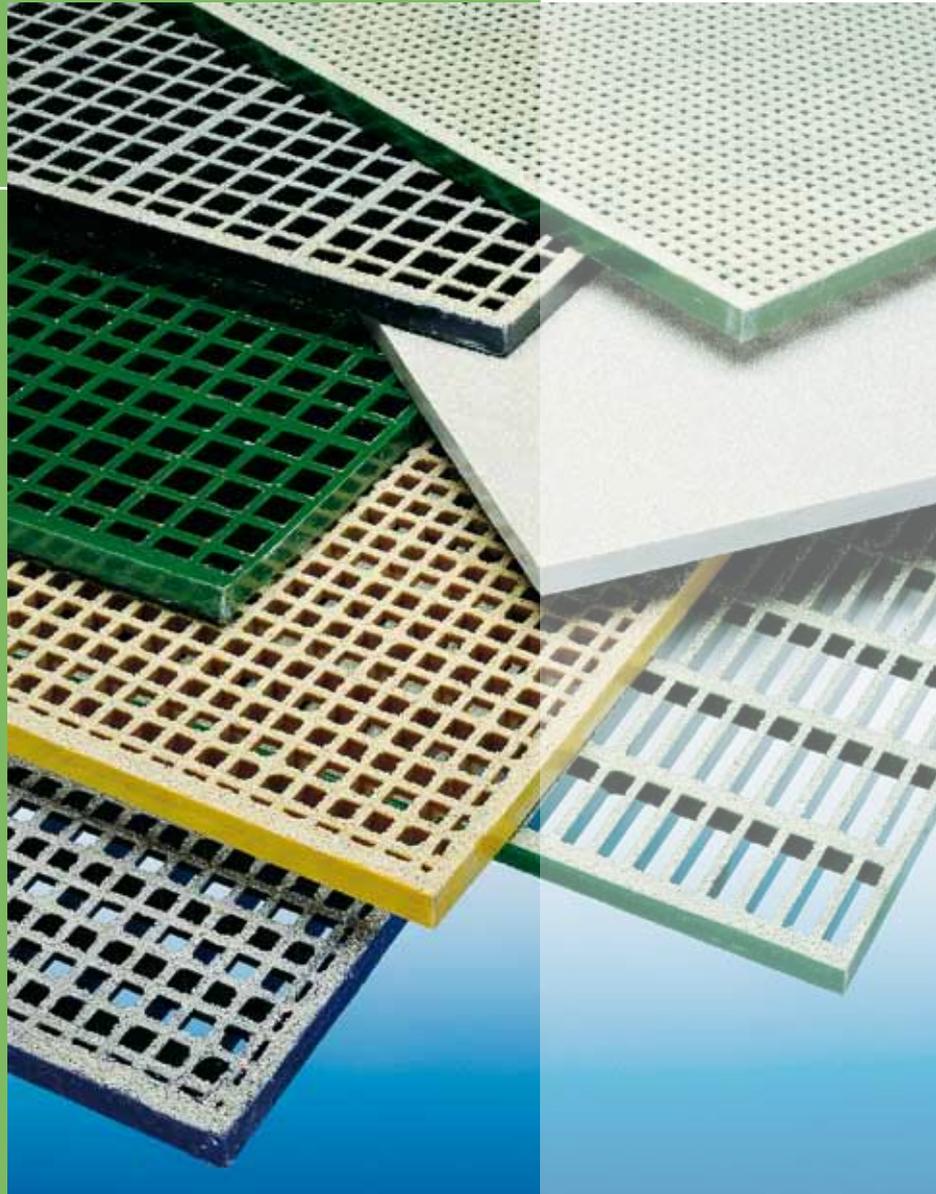


#EUROGRATE

GRATINGS



EUROGRATE®
FIBERGLASS
GRATINGS



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =



With 30 years of experience and the exclusive manufacturing process system Teknotex, Eurograte® has a leading position in the European market.

Eurograte®, differently from all other FRP moulded gratings, distinguishes itself for:

- teknotex manufacturing process, unique worldwide, which assures a product with constant quality and mechanical properties;
- use of best quality raw materials, made in EU, which means more safety and absence of forbidden (toxic) components;
- eco-friendly manufacturing process;
- best working environment for employees.

THE UNITS



Commercial offices - Gorgonzola (MI) ITALY



Production unit - Loreo (RO) ITALY



TEKNOTEX: a technology unique worldwide!



Resin stocking volume = 100 t



Resins mixing area



PLC moulding control



Computerized handling



PLC process control management



Antiskid integration



Temporary grating stock



Pultruded beam stock

EUROGRATE® GRATINGS ARE MANUFACTURED WITH AN EXCLUSIVE TEKNOTEX PROCESS

Conforms to
DIN 24537-3 norm!
European quality
guaranteed!

LIGHT WEIGHT

A well-known feature of fiberglass is the high strength-to-weight ratio. EUROGRATE® FRP gratings weigh less than 1/3 of comparable steel gratings! That means reducing weight on the structure, saving money and increasing safety during installation. Furthermore, the light weight enables an easy handling and cleaning of the gratings.

FIRE RETARDANT

EUROGRATE® with its special resin systems, satisfies most of the safety issues and regulations for applications where it's necessary to limit the spreading of flames and smoke.

ELECTRICAL INSULATION

EUROGRATE® FRP gratings, thanks to the intrinsic feature of fiberglass, provide electrical insulation. This feature makes expensive "grounding" not needed and increases safety on the job site. The installation is thus quicker and cheaper.

