Fiberglass Molded Grating & Products

Fibergrate
Composite Structures

Building the World to Last®

HIGH PERFORMANCE **COMPOSITE SOLUTIONS**

Fiberglass Molded Products

Introduction

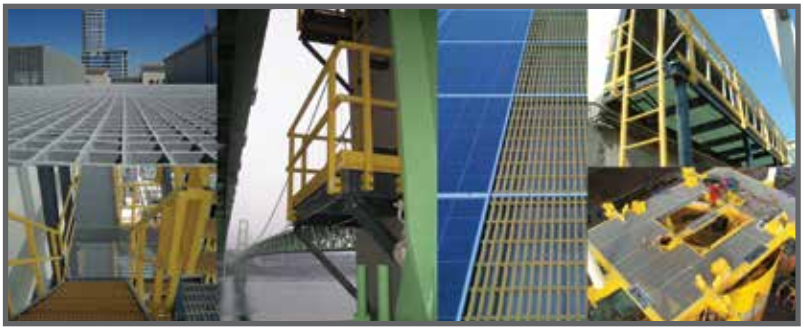
Combining unmatched corrosion resistance with strength, long life and safety, Fibergrate Composite Structures Inc. sets the standard for fiberglass reinforced plastic (FRP) molded products. With more than ten custom resins, Fibergrate products are proven to deliver years of reliable service, even in the most demanding corrosive conditions — conditions which cause conventional metallic and wood products to deteriorate rapidly.

Fibergrate products are lightweight and easy to fabricate. Savings on labor and equipment often make the total installed cost of Fibergrate products comparable to that of steel. Combining these installation savings with low maintenance, long life and worker safety, Fibergrate products offer a life cycle cost that is significantly lower than that of metallic products.

Fibergrate's molded grating line includes Fibergrate® molded grating for most applications, Fibergrate® molded high load capacity grating for H-20 and forklift traffic, Micro-Mesh® for access flooring and for docks and marinas, Airmesh® screening and Multigrid® grating. For applications requiring a solid walkway, Fibergrate carries Fiberplate® structural floor panels and Fibergrate® covered grating. Stair solutions include Fibertred® stair tread panels for industrial and commercial use, covered stair treads for architectural applications and stair tread covers for existing stairways. Ergonomic work platform solutions include Safe-T-Stand® platforms, which are available in varying heights, and raised ergonomic workmats. Fibergrate has consolidated its Chemgrate® (Chemplate®, Chemdeck® and Chemtred®) product line into the Fibergrate product line.

Fibergrate's complete line of molded products and turnkey services offers a variety of solutions for most applications.

Fibergrate Markets



- Architectural
- Bridge & Highway
- Chemical
- Commercial
- Food & Beverage
- Manufacturing
- Metals & Mining
- Microelectronics
- Oil & Gas
- Pharmaceutical
- Power
- Pulp & Paper
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater

Fibergrate® Benefits

Why use FRP?

Corrosion Resistant: Fibergrate® molded fiberglass products are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

Slip Resistant: The meniscus and integrally applied grit surfaces of Fibergrate molded products have unmatched slip resistance for improved worker safety.

Low Maintenance: The corrosion resistant properties of FRP grating and other products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.

Fire Retardant: Most Fibergrate products are engineered to have a flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meet the self-extinguishing requirements of ASTM D-635.

High Strength to Weight Ratio: Less than one-half the weight of steel grating, allowing easy removal for access below floor level and installation with no heavy equipment and less manpower.

Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

Impact Resistant: Fibergrate molded products show superior impact resistance when compared to steel gratings.

Low Install Cost: Due to ease of fabrication and light weight, FRP molded grating eliminates the need for heavy lifting equipment.

Long Service Life: Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

NSF® Standard 61-Certified: NSF Standard 61-Certified molded grating is available in all Fibergrate® molded grating mesh patterns and thicknesses, except Ecograte® and 4 x 12 Micro-Mesh® panels. These molded gratings complement the complete line of NSF Standard 61-Certified Dynaform® fiberglass structural shapes, Dynarail® FRP guardrail, handrail and ladder systems, and Safe-T-Span® pultruded gratings assembled from NSF Standard 61-Certified FRP components.

Heavy Metal Safe: The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.

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Molded Grating Selection & Details

Fibergrate® Molded Grating

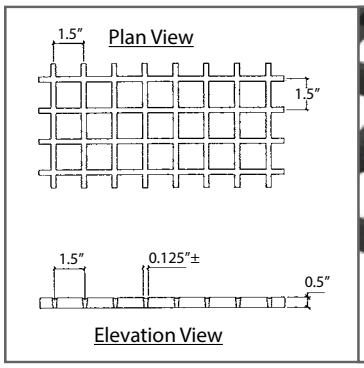
Brand	Depth	Mesh	Standard Panel Sizes	Wt. Per Sq. Ft.	Open Area
Airmesh®	1/2"	1-1/2" x 1-1/2" square	4' x 8' *(non-load carrying product)*	0.8 lb	87%
Multigrid®	1/2"	2" x 2" square	4' x 12', 4' x 15' *(must be fully supported)*	1.0 lb	82%
Fibergrate®	5/8"	1" x 4" rectangular	12' x 4'	2.0 lb	58%
Fibergrate	3/4"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergrate	3/4"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12'	2.0 lb	70%
Micro-Mesh®	1"	Top 3/4" sq, Btm 1-1/2" sq	4' x 12'	2.9 lb	44.4%
Ecograte®62	1"	3/4" x 4" rectangular	4' x 12'	3.0 lb	62%
Fibergrate	1"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergrate	1"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12'	2.5 lb	70%
Fibergrate	1"	2" x 2" square	4' x 12'	1.7 lb	76%
Fibergrate	1-1/4"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12', 5' x 10'	3.2 lb	70%
Fibergrate	1-1/2"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12', 5' x 10'	3.8 lb	70%
High Load	1-1/2"	1" x 2" rectangular	6' x 4', 4' x 8'	6.2 lb	48%
Micro-Mesh®	1-1/2"	Top 3/4" sq, Btm 1-1/2" sq	2' x 2', 4' x 12'	4.5 lb	44.4%
Fibergrate	2"	2" x 2" square	4' x 12'	4.0 lb	72%
High Load	2"	1" x 2" rectangular	6' x 4', 4' x 8'	8.4 lb	48%

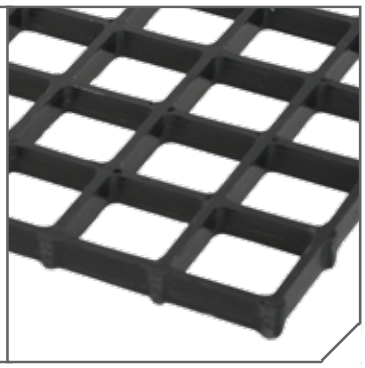
See page 8 for surface selection.

Grating Details

Airmesh® 1/2" Deep x 1-1/2" Square Mesh

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/8"	87%	1-1/2"	0.8 psf

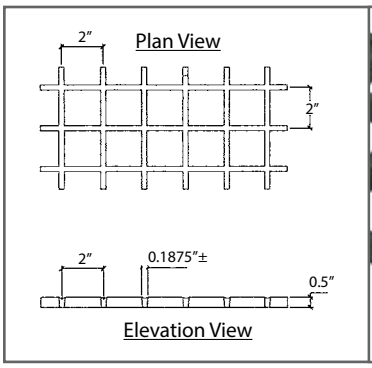


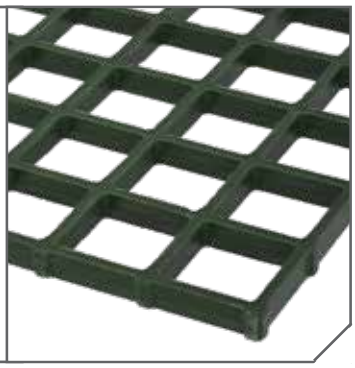


Designed for screening applications only

Multigrid® 1/2" Deep x 2" Square Mesh

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
6	3/16"	82%	2"	0.96 psf



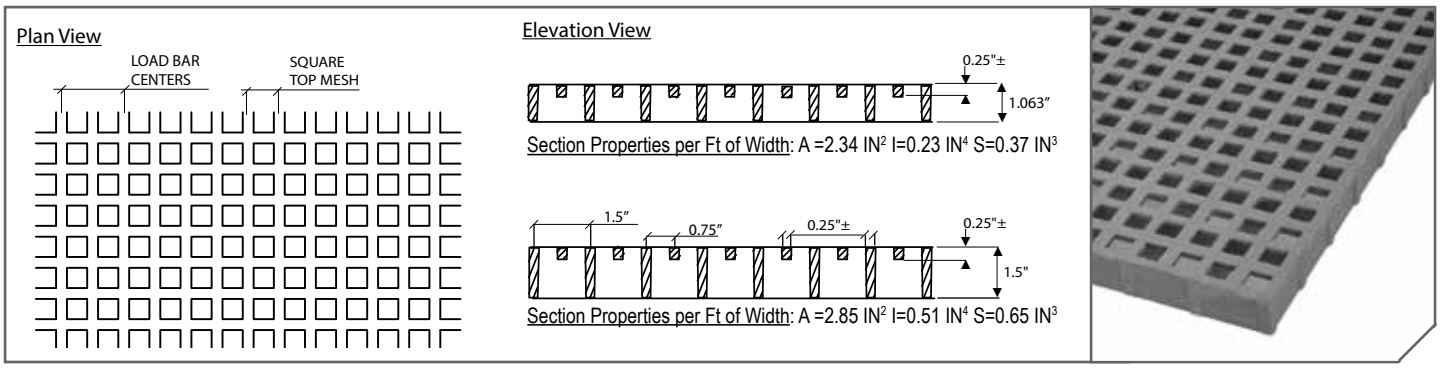


Must be fully supported in walking surface applications

Molded Grating Details

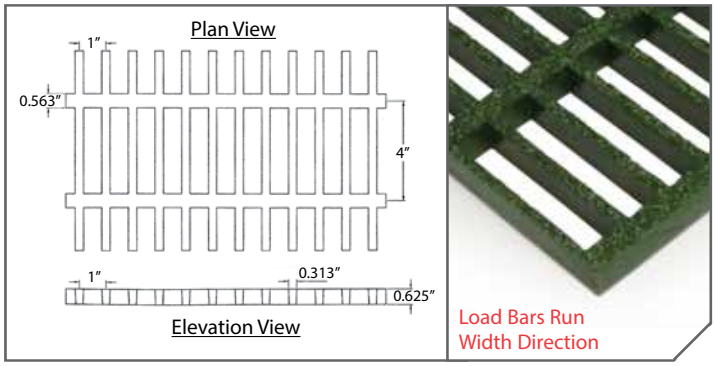
Micro-Mesh® 1" & 1-1/2" Deep x 3/4" Sq Top Mesh

Depth	Square Top Mesh	Panel Size	# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
1"	3/4"	4' x 12'	8	1/4"	44.4%	1-1/2"	2.9 psf
1-1/2"	3/4"	4' x 12'	8	1/4"	44.4%	1-1/2"	4.5 psf



5/8" Deep x 1" x 4" Rectangular Mesh*

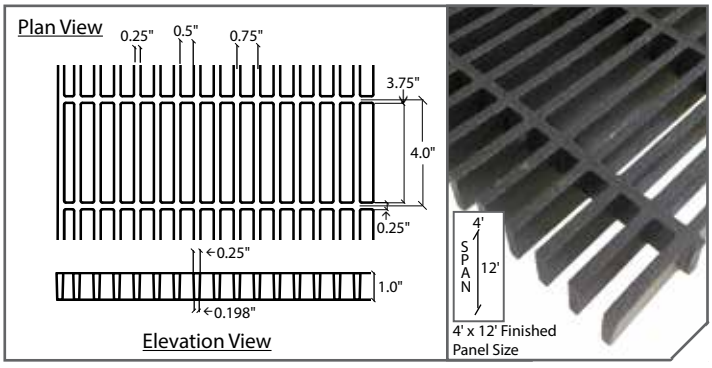
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	5/16"	58%	1"	1.98 psf



Section Properties per Ft of Width: A = 2.11 IN² I = 0.07 IN⁴ S= 0.22 IN³
**Not available with meniscus top surface (only grit)*

Ecograte®62 1" Deep x 3/4" x 4" Rectangular Mesh

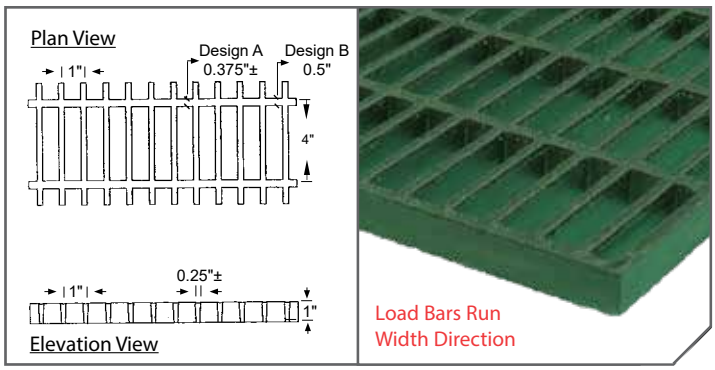
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
16	1/4"	62%	3/4"	3.0 psf



