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Export Sales
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UltraGrate Fiberglass Grating

UltraGrate Molded Fiberglass Grating

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Molded Fiberglass Grating

UltraGrate Fiberglass Grating is a hand lay-up composite of resin and continuous glass fiber strand that is thoroughly wetted out and woven through an open mold. This method provides Liberty Pultrusions Molded Grating with **Good Strength** and **High Corrosion Resistance**.

UltraGrate Fiberglass Grating is an excellent alternative to metal grating where rust, corrosion, or chemical attack are problems. With proper resin selection, UltraGrate Fiberglass Grating is an economical option in a wide range of corrosive environments.

Applications of Molded Grating

UltraGrate Fiberglass Grating is a candidate material where there are safety concerns due to the presence of liquids and oils on the floor as well as corrosive environments where chemical resistance of the flooring material is important for long term durability. Applications for UltraGrate Fiberglass Grating include:

- Walkways
- Platforms
- Protective Shielding
- Machinery Housings
- Raised Floors
- Stairways

Industries Using UltraGrate Fiberglass Grating Include:

- Bottling Lines
- Food Processing Plants
- Waster Water Treatment Plants
- Lift Stations
- Commercial Aquariums
- Offshore Platforms
- Lube Oil Facilities
- Beverage Canning Facilities
- Plating Shops
- Chemical Plants
- Pulp and Paper Plants

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Resin Options for UltraGrate Fiberglass Grating

UltraGrate Fiberglass Grating is available in many resin systems, allowing the end use to make an economical selection for a specific application.

Resin Systems Available:

General Purpose (Orthophthalic Polyester: An economical general purpose resin system for grating applications requiring good strength with minimal contact with harsh chemicals.

ISO (Isophthalic Polyester): A resin system offering an intermediate level of chemical resistance in moderately corrosive environments. A recommended material for applications involving splash or spill contact with chemicals.

Vinyl Ester: Provides the maximum level of corrosion resistance to aggressive chemical environments. Use in applications where contact with harsh chemicals, caustics or bleach is frequent.

Fire Retardant: All Standard Resin Systems noted above are fire retardant to a Class I flame spread of 25 or less based on ASTM E-84 Testing. Verification of testing is available if needed.

USDA Certified: The General Purpose and ISO resin systems can be formulated in such fashion to be certified under USDA requirements. Certification by an independent laboratory is available if required. This special formulation is fire retardant, but does not meet Class I requirements.

UV Resistance: All of our grating has a UV additive to limit degradation from outside exposure.

Material Properties

- Flame Retardant (ASTM E-84) — Class I
- Most Resins Corrosion Resistant
- Electrically Non-Conductive
- Impact Resistant
- Low Thermal Conductivity

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Styles, Surfaces and Colors for UltraGrate Fiberglass Grating

UltraGrate Fiberglass Grating is available in a wide range of surfaces, colors and styles (mesh pattern, thickness and panel size). There is a selection of UltraGrate Fiberglass Grating for almost any structural application!

Mesh Patterns and Thickness

Different patterns and thicknesses provide different strength and performance properties for UltraGrate Fiberglass Grating. From 1-inch thick 1x4 rectangular mesh for light duty applications to 2-inch thick 2x2 square mesh for the heaviest loads, UltraGrate Fiberglass Grating is suitable for a wide range of industrial applications. Refer to the load charts that follow for more information.

- **Available in 6 standard mesh patterns**
- **Specialty grates including Stair tread available**
- **Available with embedded grit or meniscus top**
- **Permanent colors for low maintenance**
- **Standard Panel Sizes:**
  4’ x 12’
  3’ x 10’
  5’ x 10’
- **Custom panel sizes, thicknesses, and mesh patterns available upon request.**

Surface Styles

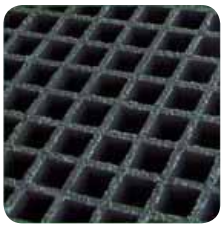
UltraGrate Fiberglass Grating comes in two types of non-slip surfaces:

- Meniscus top for normal applications
- Gritted top for applications where maximum wear resistance and skid resistance is required. UltraGrate grit is embedded in the resin layer - not glued on - for greater durability.

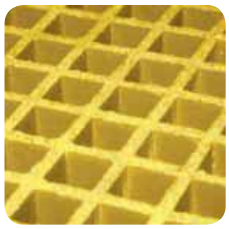
Colors

UltraGrate Fiberglass Grating is available in a variety of industry standard colors. Custom colors can be produced upon request.

