8,23	7,55	6,96	6,43
				fp	4,98	8,21	10,24	12,25	14,63	17,38	19,99	22,99	26,20	29,58	33,20
Standard H50 x (50.7x50.7)	50	50.7x50.7	22	Fv	459,01	264,12	208,78	170,19	140,50	118,58	100,88	87,20	75,83	66,78	59,08
				fv	3,59	6,20	7,75	9,55	11,48	13,65	15,94	18,49	21,14	24,06	27,09
				Fp	41,32	25,44	21,36	18,38	16,14	14,38	12,96	11,80	10,82	9,99	9,28
				fp	3,74	6,21	7,61	9,26	10,97	12,93	14,95	17,20	19,53	22,09	24,72
Micromesh H30 x (20x20)	30	20x20	17.8	Fv	176,08	101,57	81,53	65,47	54,80	45,68	39,28	33,69	29,54	25,85	23,04
				fv	4,22	7,37	9,25	11,37	13,35	16,29	19,09	22,13	25,35	28,87	32,56
				Fp	17,11	10,56	8,83	7,59	6,67	5,93	5,36	4,88	4,47	4,14	3,84
				fp	4,32	7,35	9,09	11,03	13,22	15,50	18,03	20,73	23,60	26,70	29,92
Micromesh H38 x (20x20)	38	20x20	22.3	Fv	413,93	239,40	192,42	154,49	129,41	107,85	92,71	79,59	69,74	61,04	54,41
				fv	4,90	8,43	10,64	13,04	15,74	18,64	21,82	25,30	28,95	32,95	37,16
				Fp	40,45	24,37	20,88	17,97	15,80	14,05	12,68	11,54	10,58	9,79	9,09
				fp	5,01	8,33	10,42	12,64	15,11	17,73	20,59	23,66	26,91	30,46	34,13
Micromesh H50 x (25x25)	50	25x25	26.6	Fv	448,34	261,30	207,43	169,39	140,05	118,50	100,85	87,38	75,01	67,07	59,33
				fv	2,80	4,76	5,92	7,26	8,69	10,32	12,03	13,94	15,92	18,13	20,38
				Fp	40,49	25,21	21,31	18,35	16,20	14,43	13,06	11,88	10,93	10,09	9,40
				fp	2,76	4,63	5,74	6,93	8,27	9,69	11,27	12,91	14,72	16,59	18,63

LOAD TABLE FOR GRATINGS

Manufacturer's recommended range. Within this range, the elastic deflection does not exceed 1/200 of the support spacing and is less than 4 [mm] at a single moving load of 1.5 [kN] per 200x200 [mm] area anywhere in the grating.

Within this range, the grating can absorb a moving load of 1.5 [kN] per 200x200 [mm] thrust area anywhere in the grating, assuming a deflection not exceeding 1/200 of the support spacing.

A range in which, with a continuous load of 5 [kN/m2], the deflection is a maximum of 4 [mm].

Range in which, under a continuous load of 5 [kN/m2], the maximum deflection is less than 1/200 of the support spacing.

Fv - continuous load value in [kN/m²]
fv - maximum deflection from Fv load expressed in [mm]
Fp - value for centrally placed concentrated load expressed in [kN] on an area of 200x200 [mm]
fp - maximum deflection in [mm] from load Fp

The values in the table take into account:

- safety factor up to the breaking point: 3.0
- deflection reduction factor: 1.3

which are in accordance with DIN 24537-3.
The values in the table are not correct when using coefficients other than those above!

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Deflection table

Support spacing in the range 900-1500mm

Grating model	Grating height [mm]	Mesh size [mm]	Weight [kg/m²]		Grating support spacing [mm]									
					900	950	1000	1050	1100	1150	1200	1300	1400	1500
Standard H30 x (38,1x38,1)	30	38,1x38,1	14,6	Fv	23,52	20,97	18,84	17,28	15,66	14,26	13,04	11,17	9,68	8,37
				fv	50,08	55,76	61,80	68,11	74,72	81,69	88,91	104,34	120,95	138,83
				Fp	3,83	3,59	3,41	3,19	3,02	2,90	2,74	2,51	2,29	2,12
				fp	45,33	50,23	55,78	60,83	66,48	72,85	78,57	92,18	105,73	120,82
Standard H38 x (38,1x38,1)	38	38,1x38,1	19	Fv	36,90	32,90	29,56	27,11	24,57	22,38	20,47	17,53	15,19	13,13
				fv	40,85	45,48	50,40	55,53	60,92	66,59	72,47	85,04	98,57	113,13
				Fp	6,04	5,66	5,38	5,03	4,76	4,56	4,31	3,95	3,61	3,34
				fp	37,01	41,00	45,53	49,64	54,26	59,45	64,12	75,20	86,28	98,60
Standard H50 x (50,7x50,7)	50	50,7x50,7	22	Fv	52,76	47,31	42,74	38,74	35,32	32,30	29,69	25,30	21,81	18,99
				fv	30,37	33,78	37,44	41,22	45,25	49,41	53,80	63,10	73,14	83,93
				Fp	8,66	8,12	7,64	7,21	6,83	6,48	6,17	5,63	5,17	4,78
				fp	27,57	30,51	33,66	36,92	40,36	43,91	47,67	55,58	64,11	73,22
Micromesh H30 x (20x20)	30	20x20x	17,8	Fv	20,43	18,46	16,57	15,12	13,72	12,60	11,54	9,83	8,52	7,40
				fv	36,47	40,65	45,01	49,62	54,48	59,51	64,83	76,06	88,54	101,33
				Fp	3,59	3,36	3,16	2,99	2,83	2,68	2,56	2,33	2,14	1,98
				fp	33,38	37,00	40,78	44,79	48,94	53,28	57,85	67,49	77,82	88,94
Micromesh H38 x (20x20)	38	20x20	22,3	Fv	48,26	43,61	39,15	35,71	32,41	29,77	27,25	23,23	20,05	17,48
				fv	41,60	46,38	51,33	56,57	62,12	67,82	73,88	86,67	100,52	115,44
				Fp	8,48	7,96	7,48	7,07	6,69	6,35	6,05	5,51	5,06	4,68
				fp	38,05	42,23	46,48	51,07	55,79	60,74	65,97	76,92	88,72	101,37
Micromesh H50 x (25x25)	50	25x25	26,6	Fv	53,11	47,03	42,59	38,62	35,29	32,26	29,72	25,37	21,91	19,10
				fv	22,87	25,42	28,20	31,00	34,08	37,16	40,52	47,52	55,09	63,22
				Fp	8,76	8,23	7,73	7,32	6,92	6,58	6,26	5,71	5,25	4,85
				fp	20,72	23,00	25,32	27,83	30,38	33,13	35,91	41,89	48,33	55,23