Section Properties per Ft of Width: A = 3.58 IN² I = 0.298 IN⁴ S= 0.573 IN³

1" Deep x 1" x 4" Rectangular Mesh*

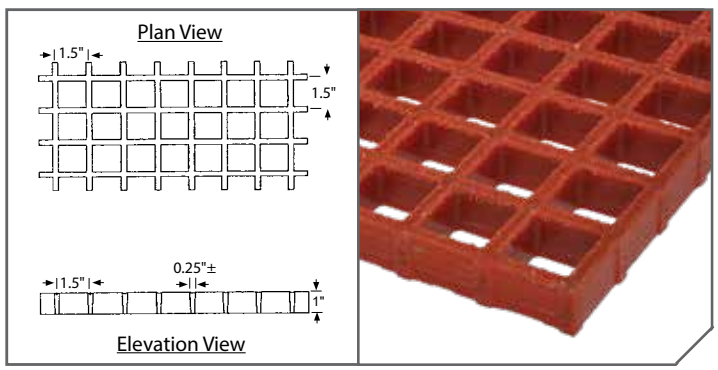
Panel Sizes	# of Bars/ Ft of Width	Load Bar Width	Tie Bar Width	Open Area	Load Bar Centers	Approx. Weight
Design A 10' x 3' 8' x 4'	12	1/4"	3/8"	69%	1"	2.5 psf



Section Properties per Ft of Width: A = 2.57 IN² I = 0.22 IN⁴ S= 0.43 IN³

1" Deep x 1-1/2" Square Mesh

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/4"	70%	1-1/2"	2.5 psf

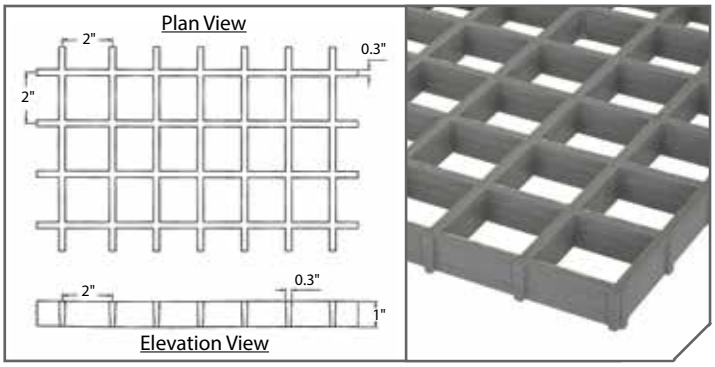


Section Properties per Ft of Width: A = 1.71 IN² I = 0.14 IN⁴ S= 0.29 IN³

Molded Grating Details

1" Deep x 2" Square Mesh

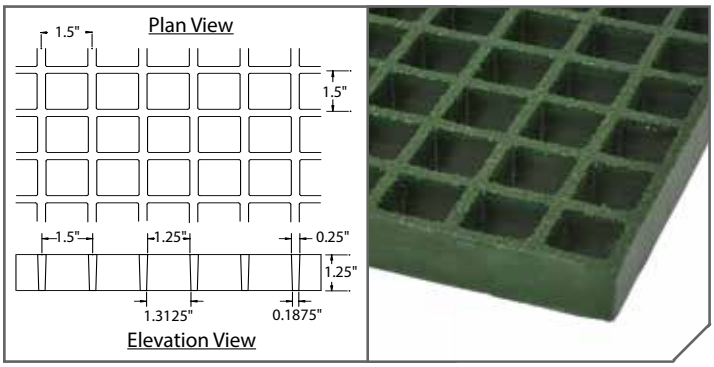
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
6	0.3"	76%	2"	1.7 psf



Section Properties per Ft of Width: A = 1.27 IN² I = 0.11 IN⁴ S= 0.21 IN³

1-1/4" Deep x 1-1/2" Square Mesh*

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/4"	70%	1-1/2"	3.2 psf

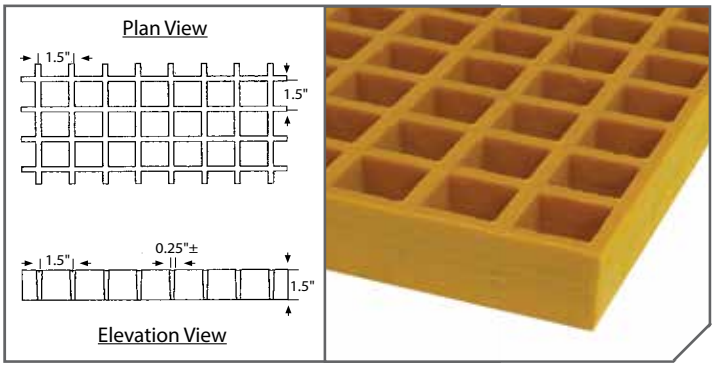


Section Properties per Ft of Width: A = 2.16 IN² I = 0.32 IN⁴ S= 0.48 IN³

**Not available with meniscus top surface (only grit)*

1-1/2" Deep x 1-1/2" Square Mesh

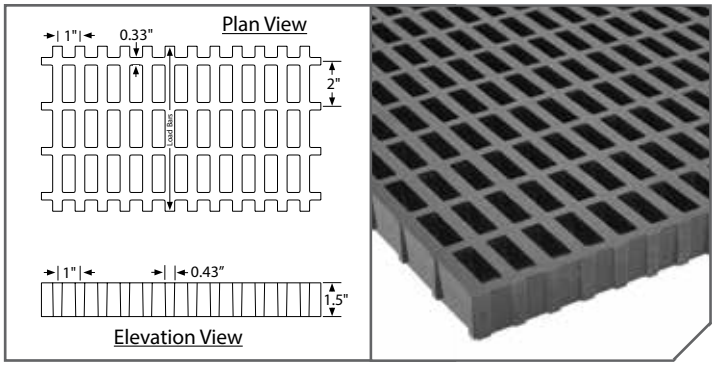
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/4"	70%	1-1/2"	3.8 psf



Section Properties per Ft of Width: A = 2.85 IN² I = 0.51 IN⁴ S= 0.65 IN³

HLC 1-1/2" Deep x 1" x 2" Rectangular Mesh

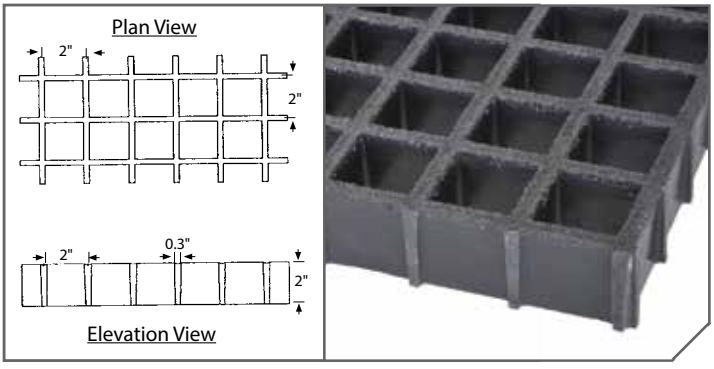
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.43"	48%	1"	6.2 psf



Section Properties per Ft of Width: A = 7.45 IN² I = 1.39 IN⁴ S= 1.80 IN³

2" Deep x 2" Square Mesh

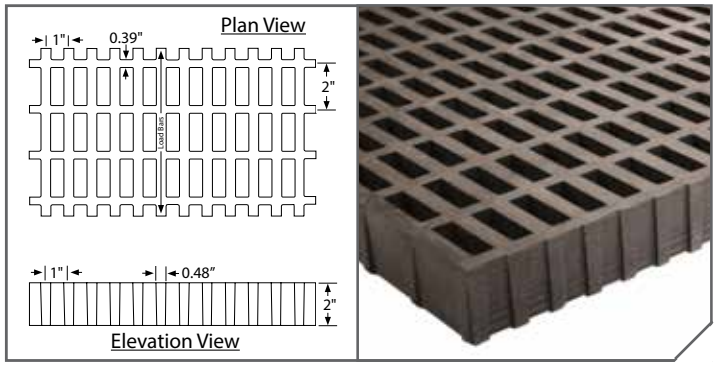
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
6	0.3"	72%	2"	4.0 psf



Section Properties per Ft of Width: A = 2.88 IN² I = 0.96 IN⁴ S= 0.94 IN³

HLC 2" Deep x 1" x 2" Rectangular Mesh

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.48"	48%	1"	8.4 psf



Section Properties per Ft of Width: A = 10.26 IN² I = 3.4 IN⁴ S= 3.27 IN³

Molded Grating Resins

Corrosion in the workplace negatively impacts your bottom line. Each year, industrial plant executives eliminate expensive corrosion-related maintenance problems by switching to Fibergrate® molded grating. Various applications present different requirements so Fibergrate offers numerous standard resin systems to address multiple needs.

Fibergrate® Standard Resins

Vi-Corr®: A superior vinyl ester resin developed for reliable performance in the toughest environments. It offers outstanding resistance to a wide range of highly corrosive situations, from caustic to acidic. In fact, no other resin system can match the performance of Vi-Corr in highly acidic environments. Vi-Corr has replaced VE-25. Color: orange or dark gray. Flame spread: ASTM E84 rating of 25 or less. Certifications: DNV GL Type Approval No. TAF000003C; ABS Type Approval No. 01-HS34733-X; meets the USCG requirements for general fire rating*.

FGI-AM®: This improved food-grade isophthalic polyester resin system offers antimicrobial properties to inhibit the growth of bacteria on the surface of the composite to protect the product itself, along with the necessary corrosion resistance to meet the requirements of the food and beverage industry. This product is intended only for non-public health uses. Color: light gray or green. Flame Spread: ASTM E84 rating of 25 or less. Certifications: USDA Approvable.

Corvex®: This newly improved isophthalic polyester resin system outperforms a number of competitive fiberglass and metal products and meets the requirements for corrosion resistance found in industrial, chemical processing and water/wastewater applications. This upgraded formulation has replaced IFR, CP-84 and FS-25 resins. Color: yellow, dark gray, or dark green. Flame Spread: ASTM E84 rating of 25 or less. Certifications: meets the USCG requirements for general fire rating*.

XFR: This eXtra Fire Retardant vinyl ester resin is recommended for use where the fire potential is high. Color: dark gray. Flame Spread: ASTM E84 rating of 10 or less, a level exceeded by no other resin system. Certifications: meets the USCG requirements for general fire rating*.

ELS: This Extremely Low Smoke resin is an acrylic-modified polyester system that is ideal for tunnel, offshore, mass transit and other confined space applications. ELS exhibits low ignitability, low smoke generation and extremely low smoke toxicity. Color: dark gray. Flame Spread: ASTM E84: flame spread index of 25 or less, a smoke developed index of 100 or less and Fuel Contribution of 0. Certifications: DNV GL Type Approval No. TAF000003C; meets the USCG requirements for general fire rating*.

Super Vi-Corr®: This family of resin systems consists of more than 30 custom formulas engineered to provide corrosion control solutions in applications that are too severe for conventional FRP and other building materials. Each Super Vi-Corr resin was engineered for the best possible performance in specific chemical and/or elevated temperature environments. These systems exist for aggressive chemical service in reagents like solvents, acidic oxidizers, chlorine dioxide, sodium hypochlorite and liquid desiccants. Certain formulas are also suited for elevated temperature applications up to 400° F. Super Vi-Corr gratings are typically used for packing hold-downs and support in environmental and process scrubber applications. Color: natural - tan to beige. Flame Spread: non fire retardant, unless specified.

***For specific requirements and questions, please contact technical services.**

Specialty

Fibergrate also offers specialty resins custom designed to meet your specific needs. These special formulations are developed to address unique and demanding services and applications, as well as niche market needs (Super Vi-Corr family of resins).

We can engineer resin systems to address temperature, flame, smoke and toxicity requirements. Our HSUV resin system was developed to address the intense UV effects found in offshore applications. Fibergrate's custom formulations with low smoke/toxicity properties were engineered with the United States Navy for below-deck marine service.