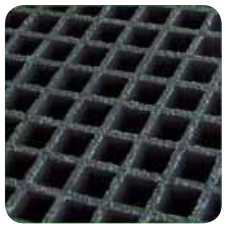
1”
(1” x 4”)



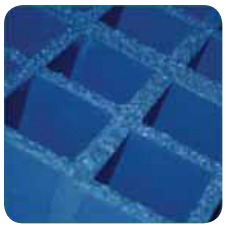
1”
(1.5” x 1.5”)



1.5”
(1.5” x 1.5”



1.5”
(1.5” x 6”)



2”
(2” x 2”)

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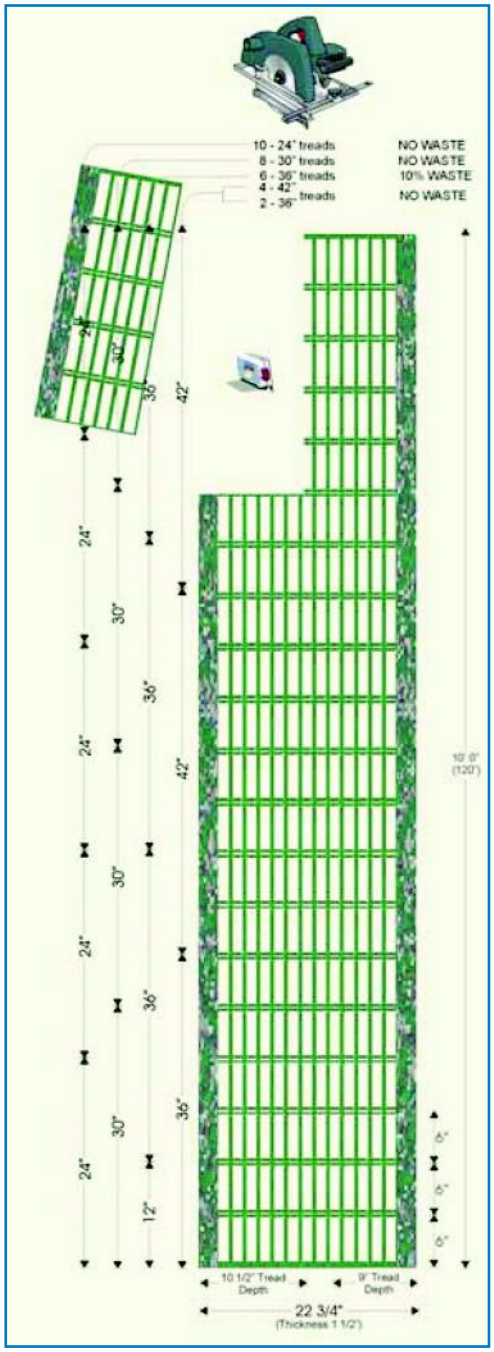
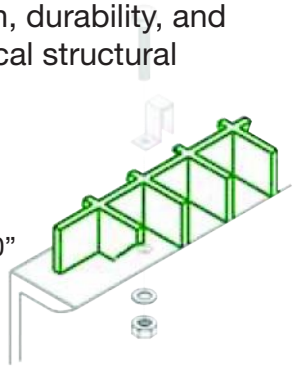
Stair Tread Panels

UltraGrate Fiberglass Grating molded STAIR TREAD PANELS are now available! Stair tread geometry is conveniently designed for cutting common stair step sizes with little or no waste material. Cutting guide channels are provided at 6-inch intervals for quick error-free sizing of stair steps. In addition to superior corrosion resistance, UltraGrate Fiberglass Grating molded Stair Treads provide strength, durability, and ease of fabrication and maintenance for an economical and practical structural product.



Panel Geometry:

Stair Tread panel size: 120” x 22.75”
Stair Tread thickness: 1.5”
Stair Tread bearing bar spacing: 1.5”
Stair Tread cutting guide spacing: 6.0”



Common Stair Step Cuts:

24” Wide Steps:	10 Stair Steps / Stair Tread Panel**
30” Wide Steps:	8 Stair Steps / Stair Tread Panel**
36” Wide Steps:	6 Stair Steps / Stair Tread Panel
42-54” Wide Steps:	6 Stair Steps / Stair Tread Panel
60” Wide Steps:	4 Stair Steps / Stair Tread Panel**

** No Waste Material

- Non-slip gritted top surface
- Flame retardant (ASTM E-84)
- Corrosion resistant
- Impact Resistant
- Low thermal conductivity
- Permanent colors for low maintenance

Typical Deflection Properties:

Properties based on concentrated load deflection applied at the midpoint of the tread, centered on the nosing to simulate a footfall.