MAINTENANCE FREE

Metal gratings have a lower initial cost than FRP gratings, but considering the life cycle costs this is not the most economical choice, because of the high maintenance and replacements costs that occur once steel is corroded. EUROGRATE® FRP gratings have an incredibly long service life, they do not need scraping, sandblasting or coating even after many years of service, becoming more economical compared to traditional metal gratings.

CORROSION RESISTANCE

EUROGRATE® FRP gratings are manufactured with polyester resins reinforced with fiberglass strands, selected for their corrosion and mechanical resistance, are ideal for almost all industries which face corrosion problems on a daily basis. The premium grade resins used (such as polyester, isophtalic, vinyl ester and phenolic, depending on the specific application) are the right trouble free solution.

PERMANENT SLIP RESISTANCE

EUROGRATE® FRP gratings are manufactured with a special anti-slip surface using integrated quartz grains to decrease the risk of slips and falls. The integration of the quartz grains in the surface of the EUROGRATE® panel, assures a long lasting durability and a superior adherence compared to any other type of grating even in presence of water, ice, oil or grease. The EUROGRATE® anti-slip surface is classified R13-V10 according to the DIN 51130 norm positioning the surface as the highest possible anti-slip solution. Other types of surfaces are available on demand.

SAFE AND COMFORTABLE FOOHOLD

The mesh dimensions provide a comfortable foothold (ergonomics), promoting a safe and comfortable walk. The resiliency decreases typical backache due to long standing time.

INSTALLATION AND MAINTENANCE: EXTREMELY EASY

EUROGRATE® FRP gratings are manufactured in standard panel sizes (see data sheets), customized sizes can be supplied on request. Light weight, easy handling and the possibility to cut the material directly on the site, makes the installation easy and decreases considerably installation costs. Since EUROGRATE® gratings don't contain metal parts, they can be easily cut without edge banding and no special protections on the cut edges is required. Thanks to their peculiar properties, EUROGRATE® gratings are maintenance free.

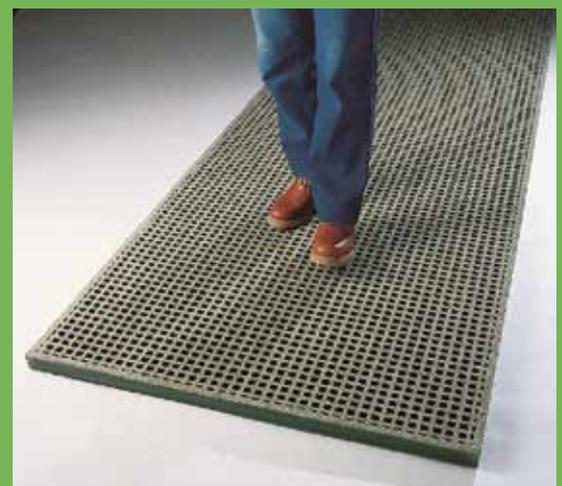
RADIO TRANSMITTANCE

Thanks to its structural composition, EUROGRATE® FRP gratings are suitable for applications where it is necessary to avoid any interference with radio waves (i.e. airports, RF testing facilities, MRI rooms, etc.).



MECHANICAL RESISTANCE

The continuous interwoven fiberglass strands give EUROGRATE® FRP gratings a remarkable mechanical resistance, comparable to metal grating ones. The monolithic construction and the mesh of glass fibers provide an optimal load distribution in both directions. If the grating is accidentally overloaded, no permanent deflections occur.



RESINS: A CHOICE FOR ANY APPLICATION



OC - SUPERCOLINE POLYESTER RESIN (Fire Retardant)

A specific resin designed for low corrosive environmental applications. It can substitute metal gratings that need frequent maintenance or be used for aesthetic reasons. The polyester orthophthalic resin is fire retardant classified Bfl-s1 according to the European Norm EN 13501-1. This resin is certified M1-F1 according to AFNOR NF P 92-501 normative.

Standard colour: Grey Ral 7004 (optional: Green Ral 6001).



EC - ECOLINE POLYESTER RESIN - ISOPHTHALIC BASE (Fire Retardant)

Resin suitable for most applications, it meets the requirements of industrial corrosive environments. It can substitute metal gratings that need frequent maintenance or be used for aesthetic reasons.

The polyester resin is fire retardant classified Bfl-s1 according to the EN 13501-1 European Norm. This resin is certified M1-F1 according to AFNOR NF P 92-501 normative (M1-F0 on demand).

Standard colour: Grey Ral 7004 (optional: Green Ral 6001).



IC - HQ ISOPHTHALIC RESIN (Fire Retardant)

Resistant to spilling and spraying both of acids and alkalines in various concentrations and temperatures, EUROGRATE® gratings that are manufactured with this isophthalic fire-retardant resin are resistant to most of the corrosive environments to which these products are usually exposed. This product is "halogen free", which means that in case of fire, the smoke released has a very low toxicity index. The formulation is classified M1-F1 according to AFNOR NF P 92-501 and CLASS 1 (flame spread <25) according to ASTM E-84 norms.

Standard colour: Green Ral 6001 (optional: Grey Ral 7004).



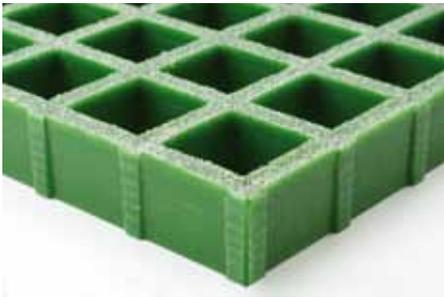
VC - HQ VINYL ESTER RESIN (Fire Retardant)

Designed to assure the best chemical resistance, this fire retardant "halogen free" vinyl ester resin allows the installation of gratings in extremely aggressive environments. The formulation is classified M1-F1 according to AFNOR NF P 92-501 and CLASS 1 (flame spread <25) according to ASTM E-84 norms.