LOAD TABLE FOR GRATINGS

Manufacturer's recommended range. Within this range, the elastic deflection does not exceed 1/200 of the support spacing and is less than 4 [mm] at a single moving load of 1.5 [kN] per 200x200 [mm] area anywhere in the grating.

Within this range, the grating can absorb a moving load of 1.5 [kN] per 200x200 [mm] thrust area anywhere in the grating, assuming a deflection not exceeding 1/200 of the support spacing.

A range in which, with a continuous load of 5 [kN/m2], the deflection is a maximum of 4 [mm].

Range in which, under a continuous load of 5 [kN/m2], the maximum deflection is less than 1/200 of the support spacing.

Fv - continuous load value in [kN/m²]
fv - maximum deflection from Fv load expressed in [mm]
Fp - value for centrally placed concentrated load expressed in [kN] on an area of 200x200 [mm]
fp - maximum deflection in [mm] from load Fp

The values in the table take into account:

- safety factor up to the breaking point: 3.0
- deflection reduction factor: 1.3

which are in accordance with DIN 24537-3.
The values in the table are not correct when using coefficients other than those above!

Performance characteristics of gratings

Essential characteristics	Performance characteristics	Evaluation method
Dimensional deviations [mm]		Tests performed by the Building Research Institute in Warsaw and confirmed by document ITB-KOT-2020/1241
length L	± 5,0	
width B	± 5,0	
clear mesh size c, d	± 1,5	
dimension of the mesh in the l1 axis	± 1,0	
wall thickness e, f	± 1,0	
height h	± 1,0	
Dimensional stability at +50°C, %	≤ 0,1	
Anti-slip properties, class	R13	DIN 51130:2004
Impact resistance at +23 °C and -20 °C	no delamination or cracking	PN-EN 13245-1:2010
Resistance to accelerated ageing after irradiation of 8000 MJ/m², defined by: - change of colour	ΔEab* ≤ 8	PN-EN ISO 4892-1:2001 PN-EN ISO 4892-2:2013 PN-ISO 7724-2:2003 PN-ISO 7724-3:2003 PN-EN ISO 179-1:2010

Property	UoM	Result
Tensile strength	MPa	411
Young's modulus in tension	MPa	24200
Relative elongation	%	1,84
Bending strength	MPa	763
Young's modulus in bending	MPa	18500
Compressive strength	MPa	451
Young's modulus in compression	MPa	23300

h [mm]	panel size [mm]	mesh size [mm]	A_{Rib} [mm²]	L_{yy} [X10⁶mm⁴/m]	E-modul [x10³MPa]	weight [kg/m²]	grating open area [%]
30	3660x1220	38,1x38,1	174	0.338	12.5	14.5	68
38	3660x1220	38,1x38,1	228	0.7072	13.5	19.0	66
50	3665x1225	50,7x50,7	333	1.35	14.0	23.5	68
50	3660x1220	38,1x38,1	357	1.91	14.3	28.7	58

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Table of chemical resistance of ISO gratings

Chemical resistance		
Inorganic compounds		
Substance	**Maximum concentration**	**Maximum temperature [°C]**
Zinc (V) nitrate	each	77
Magnesium (V) nitrate	each	60
Copper (V) nitrate (II)	each	77
Potassium nitrate	each	77
Sodium (V) nitrate	77	
Sodium bromide	each	77
Copper (II) cyanide	each	77
Sodium cyanide	each	77
Ammonium chloride	each	77
Tin (II) chloride	each	71
Lithium chloride	saturated solutions	66
Magnesium chloride	each	77
Copper (II) chloride	each	77
Nickel chloride	each	77
Mercury (II) chloride	each	66
Potassium chloride	each	77
Ferric chloride	each	77
Ferrous chloride	each	77
Potassium dichromate	each	77
Calomel	each	60
Nitric acid (V)	20	21
Hydrobromic acid	50	49
Chromic acid (VI)	5	21
Phosphoric acid (V)	100	49
Sulphuric acid (VI)	25	24
Hydrochloric acid	37	24
Hydrogen peroxide	5	38
Zinc sulphate (VI)	each	77
Magnesium sulphate (VI)	each	77
Nickel sulphate (VI)	each	77
Potassium sulphate	each	77
Sodium sulphate (VI)	each	77
Ammonium bicarbonate	15	52
Chlorinated water	saturated solutions	27
Distilled water	100	77
Seawater	each	70
Aluminium hydroxide	each	71
Sodium bisulphate (VI)	each	77

Table of chemical resistance of ISO gratings

Organic compounds

Substance	Maximum concentration	Maximum temperature [°C]
Petrol	100	24
Ethanol	50	24
Formaldehyde	50	24
Glycerine	100	66
Ethylene glycol	any	32
Propylene glycol	any	77
Glucose	any	77
Benzoic acid	saturated solutions	66
Citric acid	any	77
Lactic acid	any	77
Acetic acid	80	77
Acetic acid	50	52
Oxalic acid	any	24
Tartaric acid	any	77
Sodium acetate	71	
Sodium acetate	any	71

Additional information

Usage:

Composite gratings are designed for both indoor and outdoor use. They are characterised by high resistance to atmospheric agents, chemicals and corrosion, and are therefore ideal for use in areas with increased humidity or contact with aggressive substances (e.g. sewage treatment plants, industrial plants, shipyards). Active foams and brushes with hard bristles are recommended for cleaning gratings as they allow effective removal of dirt and preservation of anti-slip properties. Regular maintenance contributes to prolonging the life of the gratings and maintaining the aesthetics of their surface.