SPAN	LOAD (IBS)	
(Inch)	250	500
18	0.03	0.06
24	0.05	0.10
36	0.16	0.32
48	0.41	1.24

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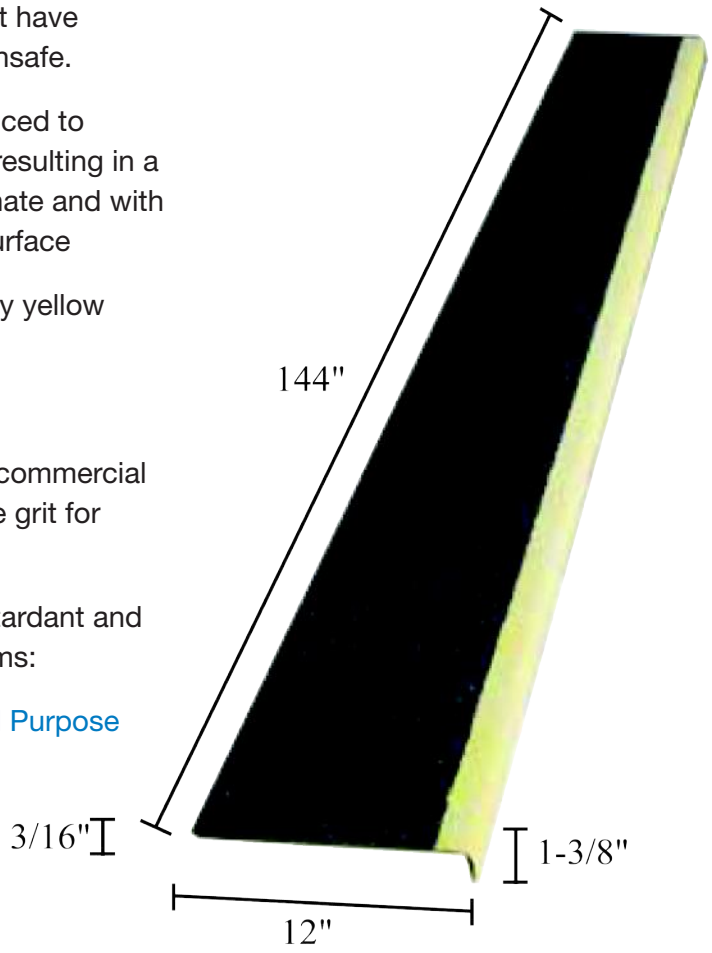
Stair Tread Covers

UltraGrate Fiberglass Tread Covers are the economical answer for restoring worn stair treads or where slippery stairs present possible safety concerns. Tread Covers are available in different resin systems for a wide range of industrial, commercial and residential applications. Central wear areas or full stair treads can be covered by cutting the tread cover to the appropriate length and width.
(IMPORTANT NOTE: Tread Covers need to mechanically fastened to existing stair treads - do not use Tread Covers as an unsupported stair tread.)

- UltraGrate Fiberglass Tread Covers are designed to be fastened over existing stair treads that have become slippery and unsafe.
- Tread Covers are produced to exacting requirements resulting in a superior void-free laminate and with embedded oxide grit surface
- Molded in color is safety yellow throughout.
- Tread color is black
- Fine grit for residential/commercial applications and coarse grit for industrial applications.
- Tread covers are fire retardant and offered in 3 resin systems:
  - Polyester - General Purpose
  - Isophthalic
  - Vinyl Ester



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Loose Plate Top

Liberty Pultrusions Loose Plate Top is for applications requiring good corrosion resistance and a barrier to air flow, particulate, or other debris. Plate Top can even be used to keep tools from falling through flooring or walkways. Characteristics of Liberty Pultrusions Loose Plate Top include:

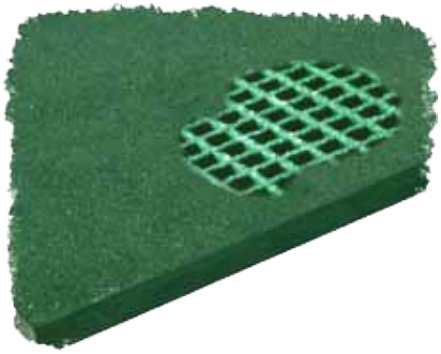
- Embedded grit surface for slip resistance
- Available in thicknesses from 1/8” to 1/2”
- Available in all resin systems for optimum corrosion resistance
- Can be molded or adhesively bonded to molded grating

Plate Top Grating

UltraGrate Fiberglass Grating is also available as Plate Top Grating. Sheets of Plate Top are molded directly onto panels of open mesh grating - the result is an integral structure with no weak points at glue joints.