Standard colour: Yellow Ral 1003 (optional: Orange Ral 2002).



**On request:
self extinguishing resins M1/F0
epoxy vinyl ester and phenolic resins.**



ANTI-SKID SURFACE

This is the best solution to work in total safety even in worst conditions (presence of water, ice, oil, wax, grease, etc.). The particular integration of the silica grains assures an excellent wear resistance and a long-lasting durability of the surface. Classified: R13-V10 according to the DIN 51130 norm.



CONCAVE (MENISCUS) SURFACE

An alternative to the traditional anti-skid surface proposed with a competitive price. Suitable for applications where the use is not as frequent but safety is the same a fundamental requirement. Classified: R13-V10 according to the DIN 51130 norm.



CLOSED SURFACE

This surface allows the separation between two levels: it prevents drippings or smoke to pass and assures complete safety for below pedestrian transit. The right solution for applications where forklift and trolley transit is frequent. Classified: R13-V10 according to the DIN 51130 norm.

SPECIAL VERSIONS



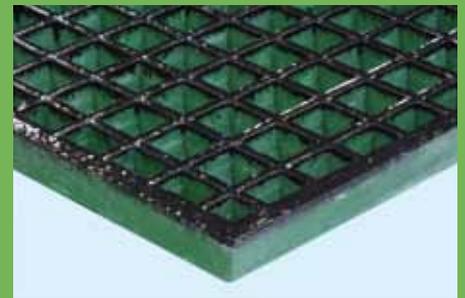
CUSTOM RESINS & COLOURS

Customized grating colours and special resin systems can be formulated as an option to the customer's requirements.



FULLY CONDUCTIVE RESIN

Properly grounded, this special conductive version is **suitable for frequent use** and does not allow the build-up of unwanted static electricity maintaining all the other features of traditional FRP gratings. Suitable for ATEX zones.



CONDUCTIVE SURFACE

Properly grounded, this special conductive version is suitable for occasional use and does not allow the build-up of unwanted static electricity maintaining all the other features of traditional FRP gratings. Suitable for ATEX zones.



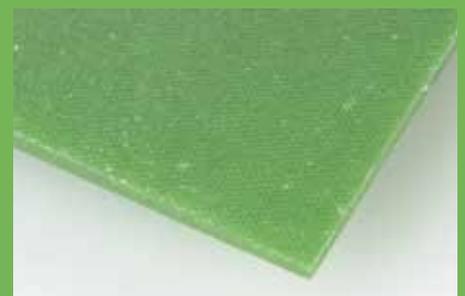
CHECKER PLATE SURFACE

Suitable for occasional use, this surface is made by moulding the resin creating an anti-skid surface without using silica grains replicating traditional metal checker plates.



TRANSLUCENT RESIN

This solution is designed for architectural and residential applications. Made with special raw materials (fire retardant also available), this version can be supplied on demand in several translucent colours.



PEEL-PLY SURFACE

This peculiar surface is an alternative to the traditional anti-skid version, without the use of silica grains. It is available on closed gratings and flat panels.

SQUARE MESHES

Height (mm)	Mesh (mm)	Mesh (kg/m ²)	Panel Dimension (mm)
13	38x38 (32x32)	5,5	1220x3660
13	50x50 (42x42)	5,8	1220x3660 - 2000x2000
25	38x38 (32x32)	12,5	1000x3017 - 1000x4083 - 1220x3660
25	40x40 (32x32)	13,0	1000x2000 - 1000x3000 - 1000x4000 - 1200x3000
30	38x38 (32x32)	14,7	1000x3017 - 1000x4083 - 1220x3660
30	40x40 (32x32)	15,5	1000x2000 - 1000x3000 - 1000x4000 - 1200x3000
38	38x38 (32x32)	18,7	1000x3017 - 1000x4083 - 1220x3660
38	40x40 (30x30)	19,5	1000x2000 - 1200x3000 - 1000x4000 - 1500x3000



MINI SQUARE MESHES



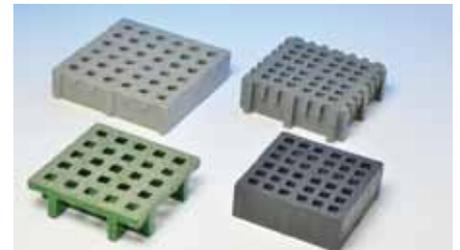
Height (mm)	Mesh (mm)	Weight (kg/m ²)	Panel Dimension (mm)
30	25x25 (19x19)	16,0	1000x2000 - 1000x3000 - 1000x4000 - 1200x2000 - 1200x4000 - 1500x3000
40	25x25 (19x19)	21,0	1000x2000 - 1000x4000 - 1200x2000 - 1200x4000
50	25x25 (19x19)	27,0	1220x3660



MICRO SQUARE MESHES

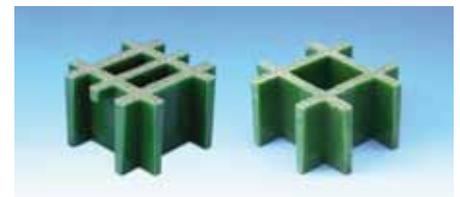


Height (mm)	Mesh (mm)	Weight (kg/m ²)	Panel Dimension (mm)
30	15x15 (8x8)	19,5	1000x3000
30	20x20 (13x13)	18,0	1000x4083 - 1220x3660
38	20x20 (13x13)	23,0	1000x4083 - 1220x3660