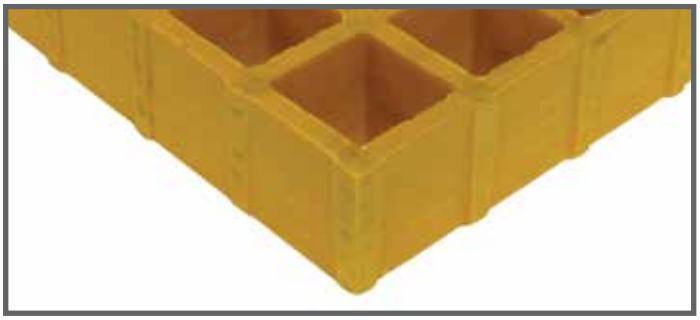
Architectural Formulations: Fibergrate's standard formulations are designed for industrial and corrosive applications. Special formulations and colors are required to meet the unique demands of architectural, fountain and pool projects. Please contact Fibergrate for additional information.

Molded Grating Surfaces and Options

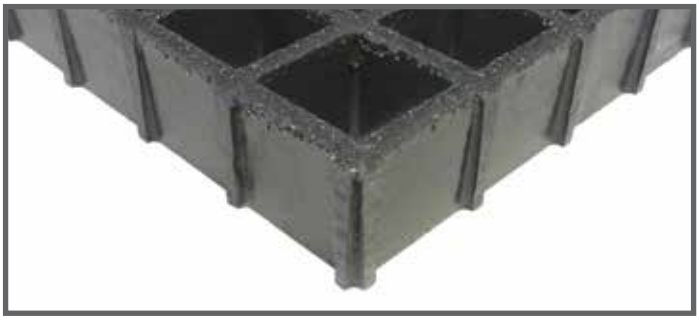
Slip Resistant Surfaces

Slips and falls are the second leading cause of industrial accidents. According to the National Safety Council, each injury related lost work day can cost $50,000 to $100,000. That is why Fibergrate developed two slip resistant surfaces for flooring and stair solutions. These surfaces include meniscus and integrally applied grit tops in the Fibergrate resins.

Available Surfaces for Molded Grating



Meniscus Top: The concave surface of Fibergrate® meniscus top grating provides superior slip resistant footing in most environments including wet or oily conditions. It is the standard surface for most Fibergrate molded gratings.



Integrally Applied Grit Top: The optional grip top of Fibergrate® grating has a quartz grit which is integrally applied, cured and sealed onto the surface providing excellent slip resistant footing.

Please note - *The following molded grating panels are **only available with the grit top** surface (meniscus top not an option):*
5/8" deep, 1"x 4" rect. mesh, 12' x 4' panel; 1-1/4" deep, 1-1/2" square mesh

Specialty Molded Products

FRP Conductive Surface: Fibergrate® Conductive Surface Grating properties are based on the requirements found in NFPA 77, Recommended Practice on Static Electricity, 2000 Edition. The specification values below are minimum values based upon the guidance of NFPA 77, and apply only when the product is clean and grounded. Fibergrate recommends a minimum of 4 grounding attachments at the corners of a section of grating.

- Average Surface Resistivity – 2.5 x 10^3ohms to 1 x 10^6 ohms per lineal foot
- Average Resistance to Ground – <10^8 ohms

Fibergrate HF Molded Grating: Fibergrate has combined a premium-grade vinyl ester resin and exotic reinforcements to manufacture the only molded grating system suitable for service in harsh hydrofluoric acid applications. HF Molded Grating, a non fire retardant system, can see service in applications that would cause premature failure in most traditional molded grating systems.

NSF® Standard 61-Certified Molded Gratings: Fibergrate now manufactures NSF Standard 61-Certified grating. NSF formulated molded grating is available by special order in dark gray and light gray colors. Molded grating is also available in all of the molded grating mesh patterns and grating thicknesses, except Ecograte® and 4 x 12 Micro-Mesh® panels. Our NSF Standard 61-Certified structural shapes, handrails, ladders and pultruded FRP components can be combined to create valuable, long-lasting stairways, walkways and platforms.

Custom Molded Products

Fibergrate has the capability to offer molded grating configurations designed/manufactured to meet your unique application requirements. Fibergrate's custom services include special molded grating configurations as well as custom hand-lay-up (HLU) products for industrial and architectural applications designed to meet your specific performance requirements.

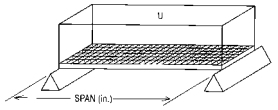
Load Tables - Fibergrate® Molded Gratings

MOLDED GRATING UNIFORM LOAD TABLES - DEFLECTION IN INCHES													
CLEAR SPAN (in)	STYLE		LOAD (psf)									MAX RECOM. LOAD (psf)	ULTIMATE CAPACITY (psf)
	DEPTH (in)	MESH (in x in)	50	65	100	150	200	300	500	1000	2000		
12	5/8	1 x 4	0.01	0.02	0.03	0.04	0.05	0.08	--	--	--	1540	7720
	3/4	1 x 4	<.01	<.01	0.01	0.01	0.02	0.02	0.04	0.08	0.15	1350	8130
	3/4	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.02	0.04	0.06	0.12	--	1000	6000
	1	3/4 x 3/4	<.01	<.01	<.01	<.01	0.01	0.02	0.03	0.06	0.12	1770	8880
	1	3/4 x 4	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.04	0.08	2800	14040
	1	1 x 4	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.05	0.09	2140	10700
	1	1-1/2 x 1-1/2	<.01	<.01	<.01	<.01	<.01	0.02	0.04	0.08	0.16	1420	7120
	1	2 x 2	<.01	0.01	0.02	0.03	0.04	0.06	--	--	--	1020	5140
	1-1/4	1-1/2 x 1-1/2	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.04	--	1110	6660
	1-1/2*	1-1/2 x 1-1/2	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.04	0.07	3200	16000
	2	2 x 2	<.01	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.04	3840	19240
18	5/8	1 x 4	0.05	0.07	0.11	0.16	0.22	--	--	--	--	680	3410
	3/4	1 x 4	0.02	0.02	0.04	0.06	0.08	0.11	0.19	--	--	600	3610
	3/4	1-1/2 x 1-1/2	0.03	0.04	0.06	0.09	0.12	0.18	0.30	--	--	440	2660
	1	3/4 x 3/4	0.01	0.02	0.03	0.04	0.06	0.08	0.14	0.28	--	780	3940
	1	3/4 x 4	0.01	0.01	0.02	0.03	0.04	0.06	0.10	0.20	0.40	1240	6200
	1	1 x 4	0.01	0.01	0.02	0.03	0.04	0.07	0.11	0.22	0.44	950	4750
	1	1-1/2 x 1-1/2	0.02	0.02	0.04	0.06	0.08	0.11	0.2	0.38	--	630	3170
	1	2 x 2	0.04	0.05	0.08	0.11	--	--	--	--	--	450	2290
	1-1/4	1-1/2 x 1-1/2	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.19	--	740	4440
	1-1/2*	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.03	0.04	0.07	0.14	0.28	1420	7100
	2	2 x 2	<.01	<.01	0.01	0.01	0.02	0.03	0.04	0.09	0.17	1850	9280
24	5/8	1 x 4	0.15	0.19	0.3	0.45	--	--	--	--	--	380	1920
	3/4	1 x 4	0.06	0.08	0.12	0.18	0.24	0.36	--	--	--	330	2030
	3/4	1-1/2 x 1-1/2	0.09	0.12	0.18	0.28	0.37	--	--	--	--	250	1500
	1	3/4 x 3/4	0.04	0.05	0.08	0.12	0.16	0.24	0.41	--	--	440	2220
	1	3/4 x 4	0.03	0.04	0.06	0.09	0.12	0.18	0.30	--	--	700	3500
	1	1 x 4	0.04	0.05	0.07	0.11	0.15	0.22	0.37	--	--	530	2670
	1	1-1/2 x 1-1/2	0.06	0.08	0.12	0.19	0.25	0.37	--	--	--	350	1780
	1	2 x 2	0.11	0.14	0.21	0.32	--	--	--	--	--	250	1280
	1-1/4	1-1/2 x 1-1/2	0.03	0.04	0.06	0.09	0.11	0.17	0.29	--	--	440	2660
	1-1/2*	1-1/2 x 1-1/2	0.02	0.03	0.04	0.06	0.08	0.12	0.21	0.42	--	800	4000
	2	2 x 2	0.01	0.01	0.02	0.03	0.04	0.06	0.10	0.20	--	1040	5220
30	5/8	1 x 4	0.32	0.41	--	--	--	--	--	--	--	240	1230
	3/4	1 x 4	0.13	0.17	0.26	0.40	--	--	--	--	--	210	1300
	3/4	1-1/2 x 1-1/2	0.17	0.23	0.35	--	--	--	--	--	--	160	960
	1	3/4 x 3/4	0.10	0.13	0.20	0.29	0.39	--	--	--	--	280	1400
	1	3/4 x 4	0.07	0.10	0.15	0.22	0.30	0.44	--	--	--	440	2200
	1	1 x 4	0.08	0.11	0.17	0.26	0.34	--	--	--	--	340	1710
	1	1-1/2 x 1-1/2	0.14	0.18	0.27	0.41	--	--	--	--	--	220	1140
	1	2 x 2	0.24	0.31	0.48	--	--	--	--	--	--	160	820
	1-1/4	1-1/2 x 1-1/2	0.08	0.10	0.15	0.23	0.30	0.46	--	--	--	280	1700
	1-1/2*	1-1/2 x 1-1/2	0.05	0.06	0.09	0.14	0.18	0.27	0.46	--	--	510	2560
	2	2 x 2	0.02	0.03	0.05	0.07	0.09	0.14	0.26	0.45	--	660	3340
36	3/4	1 x 4	0.25	0.33		--	--	--	--	--	--	150	900
	3/4	1-1/2 x 1-1/2	0.39	--	--	--	--	--	--	--	--	110	660
	1	3/4 x 3/4	0.20	0.26	0.40	--	--	--	--	--	--	190	990
	1	3/4 x 4	0.15	0.20	0.31	0.46	--	--	--	--	--	310	1500
	1	1 x 4	0.16	0.21	0.32	0.49	--	--	--	--	--	230	1180
	1	1-1/2 x 1-1/2	0.31	0.40	--	--	--	--	--	--	--	150	790
	1	2 x 2	0.46	--	--	--	--	--	--	--	--	110	570
	1-1/4	1-1/2 x 1-1/2	0.14	0.18	0.28	0.42	--	--	--	--	--	190	1180
	1-1/2*	1-1/2 x 1-1/2	0.1	0.13	0.20	0.30	0.40	--	--	--	--	350	1770
	2	2 x 2	0.04	0.06	0.09	0.13	0.18	0.26	0.44	--	--	460	2320
42	1	3/4 x 3/4	0.37	0.48	--	--	--	--	--	--	--	140	720
	1	3/4 x 4	0.28	0.37	--	--	--	--	--	--	--	220	1100
	1	1 x 4	0.33	0.43	--	--	--	--	--	--	--	170	870
	1	1-1/2 x 1-1/2	0.49	--	--	--	--	--	--	--	--	110	580
	1-1/4	1-1/2 x 1-1/2	0.26	0.34	--	--	--	--	--	--	--	140	870
	1-1/2*	1-1/2 x 1-1/2	0.17	0.22	0.34	--	--	--	--	--	--	260	1300
	2	2 x 2	0.08	0.10	0.16	0.24	0.32	0.47	--	--	--	340	1700
46	1	1 x 4	0.48	--	--	--	--	--	--	--	--	140	720
	1-1/4	1-1/2 x 1-1/2	0.37	0.49	--	--	--	--	--	--	--	120	720
48	1	3/4 x 4	0.48	--	--	--	--	--	--	--	--	170	800
	1-1/2*	1-1/2 x 1-1/2	0.28	0.37	--	--	--	--	--	--	--	200	1000
	2	2 x 2	0.14	0.18	0.28	0.42	--	--	--	--	--	260	1300
54	1-1/2*	1-1/2 x 1-1/2	0.42	--	--	--	--	--	--	--	--	150	790
	2	2 x 2	0.21	0.27	0.42	--	--	--	--	--	--	200	1030
60	2	2 x 2	0.37	0.47	--	--	--	--	--	--	--	160	830

***Also represents load data for Micro-Mesh 1-1/2" deep x 3/4" square top mesh grating (4' x 12') panel.**

NOTES:

1. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.
2. Maximum Recommended Load represents a 5:1 factor of safety on Ultimate Capacity.
3. For covered grating use a multiplier of 0.5. This is limited to gratings of 1" - 2" depths. It is not recommended covering 3/4" or 1/2" gratings.
4. Max recommended and ultimate loads do not change as a result of adding a 1/8" deep covered plate.