Disposal:

Evergrip gratings are made of polyester-glass laminate, which is non-biodegradable and should not be burned in open sources. Disposal should be carried out in accordance with local regulations for the management of industrial and construction waste. According to the national waste classification, the product should be disposed of as waste with the code 07 02 13 - plastic waste. The product is not classified as hazardous waste.

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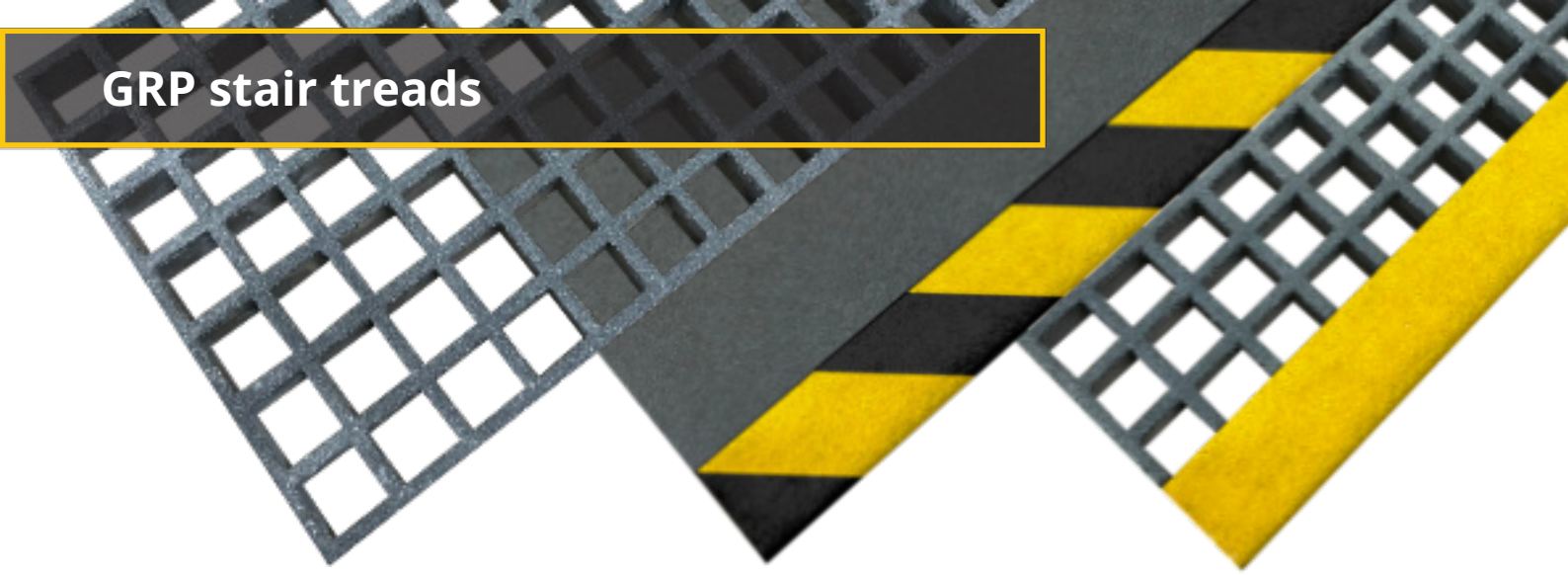
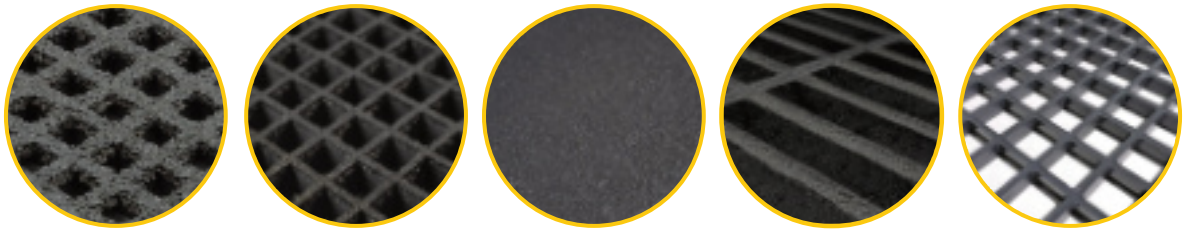
GRP stair treads



Different variants of stair tread surfaces



micromesh 20x20mm | standard mesh 38x38mm | covered | rectangular mesh 152,4x25,4mm | grooved 38x38mm

more information

Examples of dimensions and weights of stair treads

Dimension [mm]	Height [mm]	Weight [kg]
235x997	30	4,8
270x997	30	5,4
310x997	30	6
235x997	38	5,7
270x997	38	6,4
310x997	38	7,2
240x1220	50	9,4
315x1220	50	12
356x1220	50	13,5