HEAVY DUTY MESHES

Height (mm)	Mesh (mm)	Weight (kg/m ²)	Panel Dimension (mm)
50	50x50 (42x42)	21,5	1220x3660 - 1220x4010
55	50x25 (40x16)	30,0	1500x3000
60	38x38 (27x27)	45,5	1220x3660



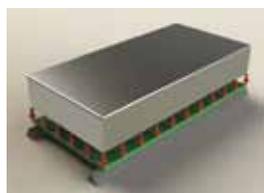
RECTANGULAR MESHES

Height (mm)	Mesh (mm)	Weight (kg/m ²)	Panel Dimension (mm)
25	100x25 (92x18)	13,5	1000x2000 - 1000x3000 - 1000x4000
28	100x50 (90x40)	9,5	1500x2000 - 1500x4100



Other meshes and dimensions available on demand





UNIFORMLY DISTRIBUTED LOAD

MESH TYPE mm x mm	THICKNESS mm		DISTANCE BETWEEN SUPPORTS							
			400 mm	500 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1500 mm
100x25 (92x18)	25	U	5370	2770	1600	680	350	200	130	100
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	25	U	3140	1610	940	400	200	120	70	60
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	25	U	3420	1760	1020	430	220	130	80	70
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	30	U	5640	2910	1690	720	370	210	130	110
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	30	U	6210	3200	1860	790	400	230	150	120
		d	4	5	6	8	10	12	14	15
15x15 (8x8)	30	U	7660	3960	2310	980	500	290	180	150
		d	4	5	6	8	10	12	14	15
20x20 (13x13)	30	U	6880	3560	2070	880	450	260	160	130
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	30	U	6490	3360	1950	830	430	250	160	130
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	38	U	11440	5920	3450	1460	750	440	270	220
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	38	U	12090	6260	3650	1550	790	460	290	240
		d	4	5	6	8	10	12	14	15
20x20 (13x13)	38	U	13660	7100	4140	1760	910	530	330	270
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	40	U	14390	7490	4370	1860	960	560	350	280
		d	4	5	6	8	10	12	14	15
50x50 (42x42)	50	U	22220	11600	6780	2890	1490	860	540	440
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	50	U	28830	15140	8880	3800	1960	1140	720	580
		d	4	5	6	8	10	12	14	15
25x50 (16x40)	55	U	39790	20960	12320	5280	2720	1580	1000	810
		d	4	5	6	8	10	12	14	15
38x38 (27x27)	60	U	85090	44880	26410	11330	5850	3400	2150	1750
		d	4	5	6	8	10	12	14	15

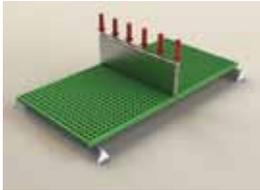
U = Uniformly Distributed Load kg/m²

d = Deflection of corresponding load (expressed in mm)

The load values refer to a L/100 (1%) deflection

The load values indicated represent average values (tolerance +/- 15%)





CONCENTRATED LINELOAD

MESH TYPE mm x mm	THICKNESS mm		DISTANCE BETWEEN SUPPORTS							
			400 mm	500 mm	600 mm	800 mm	1000 mm	1200 mm	1400 mm	1500 mm
100x25 (92x18)	25	C	1340	860	600	340	220	150	110	100
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	25	C	780	500	350	200	130	90	60	60
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	25	C	850	550	380	220	140	100	70	60
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	30	C	1400	910	630	360	230	160	120	100
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	30	C	1540	1000	700	390	250	180	130	110
		d	4	5	6	8	10	12	14	15
15x15 (8x8)	30	C	1900	1230	860	490	310	220	160	140
		d	4	5	6	8	10	12	14	15
20x20 (13x13)	30	C	1710	1110	770	440	280	200	140	130
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	30	C	1610	1040	730	410	270	180	140	120
		d	4	5	6	8	10	12	14	15
38x38 (32x32)	38	C	2840	1840	1290	730	470	330	240	210
		d	4	5	6	8	10	12	14	15
40x40 (32x32)	38	C	3000	1950	1360	770	500	350	250	220
		d	4	5	6	8	10	12	14	15
20x20 (13x13)	38	C	3380	2200	1550	880	570	390	290	250
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	40	C	3560	2320	1630	930	600	420	310	270
		d	4	5	6	8	10	12	14	15
50x50 (42x42)	50	C	5480	3590	2530	1440	930	650	480	420
		d	4	5	6	8	10	12	14	15
25x25 (19x19)	50	C	7090	4680	3300	1890	1220	850	630	550
		d	4	5	6	8	10	12	14	15
25x50 (16x40)	55	C	9760	6470	4580	2630	1700	1180	870	760
		d	4	5	6	8	10	12	14	15
38x38 (27x27)	60	C	20850	13840	9810	5630	3640	2540	1870	1630
		d	4	5	6	8	10	12	14	15

C = Concentrated Line load kg/m

d = Deflection of corresponding load (expressed in mm)

The load values refer to a L/100 (1%) deflection

The load values indicated represent average values (tolerance +/- 15%)





EUROPLATE®: CLOSED PANEL

Manufactured in a single operation during the molding process, with the same load bearing structure as the open gratings, the EUROPLATE® closed panel is mostly used to cover trenches, vats or areas where it is necessary to prevent objects falling and dripping of liquids underneath.