Plate Top Grating is perfect for applications requiring the solid surface of plate top along with the strength, rigidity and durability of regular UltraGrate Fiberglass Grating.

Standard Plate Top Grating configurations are: 1/8” plate molded to 4’ x 12’ x 1.5” thick (1.5” x 1.5” mesh) panels.
Custom sizes and styles available upon request.



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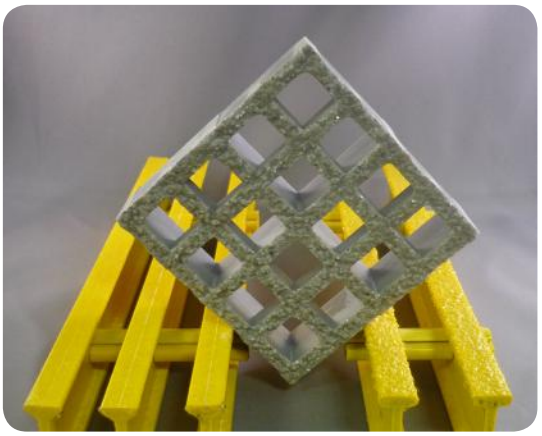
Max-Mesh Grating

The first reasonably priced fmaximum surface open-mesh fiberglass grating. This limited open grating can be used where open grating is preferred, but where cart traffic is common.
It can accomodate high ventilation areas such as clean rooms.

- Major bearing bar spacing: 2" x 2" pattern
- All bar spacing: 1" x 1" pattern
- Openings: 3/4" x 3/4"
- Full height: 1-1/4"
- Panel size: 4' x 12'
- Panel weight: 129 lbs
- Surfaces: embedded grit, meniscus, smooth
- Bar thickness: 1/4"



UltraGrate Clips: Hold-Down Guidelines for Molded Fiberglass Grating

Fiberglass grating properly installed will be fastened down with clips that are similar corrosion resistance and designed to avoid the creation of tripping hazards.

UltraGrate Clip Application Guidelines:

Clips should be used in sufficient quantity to firmly hold each peice of grating in place. It is recommended that at least eight (8) clips be used on a 4' x 12' panel, and that small pieces of grating be fastened with no fewer than four (4) clips.
Grating clips are specifically designed for use with molded fiberglass grating in heights of 1", 1-1/2", and 2".
In all cases, fasteners should have low profile heads to help eliminate any trip hazards.

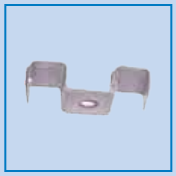
Use of 1/8" to 3/16" spacing between panels is normal to allow for thermal ezpansion of the grating panels.

For stairtreads, it is recommended that at least four (4) “M” type clips be used on each tread, and that treads be supported by clip angles and not bolted directly to the stringers.

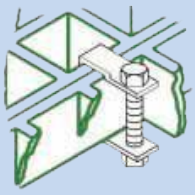
This information is provided as a guide to the use and application of UltraGrate Clips and is not or does not represent a specific warranty of the product or its performance. The designer or user must determine the suitability of this product for a specific application.

G-Clip

J-Clip



M-Clip



Note: Each installation is different, and sufficient clips should be used to securely fasten the grating to the supports.

UltraGrate Clips are:

- Made Exclusively of **316 Stainless Steel**
- The “M” and “J” clips have a minimum of 1/4" opening for fasteners or anchors of your choice.
- The “G” clip which is used to hold two panels together comes with a 1/4" hex head bolt and welded nut for easy installation.

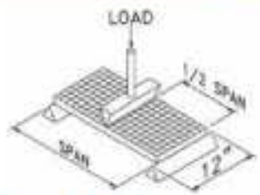
LIBERTY PULTRUSIONS

ULTRAGRATE FIBERGLASS GRATING

Installation Notes

The following tables have been developed based on two sided supports layouts. Caution is needed to be sure that the rectangular grating is installed with bearing bars running from support to support. All grating should be fastened to the supports using fasteners such as the UltraGrate Clips described in this brochure. these should be used every 3' x4' along the supports, with a minimum of four clips on small sections. The clips not only add safety for the employees using the grating, but also improve on the deflection noted below.