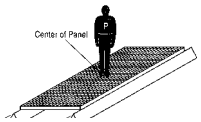
Load Tables - Fibergrate® Molded Gratings

MOLDED GRATING CONCENTRATED POINT LOAD TABLES - DEFLECTION IN INCHES									
CLEAR SPAN (in)	STYLE		LOAD (lb)						
	DEPTH (in)	MESH (in x in)	50	100	200	300	500	1000	2000
18	5/8	1 x 4	0.08	0.16	0.32	0.48	--	--	--
	1	1 x 4	<.01	0.01	0.02	0.03	0.06	0.11	0.22
	1	1-1/2 x 1-1/2	<.01	0.01	0.03	0.04	0.07	0.14	0.27
	1	2 x 2	0.04	0.08	0.16	0.24	0.40	--	--
	1-1/2*	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.03	0.06	0.13
	2	2 x 2	<.01	<.01	0.01	0.02	0.03	0.05	0.1
24	5/8	1 x 4	0.19	0.38	--	--	--	--	--
	1	1 x 4	0.01	0.02	0.05	0.07	0.12	0.24	0.49
	1	1-1/2 x 1-1/2	0.01	0.03	0.05	0.08	0.13	0.26	--
	1	2 x 2	0.1	0.19	0.38	--	--	--	--
	1-1/4	1-1/2 x 1-1/2	<.01	0.01	0.03	0.04	0.07	--	--
	1-1/2*	1-1/2 x 1-1/2	<.01	0.01	0.02	0.03	0.06	0.12	0.23
	2	2 x 2	<.01	<.01	0.01	0.02	0.04	0.07	0.14
30	5/8	1 x 4	0.37	--	--	--	--	--	--
	1	1 x 4	0.02	0.05	0.09	0.14	0.23	0.45	--
	1	1-1/2 x 1-1/2	0.03	0.05	0.1	0.15	0.26	--	--
	1	2 x 2	0.19	0.37	--	--	--	--	--
	1-1/4	1-1/2 x 1-1/2	0.01	0.03	0.05	0.08	0.13	--	--
	1-1/2*	1-1/2 x 1-1/2	0.01	0.02	0.04	0.06	0.1	0.2	--
	2	2 x 2	<.01	0.01	0.02	0.03	0.06	0.12	0.23
36	1	1 x 4	0.04	0.07	0.14	0.21	0.35	--	--
	1	1-1/2 x 1-1/2	0.03	0.07	0.14	0.2	0.34	--	--
	1	2 x 2	0.32	--	--	--	--	--	--
	1-1/4	1-1/2 x 1-1/2	0.02	0.03	0.07	0.10	0.16	--	--
	1-1/2*	1-1/2 x 1-1/2	0.02	0.03	0.06	0.09	0.15	0.3	--
	2	2 x 2	<.01	0.01	0.03	0.04	0.07	0.15	0.29
42	1	1 x 4	0.05	0.11	0.21	0.32	--	--	--
	1	1-1/2 x 1-1/2	0.06	0.12	0.23	0.35	--	--	--
	1-1/4	1-1/2 x 1-1/2	0.03	0.06	0.11	0.17	0.28	--	--
	1-1/2*	1-1/2 x 1-1/2	0.02	0.04	0.09	0.13	0.22	0.44	--
	2	2 x 2	0.01	0.02	0.05	0.08	0.12	0.25	0.5
46	1	1 x 4	0.07	0.13	0.26	0.39	--	--	--
	1	1-1/2 x 1-1/2	0.07	0.14	0.28	0.42	--	--	--
	1-1/4	1-1/2 x 1-1/2	0.04	0.07	0.15	0.22	0.37	--	--
48	1-1/2*	1-1/2 x 1-1/2	0.03	0.06	0.12	0.18	0.29	--	--
	2	2 x 2	0.01	0.03	0.06	0.09	0.15	0.3	--
54	1-1/2*	1-1/2 x 1-1/2	0.04	0.07	0.15	0.22	0.37	--	--
58	1-1/2*	1-1/2 x 1-1/2	0.04	0.08	0.17	0.25	0.42	--	--

*** Also represents load data for Micro-Mesh 1-1/2" deep x 3/4" square top mesh grating (4' x 12') panel.**

NOTES:

1. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.
2. For covered grating use a multiplier of 0.5. This is limited to gratings of 1" - 2" depths. It is not recommended covering 3/4" or 1/2" gratings.
3. Max recommended and ultimate loads do not change as a result of adding a 1/8" deep covered plate.



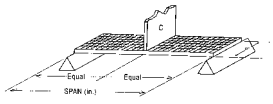
Load Tables - Fibergrate® Molded Gratings

MOLDED GRATING CONCENTRATED LINE LOAD TABLES - DEFLECTION IN INCHES											
CLEAR SPAN (in)	STYLE		LOAD (lb/ft of width)							MAX RECOM. LOAD (lb/ft of width)	ULTIMATE CAPACITY (lb/ft of width)
	DEPTH (in)	MESH (in x in)	50	100	200	300	500	1000	2000		
12	5/8	1 x 4	0.02	0.04	0.09	0.13	--	--	--	770	3860
	3/4	1 x 4	<.01	.01	0.02	0.04	0.06	0.12	--	670	4060
	3/4	1-1/2 x 1-1/2	0.01	0.02	0.04	0.06	0.10	--	--	500	3000
	1	3/4 x 3/4	<.01	<.01	0.02	0.03	0.05	0.1	0.2	880	4440
	1	3/4 x 4	<.01	<.01	0.01	0.02	0.03	0.07	0.13	1400	7020
	1	1 x 4	<.01	0.01	0.02	0.02	0.04	0.08	--	1070	5350
	1	1-1/2 x 1-1/2	<.01	0.01	0.03	0.04	0.06	0.13	--	710	3560
	1	2 x 2	0.02	0.03	0.06	0.09	--	--	--	510	2570
	1-1/4	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.03	0.06	--	110	6660
	1-1/2*	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.03	0.05	0.11	1600	8000
	2	2 x 2	<.01	<.01	<.01	0.01	0.02	0.03	0.06	1920	9620
18	5/8	1 x 4	0.06	0.12	0.23	0.35	--	--	--	510	2560
	3/4	1 x 4	0.02	0.04	0.08	0.12	0.20	--	--	450	2710
	3/4	1-1/2 x 1-1/2	0.03	0.06	0.13	0.19	0.32	--	--	330	2000
	1	3/4 x 3/4	0.01	0.03	0.06	0.09	0.15	0.29	--	590	2960
	1	3/4 x 4	0.01	0.02	0.04	0.06	0.11	0.21	0.43	930	4680
	1	1 x 4	0.01	0.02	0.05	0.07	0.12	0.23	--	710	3560
	1	1-1/2 x 1-1/2	0.02	0.04	0.08	0.12	0.2	0.41	--	470	2370
	1	2 x 2	0.04	0.08	0.16	--	--	--	--	340	1710
	1-1/4	1-1/2 x 1-1/2	0.01	0.02	0.04	0.06	0.10	--	--	540	3240
	1-1/2*	1-1/2 x 1-1/2	0.01	0.02	0.03	0.05	0.08	0.15	0.3	1060	5330
	2	2 x 2	<.01	0.01	0.02	0.03	0.05	0.09	0.18	1390	6960
24	5/8	1 x 4	0.12	0.24	0.48	--	--	--	--	380	1920
	3/4	1 x 4	0.05	0.09	0.19	0.28	0.47	--	--	330	2030
	3/4	1-1/2 x 1-1/2	0.07	0.15	0.30	044	--	--	--	250	1500
	1	3/4 x 3/4	0.03	0.07	0.13	0.2	0.33	--	--	440	2220
	1	3/4 x 4	0.02	0.05	0.10	0.15	0.24	0.48	--	700	3510
	1	1 x 4	0.03	0.06	0.12	0.18	0.3	--	--	530	2670
	1	1-1/2 x 1-1/2	0.05	0.1	0.2	0.3	0.49	--	--	350	1780
	1	2 x 2	0.09	0.17	--	--	--	--	--	250	1280
	1-1/4	1-1/2 x 1-1/2	0.02	0.05	0.09	0.14	0.23	--	--	460	2760
	1-1/2*	1-1/2 x 1-1/2	0.02	0.03	0.07	0.1	0.17	0.33	--	800	4000
	2	2 x 2	0.01	0.02	0.03	0.05	0.08	0.16	--	1040	5220
30	5/8	1 x 4	0.2	0.41	--	--	--	--	--	300	1530
	3/4	1 x 4	0.08	0.17	0.34	--	--	--	--	270	1620
	3/4	1-1/2 x 1-1/2	0.11	0.22	0.45	--	--	--	--	200	1200
	1	3/4 x 3/4	0.06	0.13	0.25	0.38	--	--	--	350	1770
	1	3/4 x 4	0.05	0.09	0.19	0.28	0.47	--	--	560	2800
	1	1 x 4	0.05	0.11	0.22	0.32	--	--	--	420	2140
	1	1-1/2 x 1-1/2	0.09	0.18	0.35	--	--	--	--	280	1420
	1	2 x 2	0.15	0.31	--	--	--	--	--	200	1020
	1-1/4	1-1/2 x 1-1/2	0.05	0.10	0.19	0.29	0.49	--	--	350	2130
	1-1/2*	1-1/2 x 1-1/2	0.03	0.06	0.12	0.18	0.29	--	--	640	3200
	2	2 x 2	0.01	0.03	0.06	0.09	0.14	0.29	--	830	4180
36	5/8	1 x 4	0.32	--	--	--	--	--	--	250	1270
	3/4	1 x 4	0.13	0.27	--	--	--	--	--	220	1350
	3/4	1-1/2 x 1-1/2	0.21	0.42	--	--	--	--	--	160	1000
	1	3/4 x 3/4	0.11	0.21	0.42	--	--	--	--	290	1480
	1	3/4 x 4	0.08	0.16	0.33	0.49	--	--	--	460	2340
	1	1 x 4	0.09	0.17	0.34	--	--	--	--	350	1780
	1	1-1/2 x 1-1/2	0.16	0.33	--	--	--	--	--	230	1180
	1	2 x 2	0.25	0.49	--	--	--	--	--	170	850
	1-1/4	1-1/2 x 1-1/2	0.07	0.15	0.30	0.45	--	--	--	290	1770
	1-1/2*	1-1/2 x 1-1/2	0.05	0.11	0.21	0.32	--	--	--	530	2660
	2	2 x 2	0.02	0.05	0.09	0.14	0.23	0.47	--	690	3480
42	1	3/4 x 3/4	0.17	0.34	--	--	--	--	--	250	1260
	1	3/4 x 4	0.13	0.26	--	--	--	--	--	400	2000
	1	1 x 4	0.15	0.3	--	--	--	--	--	300	1520
	1	1-1/2 x 1-1/2	0.26	0.45	--	--	--	--	--	200	1010
	1	2 x 2	0.38	--	--	--	--	--	--	140	730
	1-1/4	1-1/2 x 1-1/2	0.12	0.24	0.48	--	--	--	--	250	1520
	1-1/2*	1-1/2 x 1-1/2	0.08	0.16	0.32	0.47	--	--	--	450	2280
	2	2 x 2	0.04	0.07	0.14	0.22	0.36	--	--	590	2980
46	1	1 x 4	0.20	0.40	--	--	--	--	--	270	1390
	1	1-1/2 x 1-1/2	0.32	--	--	--	--	--	--	180	900
	1-1/4	1-1/2 x 1-1/2	0.16	0.31	--	--	--	--	--	230	1390
48	1	3/4 x 3/4	0.25	--	--	--	--	--	--	220	1110
	1	3/4 x 4	0.19	0.39	--	--	--	--	--	350	1750
	1-1/2*	1-1/2 x 1-1/2	0.11	0.23	0.45	--	--	--	--	400	2000
	2	2 x 2	0.06	0.11	0.22	0.33	--	--	--	520	2610
54	1-1/2*	1-1/2 x 1-1/2	0.15	0.3	--	--	--	--	--	350	1770
	2	2 x 2	0.07	0.15	0.3	0.45	--	--	--	460	2320
60	2	2 x 2	0.12	0.23	0.47	--	--	--	--	410	2090

*** Also represents load data for Micro-Mesh 1-1/2" deep x 3/4" square top mesh grating (4' x 12') panel.**

NOTES:

1. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.
2. Maximum Recommended Load represents a 5:1 factor of safety on Ultimate Capacity.
3. For covered grating use a multiplier of 0.5. This is limited to gratings of 1" - 2" depths. It is not recommended covering 3/4" or 1/2" gratings.
4. Max recommended and ultimate loads do not change as a result of adding a 1/8" deep covered plate.

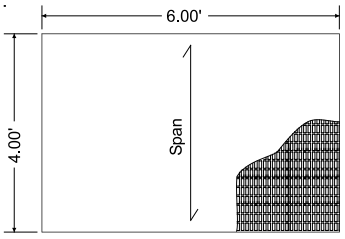


High Load Capacity Grating Details

Molded High Load Capacity (HLC) grating is yet another product in the arsenal of engineered fiberglass reinforced plastic (FRP) solutions by Fibergrate. While capitalizing on most of the traditional benefits of molded grating products — high strength, corrosion resistance, fire retardancy, non conductivity and low maintenance — this specially manufactured molded FRP product has been engineered to carry forklift loads that traditional molded FRP grating products are unable to support.