Closing:

Structured with layers of interwoven glass fibers (woven glass cloth/CSM) and with integrated anti-skid surface (pure integrated silica grains). Classified R13-V10 according to DIN 51130 norm.

Thickness:

Thickness of closing layer may vary from 3 up to 8 mm according to the requirements. Closed panels can be manufactured also in a "sandwich" version (closing layers on both surfaces), increasing the mechanical resistance properties.

(Notes: fix closed panels with at least four special clamps in order to prevent panel warping).

Loads:

Depending on the selected mesh type, load data of closed/sandwich gratings may increase from +35% up to +200% compared to load data of the same mesh type with open surface.

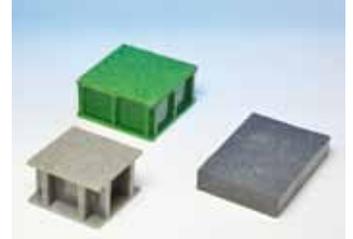
(Contact our offices for more info).

EUROPLATE® closed panels have been approved by ENEL (the biggest Italian electric company) for trench covers and vats where electrical cables pass.

They are usually used in substitution of concrete slabs thanks to the lightweight, maintenance free and insulation features.

Approved colour:

Grey Ral 7004 (optional: Green Ral 6001).



EUROGRIT® FLAT PANELS

Dimensions:

Available within the EUROGRATE® panels range.

Thickness:

Thickness may vary from 3 to 10 mm according to the request. Flat panels can be fixed using special fasteners or glues. Flat panels can be supplied with anti-skid integrated silica grains, smooth or peel-ply surface.



Manufactured with the same process as the flooring gratings, EUROFENCE® fencing panels are an ideal solution for applications that require a protective fencing system with or without the electric insulation properties.

Besides being electrically insulating, non magnetic and not conductive, EUROFENCE® fencing panels are virtually maintenance free, they don't need grounding, painting, etc. Their peculiar features are maintained for many years. Fencing panels may be supplied with vertical fixing posts in FRP (available in different dimensions) made with isophtalic resin or in a fire retardant version.

EUROFENCE® fencing system, with all its accessories, is available in three versions with two different fixing solutions (see table below).

Standard colour: Green Ral 6001
(optional: Grey Ral 7004)



MESH	THICKNESS	DIMENSION	WEIGHT
100x50 mm	28 mm	1500x2000 mm	9,5 kg/m ²
50x50 mm	13 mm	2000x2000 mm	5,8 kg/m ²
38x38 mm	13 mm	1220x3660 mm	6,5 kg/m ²
OTHER MESHES AND DIMENSION ON DEMAND			



PULTRUDED GRATINGS



PULTRUDED GRATINGS

EUROGRATE® FRP pultruded gratings are made with pultruded profiles ("I" or "T" type) in isophtalic or vinyl ester resins. Panels are mechanically assembled and chemically bonded and assure a high corrosion resistance together with an excellent mechanical strength thanks to the high percentage of glass fibers (roving, continuous multidirectional mat, veil).

Thanks to their intrinsic features, EUROGRATE® FRP pultruded gratings are the best choice, compared to traditional aluminium or steel gratings, especially in corrosive environments.

These gratings are available in standard yellow (isophtalic resin) or grey (vinyl ester resin). On request: gratings with different geometry and resins are available.



BEARING BAR	BEARING BAR HEIGHT	BEARING BAR WIDTH	BEARING BAR CENTERLINE	OPENING	OPEN AREA	WEIGHT
I	25,4 mm	15,2 mm	38,1 mm	22,9 mm	60%	11,0 kg/m ²
I	38,1 mm	15,2 mm	30,5 mm	15,2 mm	50%	19,1 kg/m ²
I	38,1 mm	15,2 mm	38,1 mm	22,9 mm	60%	16,1 kg/m ²
T	25,4 mm	38,1 mm	50,8 mm	12,7 mm	33%	12,2 kg/m ²
T	50,8 mm	25,4 mm	38,1 mm	12,7 mm	33%	19,5 kg/m ²
T	50,8 mm	25,4 mm	50,8 mm	25,4 mm	50%	15,1 kg/m ²



EUROTRED® STAIR TREAD

This product is the result of an in-depth study of accidents occurring on stair treads and around stairways. Manufactured with the same criteria as EUROGRATE® gratings, with a reinforced nosing of a different colour and with a permanently integrated anti-slip surface, EUROTRED® is a maximum safety product. Its installation is highly advisable for any potentially hazardous area. Safety is enhanced also thanks to the tread's mesh pattern which complies to the French norm 62-1028 (dated 12th August 1962) which requires that objects with Ø 20 mm should not pass through the mesh (T4 & T6).



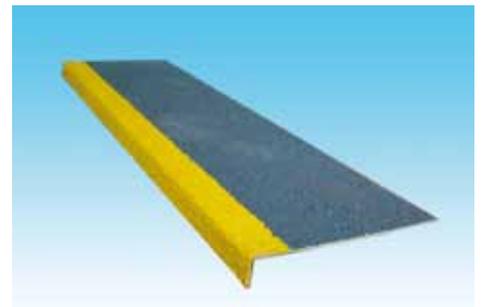
TYPE	MESH	THICKNESS	DIMENSION	WEIGHT
T4	25x25 (19x19)	40	310x2000/4000 mm	6,5 kg/m ²
T5	38x38 (31x31)	38	311x2026/4083 mm	5,8 kg/m ²
T6	20x20 (13x13)	40	307x2007/4047 mm	7,5 kg/m ²
T9	13x13 (8x8)	38	307x2006/4047 mm	9 kg/m ²



EUROSTEP® AND SECURSTEP® STAIR COVER

EUROSTEP® (moulded) and SECURSTEP® (pultruded) stair covers are the right solution to make stairways safer, both in civil and industrial applications. They can be installed on all existing steps (made of wood, concrete, steel, etc.) with mechanical or chemical fixing. The special permanent integration of silica grains gives an excellent slip resistance in all extreme conditions (presence of water, ice, grease, oil, wax, etc.).