Concentrated Load (12" Strip):
Reflects the deflection achieved using a 12" wide strip of grating tested at the mid-point of varying spans.



Uniform Load (Full Panel):
Reflects the deflection achieved with loads distributed evenly across 12" long grating pieces of varying spans.

Point Load:
Reflects the deflection achieved by concentrated point load applied at the center of a grating panel of varying spans. Maximum loads for "Normal" or "Firm" support under this loading are indicated.

Concentrated Load (12" Strip)

UltraGrate Grating: 1" Thick (1.5" x 1.5" Square Mesh)

Provides one inch thick grating with the fabrication advantages of the square mesh pattern. Good for flooring, machine housings, fabrications and similar applications requiring strength in both length and width directions.

Center-Center:	1.5" x 1.5"
Bar Height:	1.0"
Tie Bar Width:	0.25"
Bearing Bar Width:	0.25"
Open Area:	69%
Panel Wt (Men./Grit):	130/150 lbs
Wt/sf (Men./Grit):	2.7/3.1 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	2640	1758	0.014	0.029	0.070	0.143	0.284
18	871	573	0.047	0.092	0.219	0.429	*
24	414	279	0.093	0.177	0.454	*	*
36	125	83	0.300	*	*	*	*
48	92	60	*	*	*	*	*

UltraGrate Grating: 1" Thick (1" x 4" Rectangular Mesh)

A heavy duty thick grating. Bearing bars are thicker than other 1" x 4" pattern grating for greater load capacity and improved resistance to mechanical damage. The bearing bars run in the width dimension.

Center-Center:	1.0" x 4.0"
Bar Height:	1.0"
Tie Bar Width:	0.6875"
Bearing Bar Width:	0.3750"
Open Area:	52%
Panel Wt (Men./Grit):	175/200 lbs
Wt/sf (Men./Grit):	3.6/4.2 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	>3000	>3000	*	0.015	0.036	0.072	0.143
18	1700	1132	0.022	0.044	0.110	0.221	0.441
24	751	500	0.050	0.100	0.250	0.499	*
36	211	140	0.178	0.356	*	*	*
48	132	88	0.281	*	*	*	*

UltraGrate Grating: 1-1/4" Thick (1" x 1" Square Mesh)

Specifically designed for maximum stiffness and strength without excessive weight. The square mesh pattern also means efficient panel utilization and ability to handle loads in both directions. Ideal for longer spans or heavier loads.

Center-Center:	1" x 1"
Bar Height:	1-1/4"
Tie Bar Width:	0.375"
Bearing Bar Width:	0.25"
Open Area:	56%
Panel Wt (Men./Grit):	180/196 lbs
Wt/sf (Men./Grit):	3.8/4.0 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	>3000	>3000	*	0.017	0.04	0.08	0.15
18	2168	1445	0.016	0.036	0.075	0.16	0.345
24	1096	731	0.041	0.075	0.169	0.342	0.725
36	368	245	0.10	0.20	0.51	1.08	2.33
48	156	104	0.24	0.48	*	*	*

UltraGrate Grating: 1.5" Thick (1.5" x 1.5" Square Mesh)

The industry standard in both thickness and pattern. The square mesh pattern provides strength in both directions for more efficient utilization and easier fabrication. Panel sizes can by up to 5' x 13'.

Center-Center:	1.5" x 1.5"
Bar Height:	1.5"
Tie Bar Width:	0.3125"
Bearing Bar Width:	0.3125"
Open Area:	63%
Panel Wt (Men./Grit):	187/215 lbs
Wt/sf (Men./Grit):	3.9/4.5 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	>3000	>3000	*	0.015	0.029	0.053	0.114
18	3000	2100	0.013	0.028	0.059	0.119	0.238
24	1493	984	0.033	0.059	0.133	0.254	0.499
36	466	314	0.080	0.157	0.401	*	*
48	199	131	0.192	0.377	*	*	*

UltraGrate Grating: 1" Thick (1.5" x 6" Rectangular Mesh)

A unique pattern of standard of thickness is the rectangular mesh with bearing bars running length-wise for efficient fabrication and utilization. As a result of thicker bearing bars, the stiffness of the panel is also improved.