Distinguishing features of stair treads

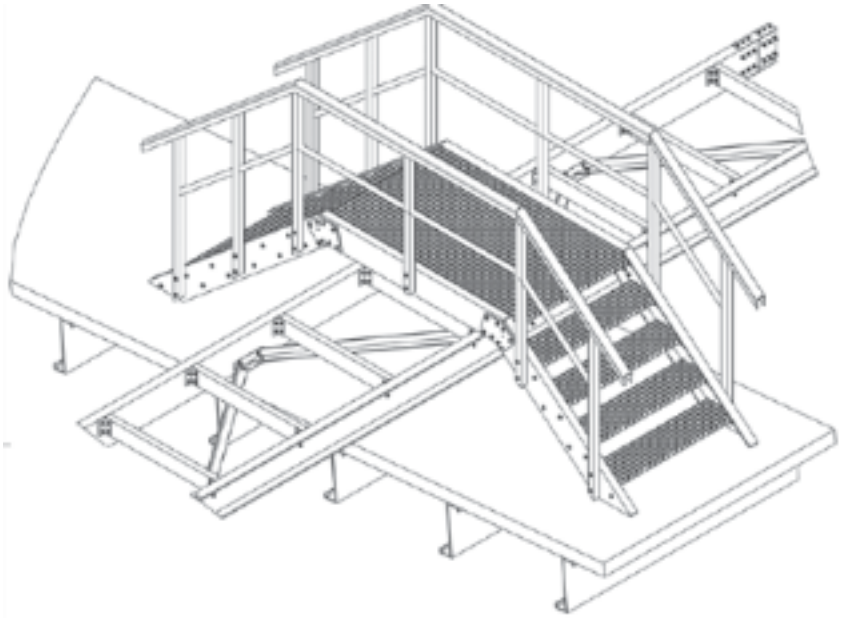
- maintenance-free
- low electrical conductivity
- corrosion-resistant
- light
- durability confirmed by a guarantee lasting many years

Additional options

- manufacturing stair treads in any dimensions
- wide selection of fixings
- design of stair treads with a solid edge in yellow or black and yellow

Example use of stair treads

Services



Design

Our team of design engineers specialising in composites offers comprehensive design development of structures using Evergrip materials. We prepare both detailed technical drawings with material lists and realistic 3D visualisations of selected components - all in accordance with the requirements of the project and the assembly process.

Preparation of material

The gratings we offer are supplied in full-size formats. The material is easy to work with - it can be cut directly on site using an angle cutter with a diamond blade. We also offer a bespoke cutting service, including making custom shapes using precision water jet cutting technology.

Installation | Service

We provide installation services throughout the country. With the right technical facilities and experienced installation teams, we are able to carry out the installation of GRP gratings and other products from our range efficiently and effectively.

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Instructions for cutting, assembly and use of gratings

Cutting gratings to size

At the customer's request, we deliver gratings cut to the dimensions indicated (cutting tolerance is ±3 mm). It is also possible to cut the material yourself on site. Below are the key rules for the correct cutting and installation of GRP gratings. They will enable you to be carry out the work safely and efficiently.

Health and safety rules when working with Evergrip gratings

Installation work should be carried out by persons with:

- relevant qualifications,
- current medical examination,
- training in health and safety rules for working with power tools and chemicals.

The following are the personal protective equipment that a worker should be equipped with in order to undertake the work of adapting the grating to the expected shape.

The goggles will protect your eyes during cutting and grinding. The gratings are covered with a sharp anti-slip coating which, when cut, can hit and damage the eye. We recommend the use of tight-fitting goggles or visors.

When cutting gratings with an angle cutter, the noise level exceeds 100dB. Prolonged exposure to such noise damages hearing but also disrupts the functioning of the nervous system and affects the sense of balance. Hearing protectors should therefore be used when cutting and grinding gratings.

Protective gloves will protect your hands from injuries caused during the cutting and grinding of gratings.

When working with GRP gratings, it is recommended to use anti-cutting gloves or gloves with a polyurethane coating.

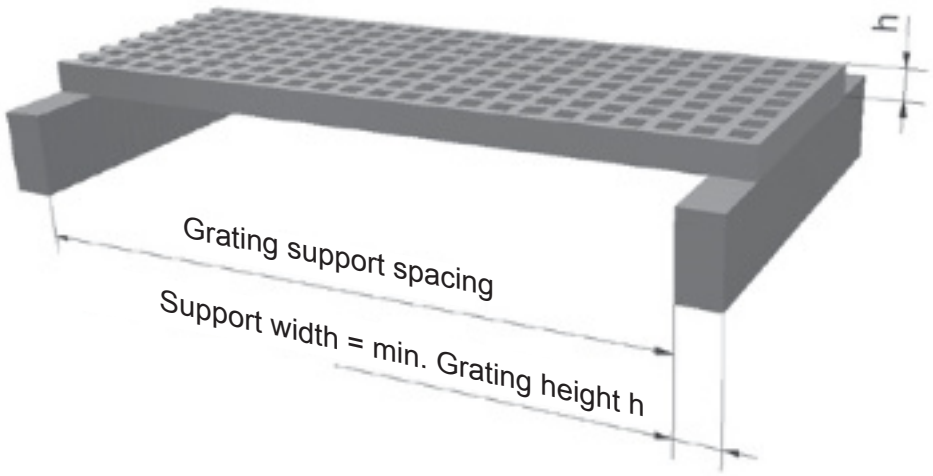
Dust masks protect the respiratory organs against the inhalation of harmful dust generated during the cutting and grinding of gratings. Dust created from glass fibre particles irritates the respiratory tract.

Cutting

Composite gratings can be freely cut in any direction without fear of compromising their mechanical properties. For straight cuts, it is best to use an angle cutter with a diamond blade, while for holes and curved shapes it is best to use a jigsaw with a widia blade.

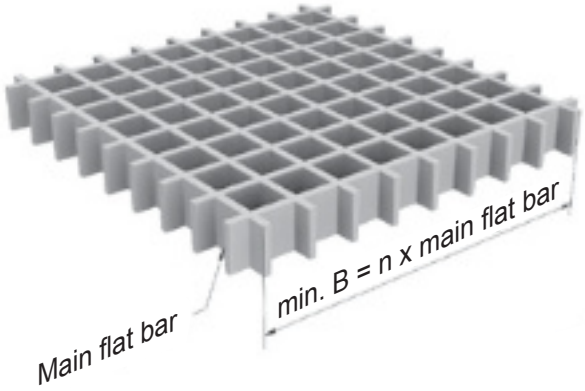
It is important to ensure that each cutting area is thoroughly protected with polyester resin or polyurethane varnish.