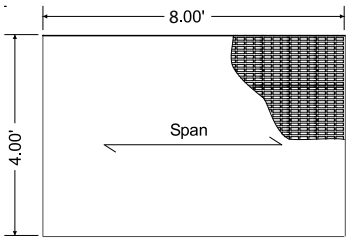
With a 48% open surface area, Fibergrate molded HLC grating is available in a 6' x 4' or 4' x 8' panel size with depths of 1-1/2" and 2". High load capacity molded grating is now available in Fibergrate's Vi-Corr®, Corvex® and FGI-AM® resin systems (see resin details for color options). Surface options include either a smooth surface or an Aluminum Oxide (A/O) grit surface. Fibergrate molded HLC grating merits an ASTM E-84 flame spread rating of 25 or less and a Class 1 Fire Rating.

6' x 4' Finished Panel Size



Note:
Load carrying bars are oriented across the narrow (4') dimension of the panel. Panels furnished with closed bars all sides.

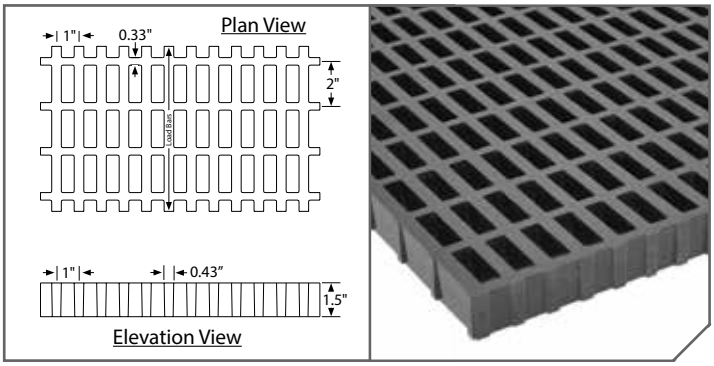
4' x 8' Finished Panel Size



Note:
Load carrying bars are oriented across the long (8') dimension of the panel. Panels furnished with closed bars all sides.

HLC 1-1/2" Deep x 1" x 2" Rectangular Mesh

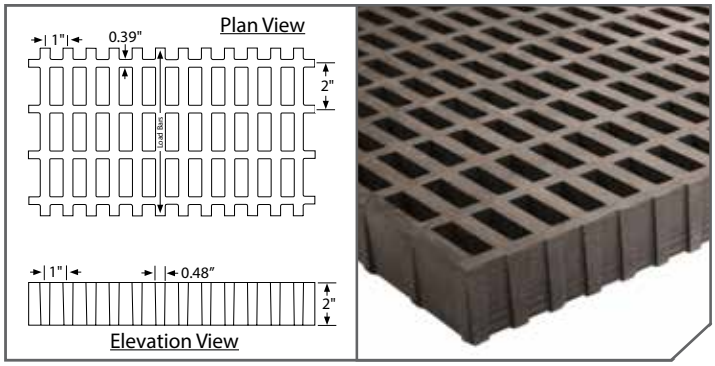
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.43"	48%	1"	6.2 psf



Section Properties per Ft of Width: A = 7.45 IN² I = 1.39 IN⁴ S= 1.80 IN³

HLC 2" Deep x 1" x 2" Rectangular Mesh

# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.48"	48%	1"	8.4 psf



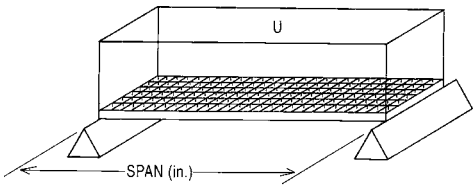
Section Properties per Ft of Width: A = 10.26 IN² I = 3.4 IN⁴ S= 3.27 IN³

Allowable Spans for Vehicular Loads

	Wheel Load (lb) - 1/2 Axle Load +30% Impact	Load Distribution		Allowable Span[2,3]	
		Parallel To Axle[1]	Perpendicular To Axle	1-1/2" Deep HLC Molded Grating	2" Deep HLC Molded Grating
AASHTO Standard Truck[4] / 32,000 lb Axle Load Dual Wheels(*formerly AASHTO H-20)	20,800	20" + 4"	8"	1' - 2"	1' - 5"
Automobile Traffic / 5,000 lb Vehicle 1,500 lb Load / 55% Drive Axle Load	2,200	8" + 4"	8"	2' - 2"	2' - 8"
5 ton Capacity Forklift / 14,400 lb Vehicle 24,400 lb Total Load / 85% Drive Axle Load	13,480	11" + 4"	11"	1' - 1"	1' - 5"
3 Ton Capacity Forklift / 9,800 lb Vehicle 15,800 lb Total Load / 85% Drive Axle Load	8,730	7" + 4"	7"	1' - 0"	1' - 4"
1 Ton Capacity Forklift / 4,200 lb Vehicle 6,200 lb Total Load / 85% Drive Axle Load	3,425	4" + 4"	4"	1' - 7"	2' - 1"

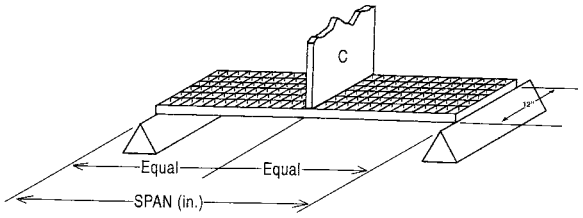
Notes:
1. Load is carried by the grating load bars immediate under wheel + four additional load bars adjacent to wheel.
2. Allowable Span is based on a 0.25" maximum deflection and a Factor of Safety of 2.5. Other criteria may be required by certain construction codes. Check code requirements to determine design criteria.
3. **ALLOWABLE SPAN IS STRONGLY DEPENDENT ON WHEEL WIDTH AND VEHICLE WEIGHT/LOAD CAPACITY.** If your application varies from the values given on this table, contact Fibergrate Engineering for application assistance.
4. Load based on the AASHTO Standard Truck Load as defined in AASHTO LRFD Bridge Design Specifications, 2nd Ed. This does not imply that the allowable span meets the deflection requirements of this specification.

HLC Grating Load Charts



Uniform Load Table - Deflection in Inches

Span (in)	Style		UNIFORM LOAD (psf)										MAXIMUM RECOMMENDED LOAD (psf)	ULTIMATE CAPACITY (psf)
	Depth (in)	Mesh (in)	100	200	300	400	500	600	700	800	900	1000		
12	1-1/2	1 x 2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	28000	70000
	2	1 x 2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	31200	78000
18	1-1/2	1 x 2	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	12400	31000
	2	1 x 2	<0.01	<0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	14500	36200
24	1-1/2	1 x 2	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.11	6800	17000
	2	1 x 2	0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.05	0.05	0.06	9000	22500
30	1-1/2	1 x 2	0.03	0.05	0.08	0.11	0.13	0.16	0.18	0.21	0.24	0.26	4300	10700
	2	1 x 2	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.11	0.13	0.14	5800	14500
36	1-1/2	1 x 2	0.05	0.10	0.16	0.21	0.26	0.31	0.37	0.42	0.47	--	3000	7500
	2	1 x 2	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30	4000	10000
42	1-1/2	1 x 2	0.10	0.19	0.29	0.39	0.48	--	--	--	--	--	2200	5500
	2	1 x 2	0.06	0.11	0.17	0.22	0.28	0.33	0.39	0.44	0.50	--	2900	7200



Concentrated Line Load Table - Deflection in Inches

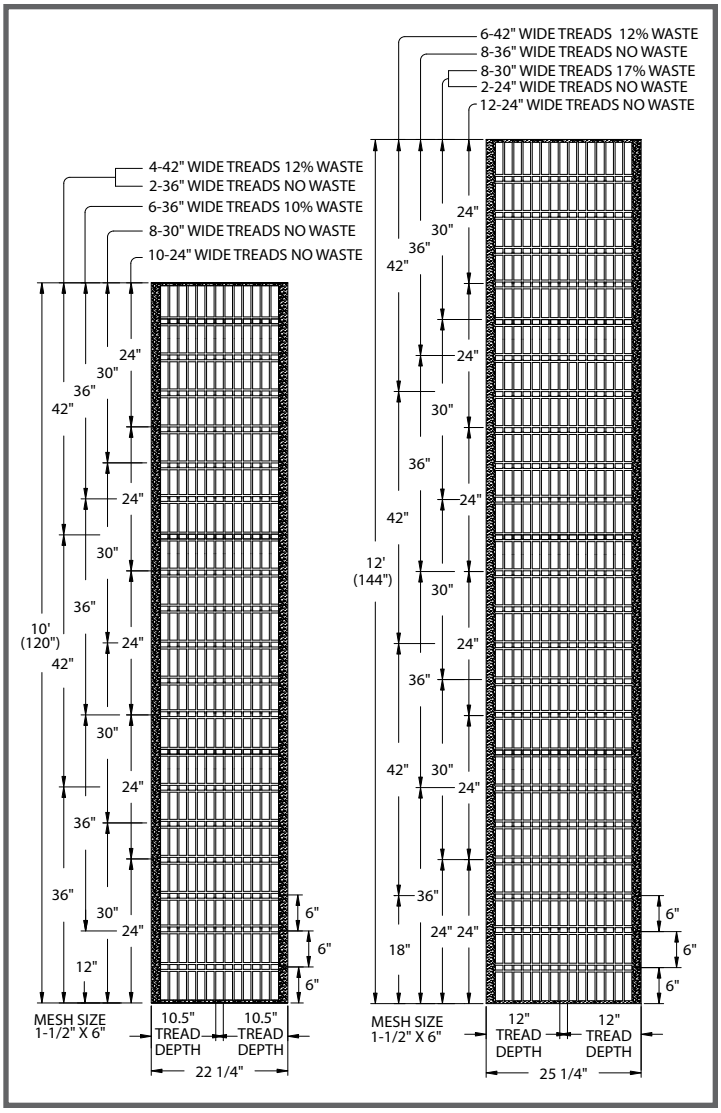
Span (in)	Style		Concentrated Line LOAD (lb/ft of width)										MAXIMUM RECOMMENDED LOAD (lb/ft)	ULTIMATE CAPACITY (lb/ft)
	Depth (in)	Mesh (in)	100	200	300	500	1000	2000	3000	4000	5000	6000		
12	1-1/2	1 x 2	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.04	0.06	0.07	0.08	14000	35000
	2	1 x 2	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.04	0.05	15600	39000
18	1-1/2	1 x 2	<0.01	<0.01	0.01	0.02	0.04	0.07	0.11	0.15	0.18	0.22	9300	23200
	2	1 x 2	<0.01	<0.01	0.01	0.01	0.02	0.04	0.06	0.08	0.11	0.13	10800	27000
24	1-1/2	1 x 2	<0.01	0.02	0.03	0.04	0.09	0.17	0.26	0.34	0.43	--	6800	17000
	2	1 x 2	<0.01	0.01	0.01	0.02	0.05	0.09	0.14	0.19	0.24	0.28	9000	22500
30	1-1/2	1 x 2	0.02	0.03	0.05	0.08	0.17	0.34	--	--	--	--	5400	13500
	2	1 x 2	0.01	0.02	0.03	0.05	0.09	0.18	0.28	0.37	0.46	--	7200	18000
36	1-1/2	1 x 2	0.03	0.06	0.08	0.14	0.28	--	--	--	--	--	4500	11200
	2	1 x 2	0.02	0.03	0.05	0.08	0.16	0.32	0.48	--	--	--	6000	15000
42	1-1/2	1 x 2	0.04	0.09	0.13	0.22	0.44	--	--	--	--	--	3800	9500
	2	1 x 2	0.03	0.05	0.08	0.13	0.25	0.50	--	--	--	--	5100	12700

NOTES:
1. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
2. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
3. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
4. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

Stair Solutions

Stair Treads

Fibergrate provides several slip and corrosion resistant products for your stairway safety needs. Our complete stair solution line includes panels in a one-piece molded configuration for new or replacement steps; covered stair treads to replace deteriorating concrete steps; or stair tread covers designed to add slip and corrosion resistance to existing metal, concrete or wood steps. Stair treads are available in a one-piece molded configuration engineered to exceed OSHA and other model building code standards for safety, strength, durability and corrosion resistance.

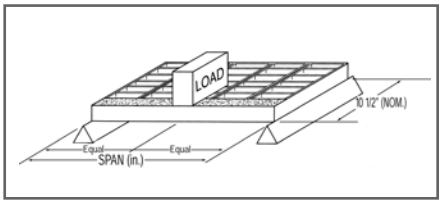


Fibertred® Panels

Fibertred stair treads are available in the same high performance resin formulations as Fibergrate grating. Unique cutting channels spaced at 6" intervals provide efficient utilization when custom fitting treads into stairways. These channels also ensure that all standard stair tread widths are terminated with closed ends. Up to five 24" wide stair treads can be cut from each side of a single panel. A 1-1/2" wide gritted strip is molded in on both sides of the panel for superior slip resistance.