Center-Center:	1.5" x 6.0"
Bar Height:	1.5"
Tie Bar Width:	0.5625"
Bearing Bar Width:	0.3125"
Open Area:	72%
Panel Wt (Men./Grit):	176/201 lbs
Wt/sf (Men./Grit):	3.0/4.2 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	>3000	>3000	*	*	0.019	0.039	0.078
18	>3000	2513	0.010	0.020	0.050	0.099	0.199
24	1705	1136	0.022	0.044	0.110	0.220	0.441
36	518	345	0.072	0.145	0.362	*	*
48	266	177	0.144	0.282	*	*	*

UltraGrate Grating: 2" Thick (2" x 2" Square Mesh)

Specifically designed for maximum stiffness and strength without excessive weight. The square mesh pattern also means efficient panel utilization and ability to handle loads in both directions. Ideal for longer spans or heavier loads.

Center-Center:	2.0" x 2.0"
Bar Height:	2.0"
Tie Bar Width:	0.3125"
Bearing Bar Width:	0.3125"
Open Area:	71%
Panel Wt (Men./Grit):	191/216 lbs
Wt/sf (Men./Grit):	4.0/4.5 lbs/sf

SPAN	MAX LOAD (LB/SF)		LOAD (LB)				
INCH	NORMAL	FIRM	100	200	500	1000	2000
12	>3000	>3000	*	*	0.017	0.031	0.056
18	>3000	>3000	*	0.014	0.036	0.071	0.145
24	2660	1791	0.014	0.026	0.066	0.136	0.280
36	675	586	0.042	0.085	0.213	0.429	*
48	400	267	0.092	0.0187	0.469	*	*

"Normal" is the load (in pounds) that will produce a deflection of 0.375" (accepted as providing a "Normal" feel for foot traffic)
"Firm" is the load (in pounds) that will produce a deflection of 0.250" (a accepted as providing a "Firm" feel for foot traffic)
All deflections are presented in inches. Loads are presented in pounds.

Uniform Load (Full Panel)

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	2520	*	*	0.013	0.018	0.023
927	615	0.022	0.043	0.064	0.084	0.104
328	221	0.058	0.111	0.168	0.226	0.284
77	52	0.242	*	*	*	*
40	30	*	*	*	*	*

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	>3000	*	*	*	*	0.012
1602	1201	0.010	0.021	0.031	0.041	0.052
601	401	0.031	0.063	0.094	0.125	0.156
112	75	0.167	0.334	0.500	*	*
53	36	0.351	*	*	*	*

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	>3000	*	*	*	0.011	0.015
2232	1488	*	0.017	0.024	0.032	0.042
775	517	0.026	0.047	0.066	0.092	0.121
197	172	0.067	0.190	0.286	0.418	0.485
64	42	0.176	*	*	*	*

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	>3000	*	*	*	*	0.011
>3000	2460	*	0.013	0.019	0.024	0.029
1223	807	0.021	0.037	0.052	0.068	0.083
244	162	0.074	0.149	0.225	0.329	0.361
130	61	0.235	0.471	*	*	*

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	>3000	*	*	*	*	*
>3000	2460	*	*	0.014	0.019	0.023
1359	807	0.014	0.028	0.041	0.055	0.069
276	162	0.067	0.136	0.204	0.272	0.339
107	71	0.176	0.353	*	*	*

MAX LOAD (LB/SF)		LOAD (LB)				
NORMAL	FIRM	50	100	150	200	250
>3000	>3000	*	*	*	*	*
>3000	>3000	*	*	0.010	0.013	0.017
2337	1556	*	0.016	0.025	0.033	0.041
469	312	0.040	0.079	0.119	0.160	0.200
160	106	0.117	0.234	0.352	0.470	*

Point Load

LOAD (LB)	
NORMAL	FIRM
2789	1863
1740	1157
951	632
371	233
246	166

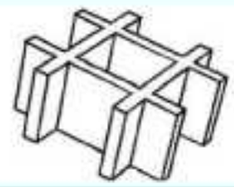
LOAD (LB)	
NORMAL	FIRM
>3000	>3000
>3000	2268
2245	1496
649	535
497	320