EUROSTEP® and SECURSTEP® stair covers are supplied with a safety yellow front nosing to make the step immediately visible, thus increasing worker awareness and consequently reducing possible accidents.



TYPE	THICKNESS	DIMENSION	WEIGHT
EUROSTEP®	3 mm	320x3000 mm	7,7 kg/m ²
SECURSTEP®	3,5 mm	150/230/300x3000 mm	5,5 kg/m ²



EURO SAFETY STEP

The new EURO SAFETY STEP is a stair safety edge with size 70x40 mm and represents an economical solution to solve slip problems on existing stairways.

The main features are: chamfered edge, integrated and permanent anti-skid surface, with a yellow-safety colour.

EURO SAFETY STEPS can be easily fixed with glue or anchor bolts to the existing stairs.

THICKNESS	DIMENSION	WEIGHT
3,2 mm	70 x 40 x 3000 mm	2,4 kg



CONTENT	NORM	CERTIFYING BODY	CLASS / RESULT
Quality System	UNI EN ISO 9001: 2008	DNV	Conforms
Fire Property	ASTM E84	SGS	Class A (F.S.I. <25)
	ASTM D635	SGS	CC1
	NF P 92-501	SNPE	M1
	EN ISO 9239-1	SNPE	Bfl
	DIN 4102-1	SIEMENS	B1
Smoke Development	ASTM E84	SGS	Class A (S.D.I. <450)
	NF F 16-101	SNPE	F1
	EN 13501-1	SNPE	s1
Anti skid	DIN 51130	Modena Centro Prove s.r.l.	R13-V10 with antiskid surface R13-V10 with concave surface
Grating Property	DIN 24537-3	-	Conforms
Corrosion Test	UNI EN ISO 9227	C.S.I	Properties unchanged no defects noted
Accelerated Aging Test (U.V.B.)	ASTM G 154	SSOG	Properties unchanged no defects noted
Food & Beverage	Ministerial Decree	ASL of Milan	Suitable
Conductivity	IEC 61340-5-1	Electra	Zone Ex
Naval Application Off Shore	Certificate of installation	ABS	L 2* - L 3*
		BUREAU VERITAS	L 2* - L 3*
		RINA	Conforms
		U.S.C.G.	L 2* - L 3*
Mass Transit Applications	DIN 24537-3	EBA (Eisenbahn Bundesamt - Federal Railway Authority)	Conforms
	TM 2010-354	SKZ TeConA GmbH (Süddeutsche Kunststoff-Zentrum)	Conforms
Mass Transit Applications	UNI CEI 11170-3 Ed. 2005 + FA 2007	Lapi SpA	LR4 included
Offshore Marine Applications	IMO 2010 FTP Code Part 5 and 2	DNV-GL	Type Approval
	IMO MED Annex A.1/3.18 ©	Lapi SpA	Module B
Slip resistance	ASTM D4060-10 Taber Abraser	SSOG	No abrasion (with silica grit)

* Certifications and homologation only with phenolic resins



EUROGRATE®: synonymous of quality and warranty!

GRATING FASTENERS - "J clip" TYPE

"J clips" are used to fix open mesh gratings with different thicknesses (13, 20, 25, 30, 38 mm). These clips can work together with nut & bolt (A), with fixing clamp (B) and with connection bar (C).

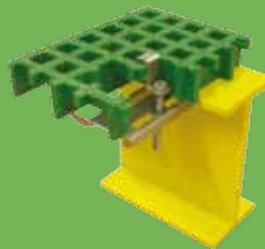
All components are made of Aisi 316 stainless steel (zinc plated on request).



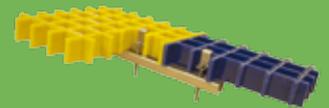
Simple clip
F6.25.00.000



Clip + nut & bolt
F6.25.0A.000



Clip + clamp
F6.25.0B.000



Clips + connection bar
F6.25.0C.000

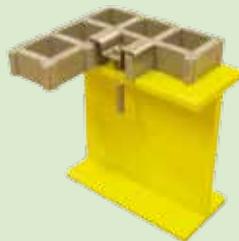
GRATING FASTENERS - "M clip" TYPE

"M clips" are used to fix square mesh 30x30 mm with different thicknesses (13, 20, 25, 30, 38 mm). These clips can work together with nut & bolt (A), with fixing clamp (B) and with connection bar (C).

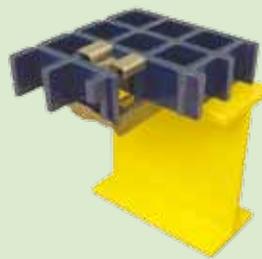
All components are made of Aisi 316 stainless steel (zinc plated on request).



Simple clip
F4.25.00.000



Clip + nut & bolt
F4.25.0A.000



Clip + clamp
F4.25.0B.000



Clips + connection bar
F4.25.0C.000

GRATING FASTENERS - "Disc" TYPE

Grating fasteners "disc" type F7.25 are used to fix closed and flat panels, and stair covers.

Grating fasteners "disc" type F0.25 are used to fix square mini-meshes 8x8, 13x13 mm with different thicknesses (22, 30, 40 mm) or rectangular mesh 50x25 h 55 mm.