Fibertred® Load Table

Load (lb)	Span (in)	18	24	30	36	42	48
	Span/150	0.12	0.16	0.20	0.24	0.28	0.32
250		0.03	0.05	0.09	0.16	0.25	0.41
500		0.06	0.10	0.19	0.32	0.50	--

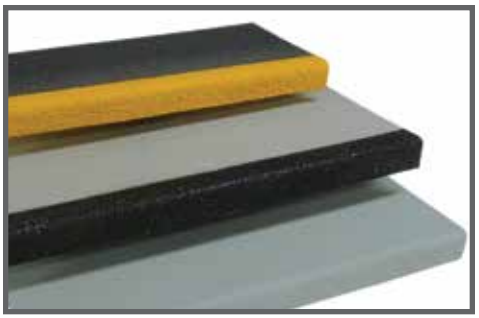


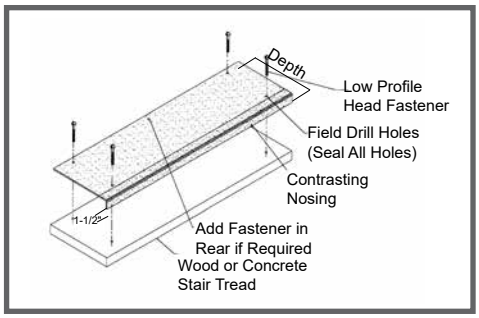
NOTES:
1. It is suggested that stair tread deflections be limited to Span/150. Deflections based on this ratio are at the top of the table.
2. Deflections in the body of the table are for concentrated loads of both 250 and 500 lb. A concentrated load is applied at the center line of the tread, over a width of 4" and a depth of 6", starting at the nosing edge to simulate the landing of a foot.
3. Stair treads with square mesh or for longer spans are available by custom order. Please contact Fibergrate for more information.

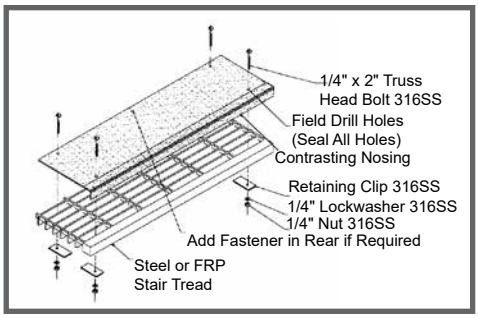
Stair Tread Covers

Fiberplate® stair tread covers are a convenient way to provide solid slip resistant footing for existing stairs. Stair tread covers may be installed over wood, concrete or metal steps. Standard color is dark gray with a highly visible safety yellow nosing and light gray for architectural applications.

An integral aluminum oxide grit-top surface provides secure footing for maximum safety and a highly durable tread. Reinforced with a woven glass mat for durability and impact resistance, these tread covers come in 8", 9", 10", 11" and 12" depths. The standard thickness is 1/8", with 1/4" thick covers available for heavy duty applications. Standard 12' panels are easily cut to size during installation, or are available precut to custom lengths. Also available in a phosphorescent glow in the dark coating for the nosing area.







Covered Stair Treads / Load Table

Designed as an alternative to high-maintenance concrete or slippery metal steps, covered stair treads are designed for commercial and architectural applications where aesthetics and low maintenance are important considerations. Covered stair treads are available in Corvex® resin and have an integral grit top which comes in two textures — coarse and fine which is suitable even for barefoot traffic. They can withstand many corrosive environments including salt, continuous moisture and constant cleaning. The tread is 80 percent lighter than that of a precast concrete step. Simple wood working tools with abrasive blades make for easy fabrication and installation.

Installed with standard WLP clip assembly

Tread Type (Depth x Width)	Load (lb)	Span (in) L/D=150	30 0.2	36 0.24	42 0.28	48 0.32	54 0.36	60 0.4
1-5/8" x 10-5/8"	250		0.08	0.15	0.23	0.35	--	--
	500		0.17	0.29	0.47	--	--	--
1-5/8" x 12-1/4"	250		0.07	0.11	0.18	0.27	0.37	--
	500		0.13	0.23	0.36	--	--	--
2-1/8" x 10-1/4"	250		0.04	0.06	0.09	0.14	0.20	0.27
	500		0.07	0.13	0.19	0.28	0.39	--
2-1/8" x 12-1/4"	250		0.03	0.05	0.08	0.12	0.17	0.23
	500		0.05	0.10	0.17	0.24	0.33	0.46

Optional Hidden Hold Down System

Contact your local Fibergrate sales person for more information. Visit www.fibergrate.com or call us at 800-527-4043.

Floor Plate

Fiberplate® is manufactured by building up multiple layers of fiberglass reinforcement and specially-formulated resins. The result of this process is a solid composite panel offering both bidirectional strength and corrosion resistance.

This specially designed product is nonporous, is easily cleaned by a high pressure washer and can withstand cleaning solutions. Available in all molded grating resin systems (see page 7). Standard panel sizes are 3' x 10', 4' x 8', 4' x 12' and 5' x 10'. *(Custom sizes also available.)*

Fiberplate® Load and Deflection Data

*Important: 1/8" Plate designed for use as covering only; not recommended for load bearing service.

Depth (in)	Span (in)	Concentrated Load-Full Panel							Uniform Load-Full Panel							Concentrated Load Required to Produce Deflection Equal to 1% of Span (lb)
		Maximum Load		Load (lb)					Maximum Load		Load (psf)					
		Norm[1]	Firm[2]	100	250	500	750	1000	Norm[1]	Firm[2]	25	50	75	100	150	
1/4	12	229	135	.047	.104	.199	.294	.392	336	205	.010	.014	.022	.029	.043	300 lb
	18	196	117	.079	.181	.351	--	--	99	54	.056	.085	.115	.145	.204	256 lb
	24	181	116	.102	.268	--	--	--	28	15	.177	.327	.476	--	--	223 lb
	36	84	55	.350	--	--	--	--	--	--	--	--	--	--	--	103 lb
3/8	12	515	325	.018	.045	.093	.140	.190	480	300	<.01	--	.016	.020	.030	667 lb
	18	455	288	.028	.077	.158	.239	.320	146	91	.026	.050	.075	.099	.148	584 lb
	24	259	149	.100	.195	.355	--	--	64	40	.075	.150	.225	.300	.449	308 lb
	36	154	98	.178	.467	--	--	--	28	17	.258	--	--	--	--	192 lb
1/2	12	960	600	<.01	.025	.048	.075	.100	654	410	<.01	--	.012	.016	.022	1250 lb
	18	853	543	.011	.011	.038	.081	.125	169	26	.125	.041	.057	.074	.106	1184 lb
	24	508	313	.043	.098	.1490	.282	.374	118	72	.051	.089	.127	.165	.241	631 lb
	36	260	157	.127	.283	--	--	--	49	30	.153	.297	.441	--	--	318 lb
3/4	12	3965	2469	.003	.007	.013	.019	.024	1944	1215	.0012	.0025	.0037	.0049	.0074	4750 lb
	18	1798	1123	.009	.024	.043	.063	.079	576	360	.002	.011	.018	.025	.039	2140 lb
	24	1412	882	.019	.042	.075	.106	.133	243	152	.031	.054	.075	.093	.131	1700 lb
	36	1108	693	.027	.066	.129	.188	.243	85	53	.078	.134	.187	.231	.321	1440 lb

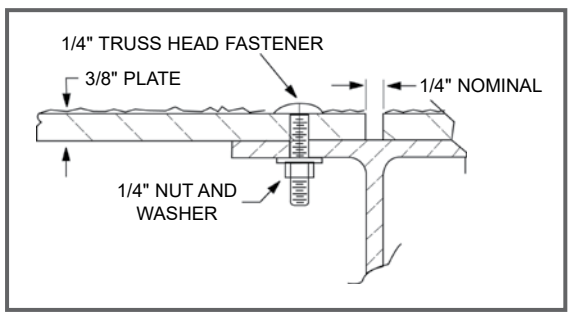
Notes:
(1) Normal load is the load which will produce a L/D of 125 or .375" Maximum.
(2) Firm is the load which will produce a L/D of 200 or .25" Maximum.
(3) Loads for Short Span Normal and Firm have been limited to allow for shearing effects.
(4) Clear Span is 2" less than width of grating.

Plate Weight

1/8" - 1.3 psf, 1/4" - 2.6 psf, 3/8" - 3.9 psf, 1/2" - 5.2 psf, 3/4" - 7.8 psf

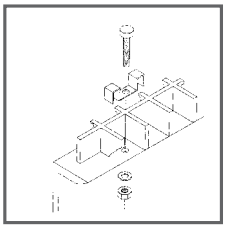
Installation

- Install using ordinary hand tools and masonry blade
- Fastener assembly kits may be ordered directly from Fibergrate
- Space fasteners a minimum of 12"-24" apart
- On concrete, use masonry bit and concrete anchor bolts
- On steel, wood or FRP, drill and bolt with truss head assembly
- It is recommended that all cut edges and holes be sealed

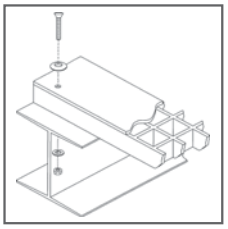


Accessories & Complementary Products

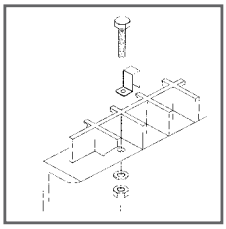
Clip Assemblies For Molded Products



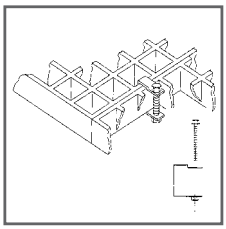
TYPE M HOLD DOWN CLIPS: Secure panels to a support in the same manner as Type J Clips, but designed to use two adjacent grating bars for a more secure fit. Similar in design to metal grating saddle clips.



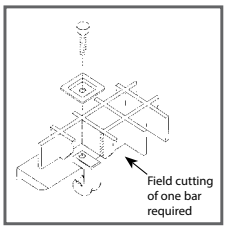
TYPE WLP STRUCTURAL CLIPS: Secure covered grating or plate to a structure. (Also available in 304 SS)



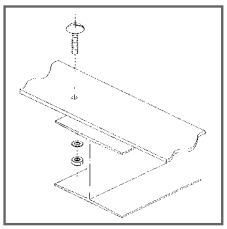
TYPE J HOLD DOWN CLIPS: Secure grating panels to support frames.



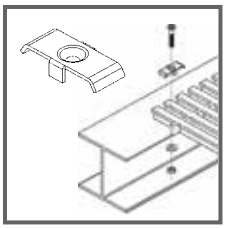
TYPE F END PANEL CLIPS: Provide a simplified method for joining factory edges of adjacent abutting panels.



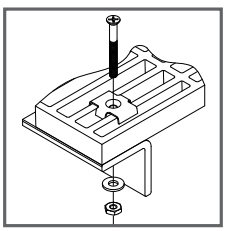
TYPE G HOLD DOWN CLIPS: Attach grating to any structural member flange, 3/4" or smaller in thickness, with no drilling required.



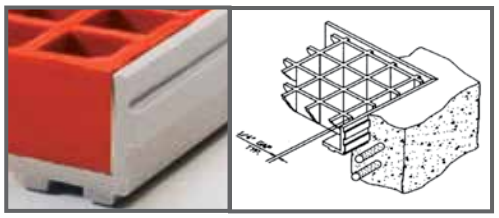
TYPE H (TRUSS HEAD) STRUCTURAL CLIPS: Secure plate to a structure.



TYPE EI HOLD DOWN CLIP: Secure panels to a support.



TYPE E-1 HOLD DOWN CLIP: Secure panels to a support.



EZ ANGLE® EMBEDMENT ANGLE: Is precision-designed for solid seating of 1", 1-1/2", 2", and 3" deep gratings. EZ Angle embedment angle is stocked in 20' lengths for immediate shipment. *For animated installation instructions, visit our resource center at www.fibergrate.com.*

Fibergrate® Pedestals

Made with the same adherence to quality as all Fibergrate products, specially designed pedestals for square mesh molded grating are manufactured to provide safe support for elevated flooring. Pedestal supported floors are versatile; they can be modified or moved from place to place as necessary and pedestals are generally much less expensive than beam support systems. Adjustable pedestals are available in heights from 3-1/4" to 72" (with additional bracing). Pedestals are available with 1-1/2" or 2" single heads or quad heads to fit Fibergrate grating.