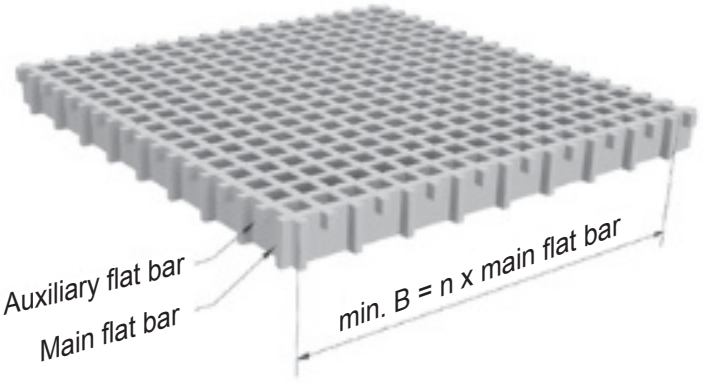
Instructions for cutting, assembly and use of gratings



Supports

According to the standard, the grating support spacing is the distance between the inner edges of the grating support (figure above). The minimum width of the grating support should be equal to the height of the grating, but not less than 30 [mm]. In order to maintain deflection values in accordance with the load table, the minimum grating width should be defined by the number of main flat bars. The figure below shows the main flat bars for the standard grating and the micromesh grating. These flat bars are responsible for mechanical strength.





Minimum number of main bars corresponding to the minimum grating width for each type

Grating type	Minimum number of flat bars	Grating type	Minimum number of flat bars
Standard h30	9	Micromesh h30	9
Standard h38	9	Micromesh h38	9
Standard h50	7	Micromesh h50	7

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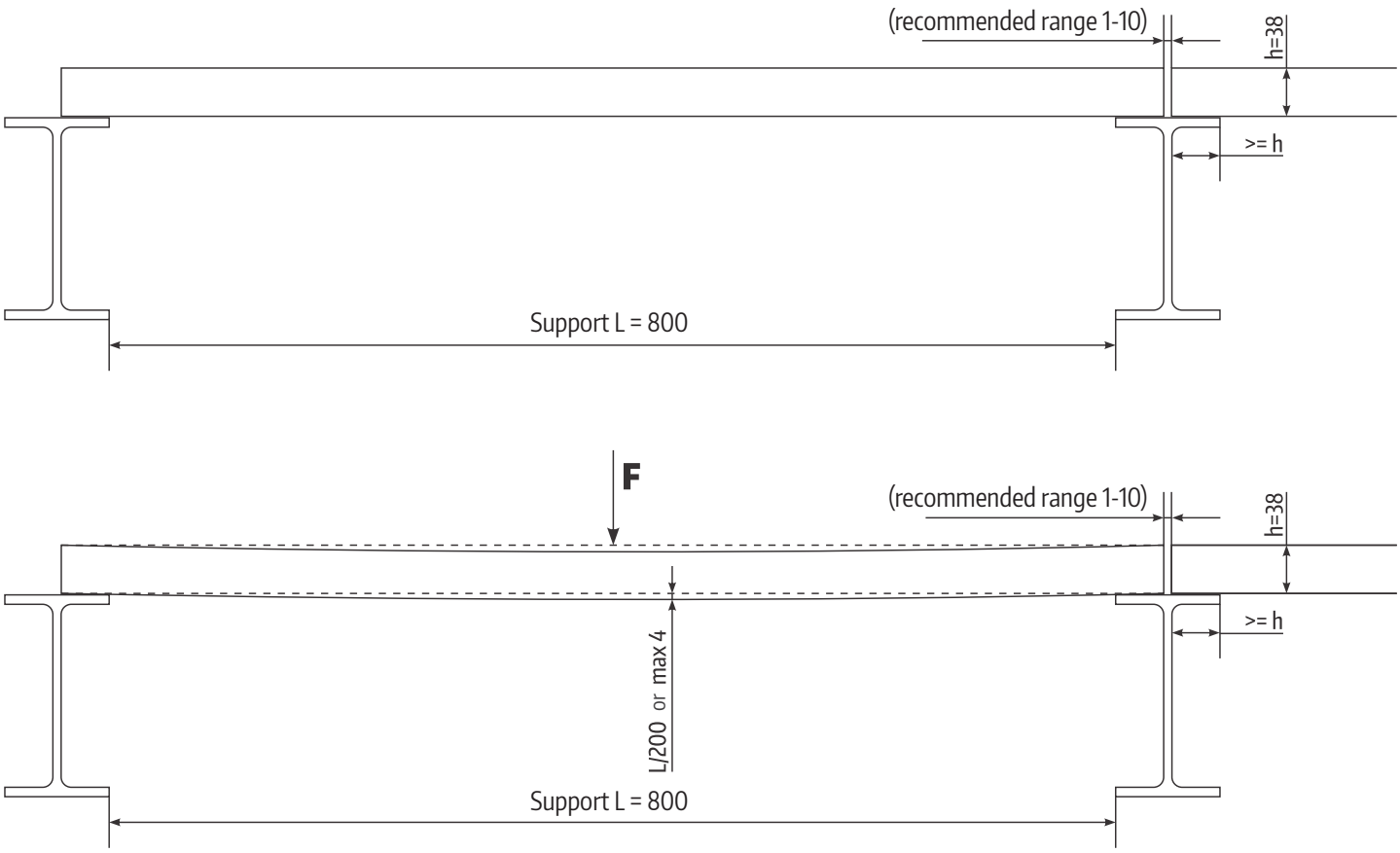
Instructions for cutting, assembly and use of gratings

Installation

When installing the gratings, it is advisable to maintain the spacing – dilatation. This is due to the thermal expansion of the material and the work of the grating under load.