LOAD (LB)	
NORMAL	FIRM
>3000	>3000
>3000	1956
2191	1478
968	607
587	376

LOAD (LB)	
NORMAL	FIRM
>3000	>3000
>3000	2842
2985	1990
1232	778
749	474

LOAD (LB)	
NORMAL	FIRM
>3000	>3000
>3000	>3000
>3000	2224
1360	827
781	510

LOAD (LB)	
NORMAL	FIRM
>3000	>3000
>3000	>3000
>3000	2796
1843	1225
988	660



Deflections less than 0.010" and greater than 0.500" have been omitted. The use of various resins, reinforcements and surfaces can result in variations of up to 15% in load data. Free span width for 48" span data is 2" less than width of grating. This information is provided as a guide to the use and application of UltraGrate grating and is not or does not represent a specific warranty of the product or ist performance. The designer or user

CHEMICAL RESISTANCE GUIDE

Chemical Environment	Concentration	UltraGrate (GP) Suitability (Max. Temp. F)	UltraGrate (ISO) Suitability (Max. Temp. F)		UltraGrate (VE) Suitability (Max. Temp. F)	
Acetic Acid	50%	NR	+++	(150)	+++	(180)
Acetone	100%	NR	+	(75)	++	(75)
Alcohols	100%	NR	NR		+++	(120)
Alum	ALL	NR	+++	(150)	+++	(180)
Aluminum Chloride	ALL	NR	+++	(150)	+++	(180)
Aluminum Fluoride	20%	NR	NR		+++	(75)
Aluminum Hydroxide	ALL	NR	++	(130)	+++	(160)
Ammonium Hydroxide	30%	NR	NR		+	(75)
Ammonium Salts-Neutral	ALL	NR	++	(120)	+++	(120)
Barium Salts	ALL	NR	+++	(150)	+++	(180)
Benzene	100%	NR	NR		NR	
Biodegrqadable Cleaner	100%	NR	+++	(100)	+++	(120)
Black Liquor (Pulp Mill)	ALL	NR	+	(150)	+++	(180)
Bleach Liquor (Pulp Mill)	ALL	NR	NR		++	(120)
Calcium Hydroxide	25%	NR	++	(140)	+++	(170)
Carbon Monoxide Gas	100%	NR	+++	(150)	+++	(180)
Carbon Tetrachloride	100%	NR	NR		+++	(75)
Chlorine, Wet Gas	SAT	NR	NR		+++	(140)
Chlorine Water	SAT	NR	NR		+++	(120)
Chlorobenzene	100%	NR	NR		NR	
Chloroform	100%	NR	NR		NR	
Copper Cyanide Plating Soln.	ALL	NR	+	(100)	+++	(120)
Copper Salts	ALL	NR	+++	(140)	+++	(180)
Crude Oil	100%	NR	+++	(140)	+++	(170)
Diesel Fuel	ALL	NR	+++	(100)	+++	(100)
Diethyl Benzene	100%	NR	NR		NR	
Ethers	100%	NR	NR		NR	
Ethylene Glycol	100%	NR	+++	(150)	+++	(180)
Fatty Acids	SAT	NR	+++	(150)	+++	(180)
Ferric chloride	SAT	NR	+++	(140)	+++	(170)
Fluoride Salt	ALL	NR	+	(75)	+++	(75)
Formaldehyde	25%	NR	NR		+++	(140)
Formaldehyde	100%	NR	NR		NR	
Formic Acid	25%	NR	+	(95)	+++	(95)

+++
Suitable for continuous exposure to the indicated chemical environment

++
Suitable for frequent splash and spill exposure to the indicated chemical environment

+
Suitable for incidental exposure, including occasional splashes and spills, to the indicated chemical environment

Max. Temp. F
Maximum recommended temperature for the indicated chemical environment