These clips can work together with nut & bolt (A), with fixing clamp (B) and with connection bar (C).

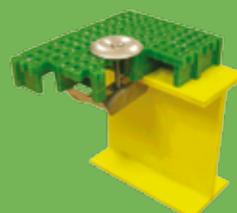
All components are made of Aisi 316 stainless steel



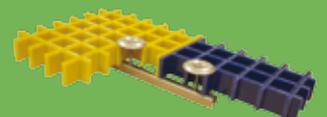
Simple clip
F7.25.00.000



Clip + nut & bolt
F7.25.0A.000



Clip + clamp
F7.25.0B.000



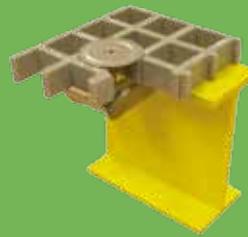
Clips + connection bar
F7.25.0C.000



Simple clip
F0.25.00.000



Clip + nut & bolt
F0.25.0A.000



Clip + clamp
F0.25.0B.000



Clips + connection bar
F0.25.0C.000

ADJUSTABLE GRATING PEDESTALS

Adjustable grating pedestals are designed to work together with EUROGRATE® FRP gratings (both open and closed) to realize floating floors and raised work platforms without using expensive fixed subconstructions.

Installing grating pedestals furthermore allows to have a useful space under the floor (cables, piping, etc.) or for processing reasons (liquid draining, air ventilation, etc.).

Made of HD Polyethylene, the adjustable grating pedestals can be installed in almost any corrosive environment.

The product range includes adjustable grating pedestals with self-levelling or balancing head to correct possible floor slopes.

Available in different adjustable heights from 30 to 800 mm.

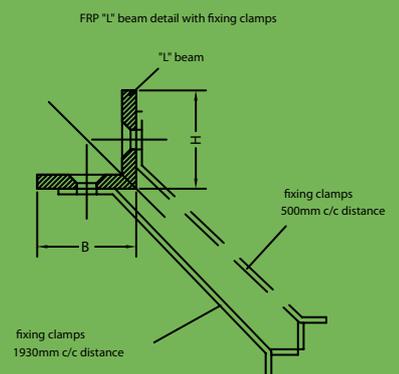
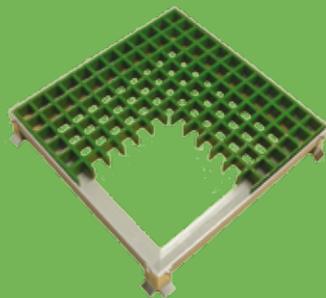


FRAMES

In presence of trenches and pits it is necessary to provide a secure and durable lodging for the gratings to be installed securely.

EUROGRATE® suggests its FRP solution: embedment angles and prefabricated frames. Angles and frames are supplied with anchoring clamps ready to be directly embedded in the concrete.

EUROGRATE® FRP angles and frames are electrically insulating, therefore expensive "grounding" is not needed.



SEALING KIT

When EUROGRATE® FRP gratings are cut during fabrication or installation, it's advisable to protect the cut areas against chemical aggression which could penetrate through the exposed glass fibers.

For this reason, a resin sealing kit is available. All the necessary components and accessories are supplied in order to simplify this procedure (resin, mat, catalyst, container, brush, gloves, instructions).

CUTTING

Cutting EUROGRATE® FRP gratings is quite easy and similar to working with wood, keeping in mind some simple notes.

We suggest using a circular power saw with a masonry diamond tipped blade to obtain a perfect, high quality straight cut. A standard rotation speed without excessive pressure is usually suggested.

In case of circular cuts, we suggest using a jig saw with a diamond tipped blade to obtain a high quality cut. For limited cuts it is possible to use a standard jig blade; in this case, obviously, the quality of the cuts will slightly decrease. If the blade should clog with fiberglass, we suggest cutting a solid masonry brick to clean it. Tools must be often cleaned because fiberglass is very abrasive.

FINISHING

EUROGRATE® FRP gratings are resistant to environmental and chemical corrosion, therefore they don't require sandblasting, painting or coating even after many years of service. If gratings are installed in highly corrosive environments, we suggest to seal cut areas with a protective resin to restore the original chemical resistance and to protect the glass fibers that were exposed after cutting, this prevents possible corrosion attacks or introduction of corrosive agents.

On request, a resin sealing kit is available. All the necessary components and accessories are supplied in order to simplify this procedure together with the instructions.

EDGE-BANDING

After EUROGRATE® FRP gratings have been cut, traditional edge banding on the open sides (as metal gratings) is not required because the mesh bars are load-bearing and therefore don't suffer from local buckling.

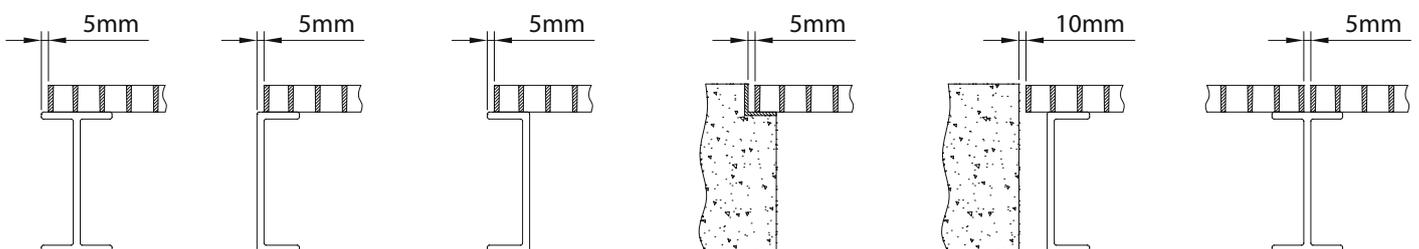
INSTALLATION

When installing EUROGRATE® FRP gratings, please consider a free distance of 5-10 mm along all sides (depending on the installation, temperature, application and product).