The deflection of the grating when it is loaded is shown in the image below:



If an airtight covered grid floor is required, the expansion joint can be made of expansion cord and polyurethane sealing compound.

The stages of sealing the floor can be found in the photos below:

1. Set the desired distance between the gratings

2. Insert the expansion joint cord

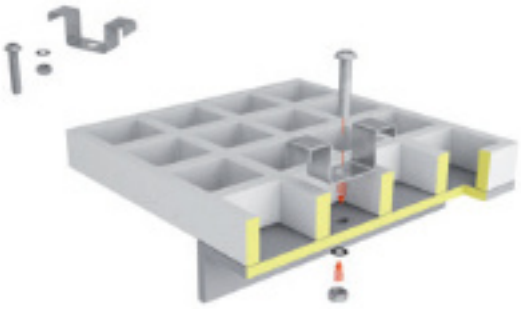
3. Secure the edges of the gratings with tape and fill the gap with polyurethane

4. Once the sealant has dried, the floor is ready for use

Instructions for cutting, assembly and use of gratings

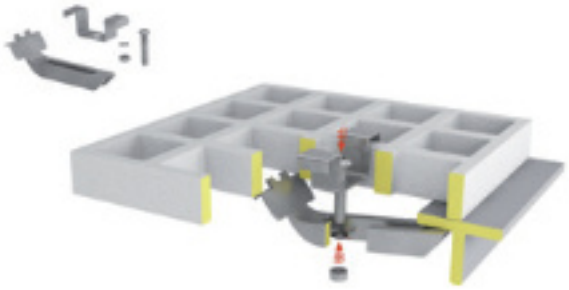
Fasteners

A condition of the guarantee is that the gratings are mounted to the structure in the manner recommended by the manufacturer. For general calculations, 4 fasteners per m² of grating are assumed. The exact number and type of fixings is selected individually for each project. Depending on where the gratings will be used, the following types of fixings are distinguished. All fixings offered by Evergrip are made from A4 acid-resistant steel.



M-clip fixing

Used for openwork gratings. Installation requires drilling a hole in the structure. The m-clip set consists of an m-clip and an M8x50 ISO 7380 bolt, a self-locking nut with Teflon insert DIN 985 and an enlarged washer DIN9021.

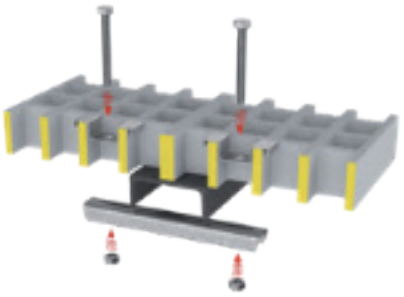


J-clip fixing

Used for openwork gratings in combination with an m-clip or covered gratings (in combination with an o-clip). Installation requires no drilling. A "j" type element presses the grating against the structure. The j-clip set consists of an m-clip or o-clip, a j-clip and an M8x60 ISO 7380 bolt, a DIN577 square nut.

O-clip fixing

It is typically used for covered gratings. Installation requires drilling a hole in the structure. The o-clip set consists of an o-clip and an M8x80 ISO 7380 bolt, a self-locking nut with Teflon insert DIN 985 and an enlarged washer DIN9021.



Connecting fixings

Used for openwork or covered gratings (in combination with o-clips). Installation requires no drilling. This type of fixing is recommended for connecting gratings to each other. The connecting fixings consists of an m-clip or o-clip, a coupling and an M8x60 ISO 7380 bolt, a DIN577 square nut.

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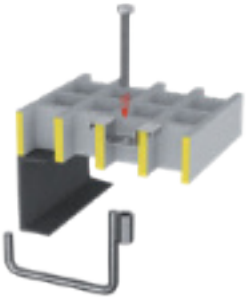
Instructions for cutting, assembly and use of gratings

G-clip fixing

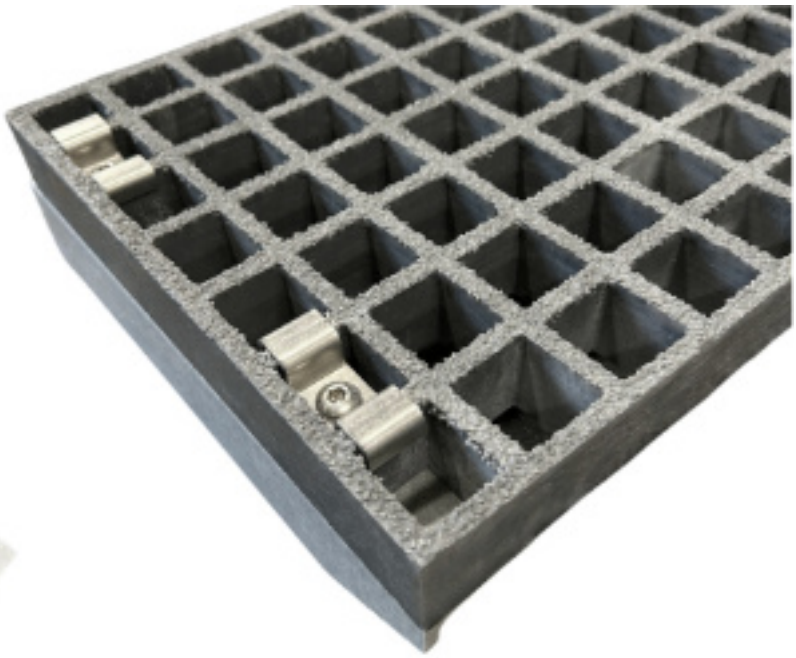
Used for openwork gratings. Installation requires no drilling. This type of fixing is recommended for connecting gratings to each other. The connecting fixings consists of a g-clip and a M6x40 DIN933 screw. The fixing is available in acid-resistant steel.