Grating Edge Ramps

Fibergrate's new standard grating edge ramps can be used with 1", 1-1/2", and 2" deep Fibergrate® molded grating. These grating edge ramps are offered in dark gray or yellow and have a quartz grit top surface. Grating edge ramps are stocked in 12' lengths; however, they can be easily fabricated to meet any length requirements. *For additional details, please visit our website at:* *http://fibergrate.com/products/accessories-complementary-products/grating-edge-ramps/*

Fibergrate® molded grating with edge ramp

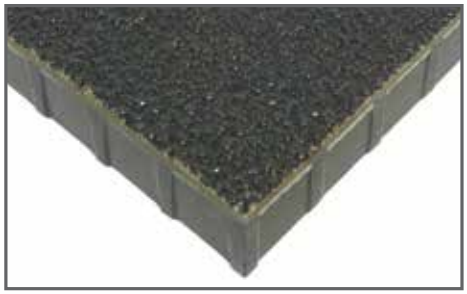
Sealing and Bonding Kits

To maintain corrosion resistance and structural integrity, Fibergrate offers epoxy clear coating in a spray can* for protecting the exposed ends of cut panels and other components. One spray can coats approximately 100 linear feet of cut grating. Bonding kits come in a natural, unpigmented color.

**1/2 pint sealing kits are still available with minimum order requirements (each 1/2 pint covers 20-40 linear feet).*

Other Molded Products

Covered Grating



Covered grating is often used in loading and storage areas. Other applications include food processing facilities where covered grating walkways prohibit contamination to conveyor or work surfaces below; facilities where covered grating provides a walking surface and controls subsurface odors; walkways over tank tops and vats; and solid flooring where narrow heels might present a tripping hazard with open mesh grating. Fibergrate® covered grating includes a fiberglass gritted plate cover secondarily affixed to a molded grating panel. Covered grating offers a strong, level surface for foot or cart traffic and provides approximately 50% higher stiffness values than that of open mesh grating. Its standard grit top cover assures secure footing.

Fibergrate covered grating consists of a 1/8" or 1/4" deep plate applied to standard Fibergrate grating depths. Fibergrate covered grating is available in Corvex®, Vi-Corr®, FGI-AM®, ELS and XFR resin systems.

Notes:

1. *Type WLP Hold Down Clips are recommended to secure Fibergrate covered grating panels to structural supports in order to eliminate potential damage to the covered grating. Fibergrate provides 8 WLP Hold Down clips per panel.*
2. *For load data see pages 9-11 and use a multiplier of 0.5. This is limited to gratings of 1" - 2" depths. It is not recommended covering 3/4" or 1/2" gratings.*

Work Platform Solutions

Work station platforms from Fibergrate are available in a variety of styles, heights and sizes to provide a safe, slip resistant, corrosion resistant and ergonomic solution for your facility. From portable one-piece workstands to fixed large-scale access platforms, Fibergrate will help you find the perfect fit for your working environment.

Safe-T-Stand®: Safe-T-Stand platforms have a grit top which provides a safe, slip resistant surface, while their resilient design eases the strain on feet, legs and back muscles. Stands are available in 2", 4", 6", 8" and 10" heights and have skid resistant rubber feet for added safety. The proven strength, impact resistance and overall durability of FRP construction make Safe-T-Stand platforms equally usable in any process industry or manufacturing environment. Standard Safe-T-Stand platforms are manufactured using a specially designed, USDA-approvable, food-grade resin for food and beverage processing plants. The full line of Fibergrate resin systems is available for non-food applications.

Rubber Feet for Molded Grating: Specially designed rubber feet are an economical way to create a raised, ergonomic grating workmat for use around machines, lathes and in wet areas. With the rubber feet, facilities have a cost-effective solution to elevate grating needed for drainage or waterflow and safe, ergonomic platforms. The feet raise the grating 1/2" above the ground, and along with the open mesh, protect workers by allowing chips and fluids to fall below the standing surface eliminating slip and fall hazards.

Fibergrate® Custom Platform Solutions: Fibergrate's turnkey approach to providing custom platform solutions include design, fabrication and installation services. From simple portable workstations to complex multifaceted platforms, the experienced personnel at Fibergrate can provide your facility with the perfect custom platform solution.

Chemical Resistance Guide

Chemical Environment	% Concentration	Temp °F	Fibergrate® Molded				Safe-T-Span® Pultruded	
			Vi-Corr®	Corvex®	FGI-AM®	XFR	VEFR	ISOFR
Acetic Acid	50	MAX	C	C	C	I	C	C
Acetone	100	75	S	I	I	I	I	N
Alcohols	100	120	C	I	I	S	I	I
Alum	ALL	MAX	C	C	C	C	C	C
Aluminum Chloride	ALL	MAX	C	C	C	C	C	C
Aluminum Fluoride	20	75	C	I	I	I	I	I
Ammonium Hydroxide	30	75	C	N	N	N	I	N
Ammonium Salts-Neutral	ALL	120	C	C	C	S	C	S
Ammonium Salts-Aggressive	ALL	75	S	I	I	I	T	N
Aromatic Solvents	ALL	75	T	N	N	N	N	N
Barium Salts	ALL	MAX	C	C	C	C	C	C
Benzene	100	140	I	I	I	I	I	N
Black Liquor (Pulp Mill)	ALL	MAX	C	I	I	I	I	N
Bleach Liquor (Pulp Mill)	ALL	MAX	C	I	I	N	I	N
Calcium Hydroxide	25	MAX	C	S	S	I	S	I
Calcium Hypochlorite	ALL	MAX	C	I	I	I	I	N
Calcium Salts	ALL	MAX	C	C	C	C	C	C
Carbon Tetrachloride	100	75	C	I	I	S	S	N
Chlorinated Hydrocarbons	100	75	T	T	T	N	T	T
Chlorine Dioxide	SAT	140	C	N	N	N	S	N
Chlorine Water	SAT	120	C	I	I	I	I	N
Chlorine, Wet	SAT	MAX	C	N	N	N	N	N
Chlorobenzene	100	75	S	N	N	N	N	N
Chlorobenzene	ALL	Up to 100	C	N	N	N	N	N
Chloroform	100	75	N	N	N	N	N	N
Chromic Acid	50	140	S	S	S	N	I	N
Citric Acid	ALL	MAX	C	C	C	C	C	C
Copper Cyanide Plating	ALL	125	C	S	S	N	S	I
Copper Salts	ALL	MAX	C	C	C	C	C	C
Crude Oil (Sweet or Sour)	ALL	MAX	C	C	C	C	C	C
Dichlorobenzene	100	75	T	N	N	N	N	N
Ethers		75	T	N	N	N	N	N
Ferric Chloride	100	MAX	C	C	C	C	C	C
Ferric Salts	ALL	MAX	C	C	C	C	C	C
Fluoride Salts+HCl	ALL	75	C	S	S	I	I	N
Fluosilicic Acid	10	75	C	S	S	S	S	I
Formaldehyde	37	150	C	I	I	I	S	I
Formic Acid	25	100	C	S	S	I	S	I
Fuel (Diesel, Jet, Gasoline)	ALL	100	C	C	C	C	C	C
Glycerine	100	MAX	C	C	C	C	C	C
Green Liquor (Pulp Mill)	ALL	MAX	C	N	N	N	I	N
Hydrobromic Acid	48	MAX	S	S	S	I	I	N
Hydrochloric Acid	10	MAX	C	S	S	C	S	S
Hydrochloric Acid	30	MAX	C	S	S	I	I	I
Hydrochloric Acid (concentrated)	ALL	Up to 180	I	N	N	N	N	N
Hydrocyanic Acid	ALL	MAX	C	I	I	I	S	I
Hydrofluoric Acid	20	75	S	N	N	N	N	N
Hydrogen Peroxide	30	75	C	N	N	I	S	N
Lactic Acid	100	MAX	C	C	C	C	C	C
Lime Slurry	SAT	MAX	C	C	C	C	C	C
Lithium Chloride	SAT	MAX	N	N	N	N	N	N
Lithium Salts	ALL	MAX	C	C	C	C	T	T
Magnesium Salts	ALL	MAX	C	C	C	C	C	C
Maleic Acid	100	MAX	C	S	S	C	S	I
Mercury Chloride	100	MAX	C	C	C	C	C	C
Nickel Salts	ALL	MAX	C	C	C	C	C	C
Nitric Acid	20	120	C	S	S	I	I	I
Nitric Acid	35	100	C	N	N	I	I	N
Nitric Acid	40	Ambient	I	N	N	N	N	N
Nitric, Hydrofluoric	20:2	75	I	N	N	N	N	N
Nitrous Acid	10	75	C	C	C	C	C	C
Ozone for Sewage Treatment		100	C	C	C	C	C	C
Perchloroethylene	100	75	S	N	N	I	I	N
Phenol	10	75	C	N	N	N	I	N
Phenol	88	Ambient	S	N	N	N	N	N
Phosphoric Acid	85	MAX	C	C	C	C	C	S
Phosphoric Acid, Super	115	MAX	C	I	I	S	S	N
Potassium Hydroxide	10	120	C	I	I	N	S	N
Potassium Salts	ALL	MAX	C	C	C	C	C	C
Silver Nitrate	100	MAX	C	C	C	C	C	C
Sodium Cyanide	ALL	75	C	I	I	I	S	I
Sodium Hydroxide	50	MAX	C	I	I	N	I	N
Sodium Hydroxide	10	MAX	C	N	N	N	N	N
Sodium Hypochlorite (Stable)	10	100	C	S	S	S	S	I
Sodium Salts-Neutral	ALL	MAX	C	C	C	C	C	C
Sodium Salts-Aggressive	ALL	75	S	I	I	I	T	N
Sulfur Dioxide	SAT	MAX	C	S	S	S	S	S
Sulfuric Acid	25	MAX	C	S	S	S	S	I
Sulfuric Acid	50	MAX	C	S	S	S	S	N
Sulfuric Acid	75	100	C	I	I	I	I	N
Toluene	100	120	S	I	I	N	I	N
Trichloroethane1,1,1	ALL	75	S	I	I	I	I	N
Trisodium Phosphate	50	MAX	C	I	I	I	I	N
Water (Fresh, Salt, Moderate D.I.)	100	MAX	C	C	C	C	C	C
Wet Chlorine/Hydrochloric Acid	10-20	Up to 350	S	N	N	N	N	N
White Liquor (Pulp Mill)	ALL	MAX	C	I	I	I	S	N
Zinc Chloride Plating	ALL	75	C	S	S	S	S	N
Zinc Salts	100	MAX	C	C	C	C	C	C

C - Continuous exposure of the grating to the Chemical Environment listed at the temperature listed.
S - Frequent exposure of the grating to splashes and spills from the Chemical Environment listed with that environment at the temperature listed.
I - nfrequent exposure of the grating to splashes and spills from the Chemical Environment listed with that environment at the temperature listed and the spill immediately cleaned up or washed from the grating.
N - Not recommended for the concentrations and temperatures listed.
T - Test

Consult Fibergrate for corrosion recommendations at concentrations, temperatures or chemicals not listed in this guide.
MAX TEMP is 180˚F for ViCorr and Pultruded VEFR; 150˚ for Corvex, FGI-AM, XFR and Pultruded ISOFR.
The information in this Corrosion Guide is correct to the best of Fibergrate's knowledge. It is based on extensive experience with fiberglass grating in corrosive applications. Because actual use conditions differ and mixtures of corrosives will occur in service, the end user must test for use under actual conditions. Fibergrate's responsibility for claims arising from breach of warranty, negligence, or otherwise is limited to the purchase price of the material sold by Fibergrate. Test coupons are available upon specific request.

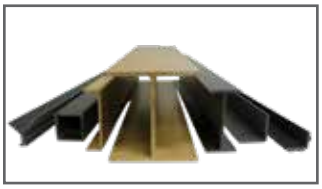
Fibergrate Products & Services

Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.

Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.

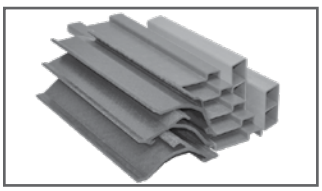


Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.

Dynarail® & DynaRound™ Guardrail, Handrail & Ladders

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® square tube and DynaRound™ round tube railing sytems and Dynarail® safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.



Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.

Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.

Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

Heavy Metal SAFE

QUALITY MANAGEMENT SYSTEM CERTIFIED ISO 9001

Fibergrate Composite Structures

www.fibergrate.com | 800-527-4043 Fax: 972-250-1530 | Email: info@fibergrate.com

Fiberglass Pultruded Grating

Fibergrate
Composite Structures

HIGH PERFORMANCE **COMPOSITE SOLUTIONS**

Pultruded Products

Introduction

Combining corrosion resistance, long life and a low maintenance design, Safe-T-Span® pultruded grating is superior to conventional metallic gratings. This advanced grating is manufactured with a recessed tie bar configuration and is lightweight and easy to fabricate. Savings on labor and equipment often make the total installed cost of Safe-T-Span grating comparable to that of steel. This advanced pultruded grating is designed for use in a wide range of industrial applications that require strength and corrosion resistance. Manufactured with a high percentage of glass within the laminate, pultruded grating provides durability, extremely high unidirectional strength and stiffness. Due to its exceptional stiffness, it can be used with confidence where wide support spans are required. For most applications where it is used to replace steel grating, Safe-T-Span industrial grating rarely requires additional support. Combining its low cost of installation with low maintenance and long life, Safe-T-Span offers a life cycle cost that is significantly lower than that of its metal counterpart.