EUROGRATE® FRP gratings must be fixed with special fasteners (minimum 4 fasteners per panel). Closed panels have a natural tendency to warp, therefore we strongly suggest to fix them to the below structure with appropriate fasteners. Material of fasteners must be evaluated depending on the environmental conditions (zinc plated or AISI 316 stainless steel).



The width of the supports must be at least equal to the height of the grating panel in order to distribute correctly the load and stresses. If for example the grating used is a mesh 19x19 H30, then it would have to be supported by at least a 30 mm width beam on each side.



Why choose an EUROGRATE® FRP grating?
 Have you ever calculated installation and maintenance costs related to metal gratings?
 How much are you willing to risk in terms of safety?

LOOK OUT!

Metal gratings are not always the best solution, even though the initial cost may be lower than FRP gratings.
 Why be satisfied when you can get a better product in terms of cost/benefit?

Don't underestimate composites! Maybe you don't know that EUROGRATE® FRP gratings ...

1. have a mechanical resistance similar to metal;
2. are almost eternal, are corrosion resistant and assure an unlimited service life;
3. are virtually maintenance free;
4. assure total worker safety even in extreme conditions (grease, oil, wax) thanks to the excellent anti-skid surface inalterable over all the gratings' service life (R13-V10 class according to 51130 DIN norm);
5. are lightweight (with the resistance being equal, the weight is 50% less than steel): their lightweight brings ease of handling and installation therefore saving a lot of money in additional costs;
6. are non-magnetic and not conductive = they don't need expensive grounding (cost saving);
7. are fire retardant, furthermore our "halogen free" formulations assure a low toxic smoke emission in case of fire and do not contain any banned additives.

EUROGRATE® be sure to spend your money wisely!

PRODUCT	INITIAL COST	SHIPPING	INSTALLATION	FABRICATION	MAINTENANCE
EUROGRATE® gratings	** / ***	*	*	*	/
Galvanized gratings	* / **	* / **	**	** / ***	* / ***

LEGEND:
 / = no cost
 * = low cost
 ** = medium cost
 *** = high cost

A STRATEGIC QUALITY CHOICE

Structural concept:

Product made in the EU (Italy), the grating must be manufactured in a single moulding process (monolithic product) using continuous pre-tensioned and pre-impregnated glass fiber roving strands, thoroughly wetted with a chemical resistant polyester, orthophthalic, isophthalic or vinyl ester halogen-free fire retardant resin system. All the phases of the production process must be managed by a PLC system which assures electronic control during the moulding phase, keeping the right mixing ratio of the resin and a constant tension in the glass fibers, avoiding any type of error that could be made during a manual process (worker). The mechanical weaving process must assure an even distribution of the glass fibers within the mould and allow the resin to penetrate within the glass fiber strands assuring a complete wet-out of the fibers. Other weaving technologies, such as manual moulding or RTM systems (injection) are not accepted as they are not able to assure a complete wet-out of the glass fiber strands when using fire retardant "halogen free" resin systems which are typically quite dense and viscous and therefore difficult to process.

Anti-skid surface:

EUROGRATE® FRP gratings must have an anti-skid surface achieved through the combination of a permanent integration of silica grains, with a double protective coating made of UV resistant vinyl ester resin to increase the surface chemical resistance, and the concave surface of the bearing bars to increase wear resistance. Silica grains have a granulometry between 0,4 and 0,8 mm and must not be present on the vertical walls of the mesh. Simple concave surface and/or spraying silica or corundum grains are not accepted for their weak wear resistance. The grating surface must be approved according to DIN 51130 norm and classified R13-V10.

Fire retardant:

EUROGRATE® FRP gratings are fire retardant classified Bfl-s1 according to EN 13501-1 European Norm, M1-M2 according to AFNOR NF P 92-501 norm, class 1 (F.S.I. <25) according to ASTM E-84 norm and 100 according to ENEL DS 4974 norm. EUROGRATE® FRP gratings have low emission and low smoke toxicity (halogen-free) classified F1 according to NF F 16-101 and class 1 (S.D.I. <450) according to ASTM E-84 norm.

Behaviour to environmental atmosphere:

Products, tested according to ASTM G154 norm, must not show significant changes in mechanical resistance after a 1000 hours accelerated aging, UVB irradiation and water condensation/evaporation cycles.



Airport



Chemical



Civil



Water treatment



Desalination



Electrical



Marine



Naval



Mass transit



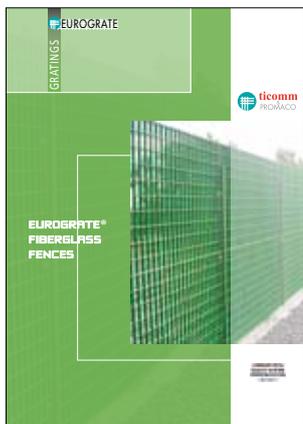
Air treatment

Other market sectors:

Automotive, Commercial, Energy, Food & Beverage, Microelectronics, Pharmaceutical, Pulp & Paper, Textile.

OTHER BROCHURES

Fencing



Pultruded Gratings



Power Sector



Stair Treads and Covers



Handrails



Beams and Structures



Vertical Ladders



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