LIBERTY PULTRUSIONS

UltraGrate Fiberglass Grating

CHEMICAL RESISTANCE GUIDE

Chemical Environment	Concentration	UltraGrate (GP) Suitability (Max. Temp. F)		UltraGrate (ISO) Suitability (Max. Temp. F)		UltraGrate (VE) Suitability (Max. Temp. F)	
Gasoline	ALL	NR		+++	(100)	+++	(100)
Glycerine	100%	NR		+++	(140)	+++	(170)
Green Liquor (Pulp Mill)	ALL	NR		NR		+++	(150)
Heptane	100%	NR		+++	(130)	+++	(180)
Hexane	100%	NR		+	(90)	+++	(140)
Hydrochloric Acid	10%	NR		+++	(140)	+++	(170)
Hydrochloric Acid	30%	NR		+	(140)	+++	(170)
Hydrofluoric Acid	20%	NR		NR		+++	(75)
Hydrogen Peroxide	30%	NR		NR		+++	(75)
Kerosene	100%	NR		+++	(150)	+++	(180)
Lactic Acid	100%	NR		+++	(140)	+++	(170)
Lime Slurry	SAT	NR		+++	(140)	+++	(170)
Methyl Ethyl Ketone	100%	NR		NR		NR	
Mercury Chloride	100%	NR		+++	(140)	+++	(170)
Mineral Oil	100%	NR		+++	(150)	+++	(180)
Naphtha	100%	NR		+++	(130)	+++	(150)
Nickel Salts	ALL	NR		+++	(140)	+++	(170)
Nitric Acid	20%	NR		++	(120)	+++	(120)
Nitric Acid	30%	NR		NR		++	(90)
Ozone	ALL	NR		+++	(100)	+++	(100)
Phenol	10%	NR		NR		NR	
Potassium Hydroxide	10%	NR		NR		+++	(110)
Posassium Salts	ALL	NR		+++	(140)	+++	(170)
Propylene Glycol	ALL	NR		+++	(150)	+++	(180)
Sea Water	100%	+++	(140)	+++	(120)	+++	(140)
Sodium Hydroxide	50%	NR		NR		+++	(150)
Sodium Salts	ALL	NR		+++	(140)	+++	(170)
Sulfur Dioxide	VAPOR	NR		++	(150)	+++	(170)
Sulfuric Acid	25%	NR		++	(140)	+++	(170)
Sulfuric Acid	50%	NR		++	(120)	+++	(140)
Toluene	100%	NR		NR		+	(100)
Water (fresh, Salt, Deionized)	100%	+++	(180)	+++	(150)	+++	(180)
White Liquor (Pulp Mill)	ALL	NR		+	(140)	+++	(170)
Zinc Chloride	SAT	NR		+	(75)	+++	(75)

Consult the manufacturer for exposure information or recommendations for temperatures or chemicals not indicated in this guide. The information in this guide is correct to the best of the manufacturers' knowledge. This guide is based on extrapolations of data supplied by resin manufacturers as well as service history of this product in corrosive environments.

No warranty is expressed or implied, including warranty of merchantability or fitness for any specific application. In no event will UltraGrate Fiberglass Grating be liable for incidental or consequential damages whether arising from alleged negligence, strict liability or otherwise.

Because actual use conditions differ and combinations of chemicals and temperatures will occur in service, the end user must test for use and applicability under actual conditions. Test samples are available upon specific request.

UltraGrate Fiberglass Grating

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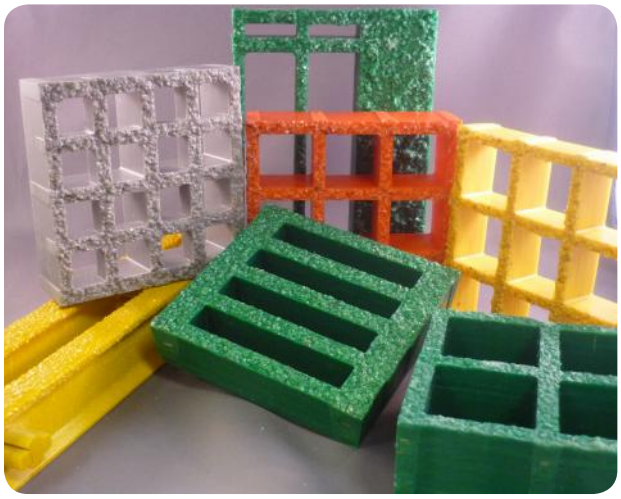
Fabrication of Fiberglass Grating

Cutting: Use a masonry blade for straight smooth cuts. For circular cuts use a jig saw with an abrasive blade. Diamond grit blades are justified on large jobs.

All cutting and grinding should be done in well ventilated areas. A dust collection system will minimize exposure to dust generated.

All cut edges should be sealed with a resin similar to that of the grating for maximum corrosion resistance to prevent wicking through the composite.

Always wear approved safety glasses or vented safety goggles for eye protection and a respirator mask to reduce inhalation of dust when cutting or sanding. The dust respirator should be NIOSH/MSHA approved with a permissable exposure limit (PEL) of not less than 0.1 mg/M^3.



Special Requirements

Your plant or project may require special sizes, shapes, or composites. Should these be of a meaningful size or on-going requirement, we would like to work with you to accomodate those needs.

Should you have requirements for other fiberglass or injection molded components for your own production, we would like to talk to you about those requirements.