Hook fixing

Used for openwork gratings in combination with an m-clip or covered gratings in combination with an o-clip. No drilling is required to install this type of fixing. The hook presses the grating against the structure. We produce hook fixings individually depending on the height and width of the construction element that the hook is to adhere to.

Fixing of stair treads



more information

The installation of stair treads made of GRP gratings is carried out with supports made of composite profiles or acid-resistant steel.

In addition to the above fixings, we are able to manufacture various types of non-standard fixings according to project specifications.

Instructions on how to mix polyester resin with hardener and the process of protecting the edges of GRP gratings with resin

1. General considerations and health and safety rules

- Make sure the workstation is well ventilated before starting work.
- Wear personal protective equipment (mask, latex gloves, safety goggles, protective clothing).
- Make sure there are no sources of open flame nearby - polyester resin and hardener are flammable materials.
- Always prepare the correct amount of resin for the current application, as once mixed with the hardener, the useful life of the material is limited.
- Resins and hardeners should be stored in original, sealed containers, away from sunlight and heat sources.

2. Substrate preparation

- The surface of GRP gratings must be clean, dry and free of contaminants such as dust or oil.
- The protection area is best cleaned with compressed air or a cloth soaked in acetone in order to remove any fines.

3. Application conditions

- The optimum temperature for resin application is between +15°C and +25°C.
- Avoid application in high humidity conditions (>80%) and during rainfall.
- The surface to be protected should be close to ambient temperature.

4. Mixing proportions

- The proportions of polyester resin and hardener (e.g. MEKP - methyl ethyl ketone peroxide) depend on the ambient temperature and the type of resin, but in general, the following proportions apply:
  - At +15°C to +20°C: 1.5-2% hardener by weight of resin.
  - At +21°C to +25°C: 1-1.5% hardener.

5. Application time (mix life)

- Once the resin and hardener are mixed, the usability time is usually 15 to 30 minutes depending on the temperature and the amount of hardener added. After this time, the resin begins to harden, making further application impossible. The full curing time (reaching final hardness) is usually between 24 and 48 hours.

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6. Application method

- Mixing:
  - Mix the polyester resin in a clean, dry container with the correct amount of hardener.
  - Make sure the mixture is homogeneous and has an even consistency.

- Applying to the edges:
  - Using a brush or roller, apply a thin, even coat of resin to the edges of the GRP gratings.
  - If several coats are required, wait until the previous coat becomes tacky but not completely dry (usually 20-30 minutes) before applying the next coat.
  - Make sure all edges are thoroughly covered, paying particular attention to hard-to-reach areas.

- Quality control:
  - Once you have finished applying the resin, make sure there are no uncovered areas or excess material that can lead to unsightly leaks.

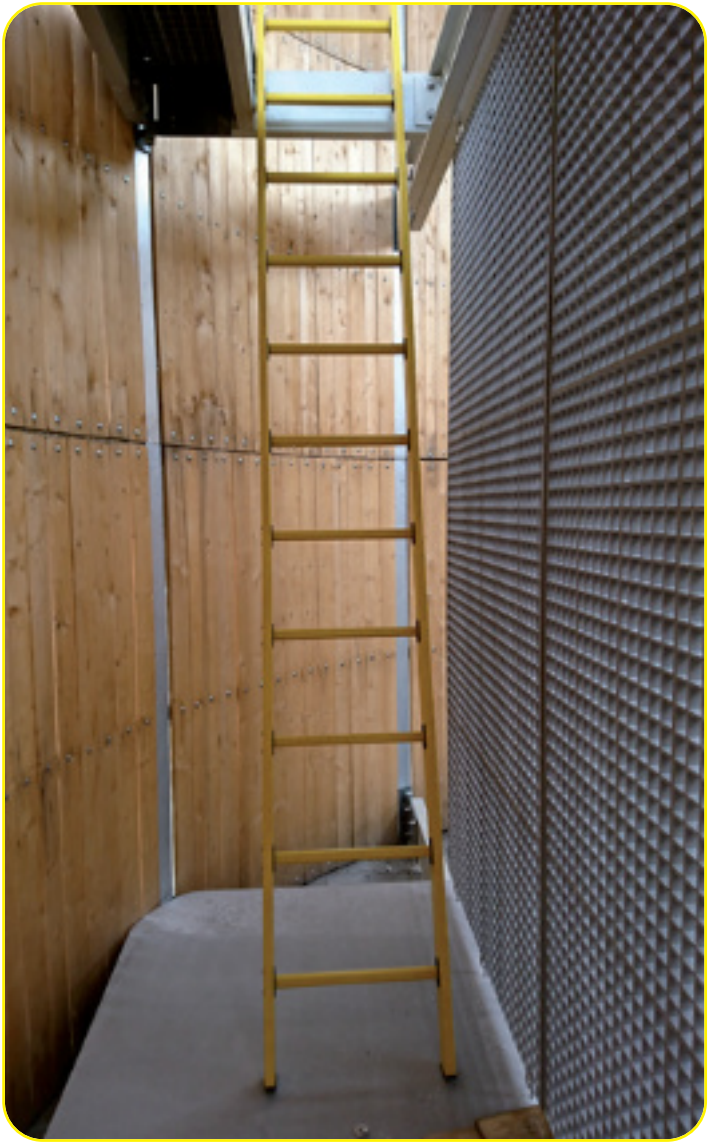
- Cleaning tools:
  - Tools used for application (brushes, rollers, stirrers) should be cleaned with acetone immediately after use to avoid hardening.

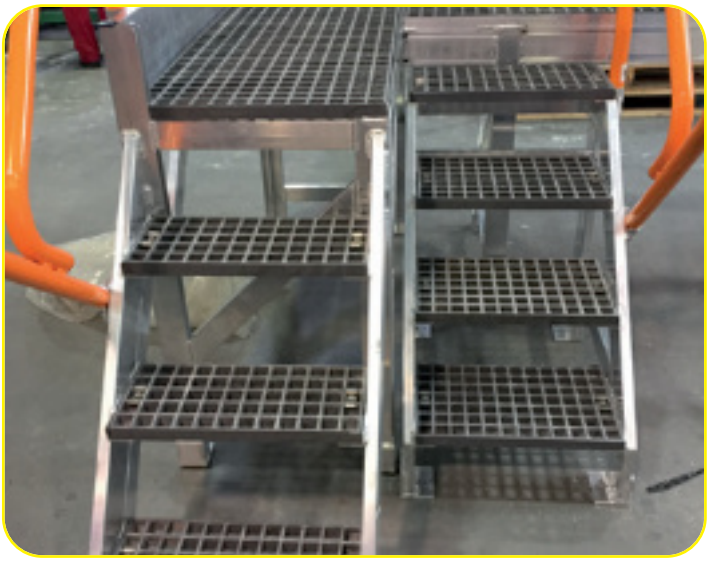
7. Summary

- Remember to follow all health and safety rules, especially when mixing and applying the resin.
- Careful surface preparation and the use of the correct proportions of resin and hardener are key to achieving a durable and aesthetically pleasing edge protection for GRP gratings.

Polyester resin with hardener - 1 litre

Accomplished projects





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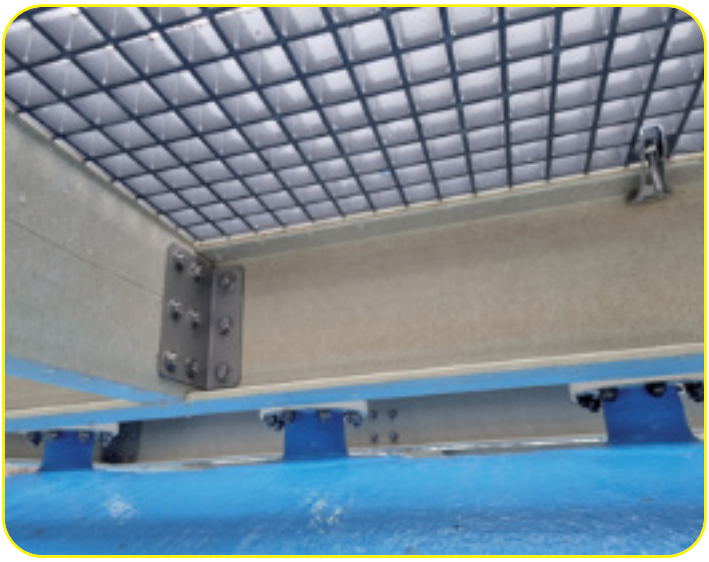
Accomplished projects

Accomplished projects



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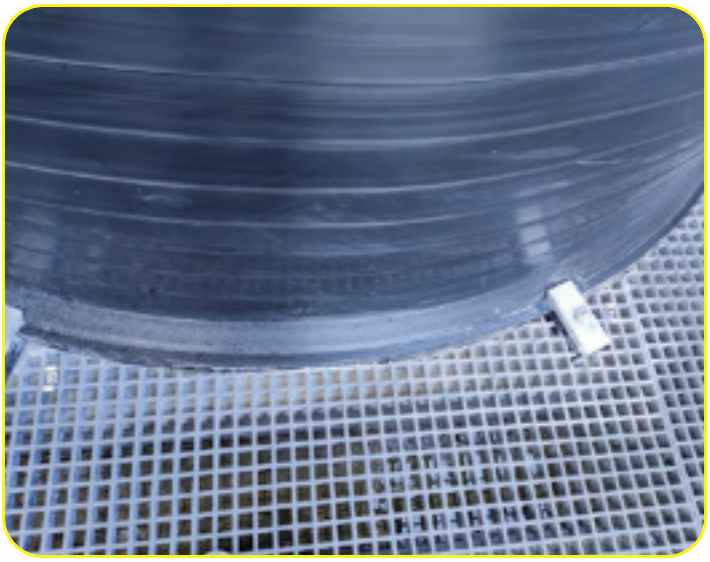
Accomplished projects



Accomplished projects

More information

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Other offerings

Anti-slip protection

is our flagship product. Thanks to the composite technology used, they are very robust and easy and quick to install. They protect against slipping in all conditions.

More information

Railings and handrails

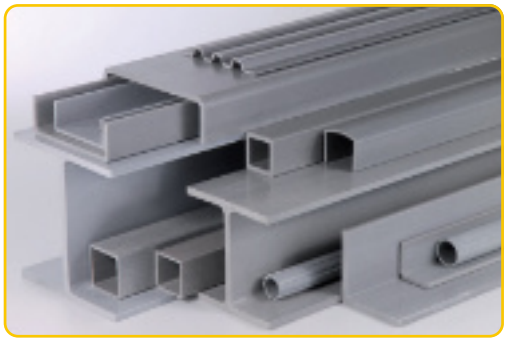
made of glass fibre reinforced polyester resin (GRP) are ideal for indoor and outdoor applications and for installation in aggressive environments where the presence of chemicals or acidic/salty air could lead to accelerated corrosion of metal components.

More information

Safety gates

were developed to protect against falls from access ladders, evacuation ladders and platforms at heights. Their self-closing system is based on a simple and reliable mechanism.

More information



Profile structures

Composite gratings are not only suitable for supplementing existing infrastructure - in combination with pultrusion profiles, they can be used to create complete structures.

More information

Evergrip spółka z o.o.
ul. Zabraniecka 8L,
03-872 Warszawa
TIN: 1132737442
tel: +48 22 424 78 59
e-mail: biuro@evergrip.pl
www.evergrip.pl

Sales Department:

+48 531 040 330
+48 792 334 457
+48 22 465 26 01
+48 533 253 353
+48 570 123 770
+48 690 820 560