The Safe-T-Span line includes High Load Capacity (HI) grating for up to H20 vehicular loads, industrial grating for standard industrial loads and pedestrian grating for foot traffic. Specially designed gratings for barefoot traffic in the recreation industry are available in the Aqua Grate® line and several of the pultruded series available meet ADA guidelines. Another pultruded product, Dynadeck® interlocking flooring, is available to provide a solid-top flooring.

For additional niche products, check out the Fibergrate website under Pultruded Products for custom pultruded market gratings.

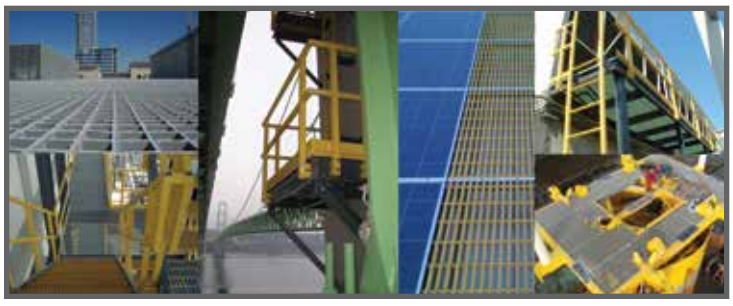
Safe-T-Span® Grating Resin Systems

ISOFR: Isophthalic polyester resin formulation with a low flame spread rating of 25 or less designed for applications where there is moderate exposure to corrosive elements.

VEFR: Vinyl ester resin system with a flame spread of 25 or less for dependable resistance to both acidic and alkaline environments.

PHENOLIC: A Coast Guard approved flame-resistant phenolic resin with an extremely low flame spread of 10 and a smoke index of 400 (unpainted); flame spread of 15 and a smoke index of 450 (painted, UV coating) - designed primarily for the offshore industry. (Coast Guard approved for Level 2 & 3 performance criteria - Approval Number: 164.040/2/2; DNV GL Type Approval No. TAF000003C; ABS Product Type Approval Level 2 & 3 Certificate No. 01-HS34733-X)

Fibergrate Markets



- Architectural
- Bridge & Highway
- Chemical
- Commercial
- Food & Beverage
- Manufacturing
- Metals & Mining
- Microelectronics
- Oil & Gas
- Pharmaceutical
- Power
- Pulp & Paper
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater

Fibergrate® Benefits

Why use FRP?

Corrosion Resistant: Fibergrate® pultruded fiberglass products are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

Slip Resistant: The integrally applied grit surfaces of Fibergrate pultruded products have unmatched slip resistance for improved worker safety.

Low Maintenance: The corrosion resistant properties of FRP grating and other products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.

Fire Retardant: Most Fibergrate products are engineered to have a flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meets the self-extinguishing requirements of ASTM D-635.

High Strength to Weight Ratio: Less than one-half the weight of steel grating, allowing easy removal for access below floor level and installation with no heavy equipment and less manpower.

Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

Low Install Cost: Due to ease of fabrication and light weight, FRP pultruded grating eliminates the need for heavy lifting equipment.

Long Service Life: Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

UV Protection: UV inhibitors in the resin matrix, a synthetic surfacing veil, and grit top surface provide optimum protection from the structural effects of UV weathering. *(Phenolic resin grating does not have the UV inhibitor or veil and therefore must be coated for UV protection.)*

Made from NSF® Standard 61-Certified Products: Fibergrate is now able to offer Safe-T-Span® pultruded gratings assembled from NSF Standard 61-Certified FRP components. These pultruded gratings complement the complete line of NSF Standard 61-Certified Fibergrate® molded gratings, Dynaform® fiberglass structural shapes, and Dynarail® FRP guardrail, handrail and ladder systems. NSF Standard 61-Certified molded gratings are available in all Fibergrate® molded grating mesh patterns and thicknesses, except Ecograte® and 4 x 12 Micro-Mesh® panels.

Heavy Metal Safe: The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.

Table of Contents:

Grating Selection and Accessories

Safe-T-Span® Pultruded Industrial Series Grating

6" Tie Bar Spacing Standard										
Series	Panel Depth	Load Bar Spacing	Stocked Sizes		Load Bars/Ft.	Wt/ Sq. Ft.	Open Area	Resin/Color		
			Width	Length				ISOFR	VEFR	PHENOLIC*
I6010	1"	1-1/2"	3', 4'	8', 10', 12', 20', 24'	8	2.7 lbs	60%	Yellow	Dk Gray	—
I5010	1"	1.2"	3', 4'	8', 10', 12', 20', 24'	10	3.3 lbs	50%	Yellow	Dk Gray	—
I4010 ♿	1"	1"	3', 4'	8', 10', 12', 20', 24'	12	3.8 lbs	40%	Yellow	Dk Gray	—
I6015	1-1/2"	1-1/2"	3', 4'	8', 10', 12', 20', 24'	8	3.2 lbs	60%	Yellow	Dk Gray	Brown*
I5015	1-1/2"	1.2"	3', 4'	8', 10', 12', 20', 24'	10	3.8 lbs	50%	Yellow	Dk Gray	—
I4015 ♿	1-1/2"	1"	3', 4'	8', 10', 12', 20', 24'	12	4.6 lbs	40%	Yellow	Dk Gray	Brown*
T5020	2"	2"	3', 4'	8', 10', 12', 20', 24'	6	3.4 lbs	50%	Yellow	Dk Gray	—
T3320 ♿	2"	1-1/2"	3', 4'	8', 10', 12', 20', 24'	8	3.7 lbs	33%	Yellow	Dk Gray	—

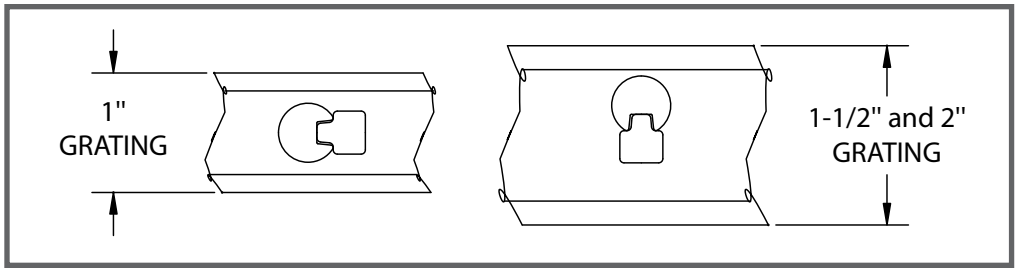
**Phenolic Grating also available with UV coating - Awning Red color*

Safe-T-Span® & Aqua Grate® Pultruded Pedestrian Series Grating

6" Tie Bar Spacing Standard										
Series	Panel Depth	Load Bar Spacing	Stocked Sizes		Load Bars/Ft.	Wt/ Sq. Ft.	Open Area	Resin/Color		
			Width	Length				ISOFR	VEFR	PHENOLIC*
T3810	1"	2.4"	3', 4'	8', 10', 12', 20', 24'	5	1.9 lbs	38%	Dk Gray	Dk Gray	—
T2510 ♿	1"	2"	3', 4'	8', 10', 12', 20', 24'	6	2.5 lbs	25%	Dk Gray	Dk Gray	—
T1210 ♿	1"	1.7"	3', 4'	8', 10', 12', 20', 24'	7	2.7 lbs	12%	Dk Gray*	Dk Gray*	—
T3815	1-1/2"	2.4"	3', 4'	8', 10', 12', 20', 24'	5	2.7 lbs	38%	Dk Gray	Dk Gray	—
T2515 ♿	1-1/2"	2"	3', 4'	8', 10', 12', 20', 24'	6	2.9 lbs	25%	Dk Gray	Dk Gray	—
T1215 ♿	1-1/2"	1.7"	3', 4'	8', 10', 12', 20', 24'	7	3.2 lbs	12%	Dk Gray*	Dk Gray*	—

*(5' widths and 8', 12' and 24' lengths are available with extended lead times.) For load/deflection information on pultruded grating, see tables in this brochure. *Top surface of grating is light gray in color; bottom of grating is dark gray.*

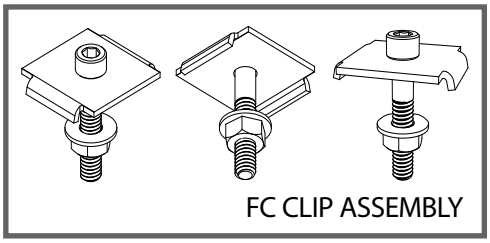
Tie Bar Representation



Grating Selection & Accessories

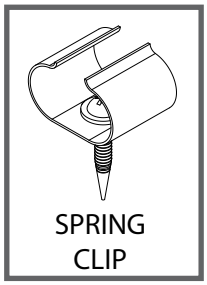
Clip Assemblies

Fibergrate's newly designed FC Hold Down Clip Assembly offers an easy and more cost effective solution for installing pultruded grating. Type FC Hold Down Clips secure grating below the walking surface. *(FC-1 for I4010, I40125 & 4015 grating • FC-2 for I5010 & I5015 grating • FC-3 for I6010, I60125, I6015 & T3320 grating • FC-4 for T1210 and T1215 grating • FC-5 for T2510, T2515 & T5020 grating plus WT1810 & WT1815 specialty grating • FC-6 for T3810 & T3815 grating • FC-7 for WT3510 & WT3515 specialty grating)*

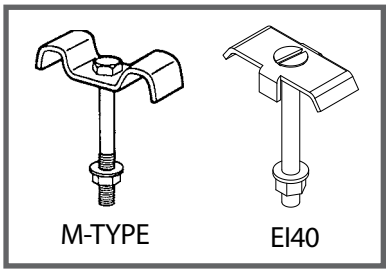

FC CLIP ASSEMBLY

Fibergrate's Type RT and RI Hold Down Clip Assemblies of Type 316 stainless steel are still available for special order.

The T12 Spring Clip is designed for specialty applications where grating needs to be removed without removing the hardware. The grating is held securely in place below the surface, but can be released with a firm upward force. *(For the T12 Pultruded Grating Series)*


SPRING CLIP

Fibergrate also offers Type M, W and E Hold Down Clip Assemblies for many types of pultruded grating. *(EI40 for I4010 and I4015 grating • MI60 for I6010 and I6015 grating • MT5020 for T5020 grating • MT3320 for T3320 grating • MT3810 for T3810 grating • MT3815 for T3815 grating • MHI47 for HI47 grating • MHI58 for HI58 grating)*


M-TYPE EI40

Coating/Sealing Products:

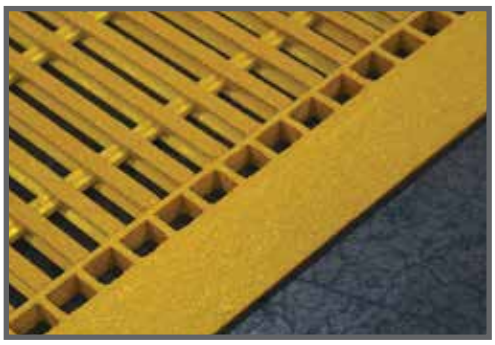
To maintain corrosion resistance and structural integrity, Fibergrate offers epoxy clear coating in a spray can*, for protecting the exposed ends of cut panels and other components.

**1/2 pint sealing kits are still available with minimum order requirements*

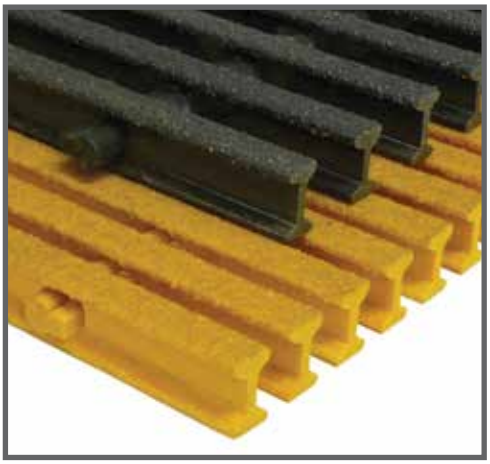
Grating Edge Ramps

Fibergrate's new standard grating edge ramps can be used with 1", 1-1/2", and 2" deep Safe-T-Span® pultruded grating. These grating edge ramps are offered in dark gray or yellow and have a quartz grit top surface. Grating edge ramps are stocked in 12' lengths; however, they can be easily fabricated to meet any length requirements. *For additional details, please visit our website at: http://fibergrate.com/products/accessories-complementary-products/grating-edge-ramps/*


Safe-T-Span® pultruded grating with edge ramp

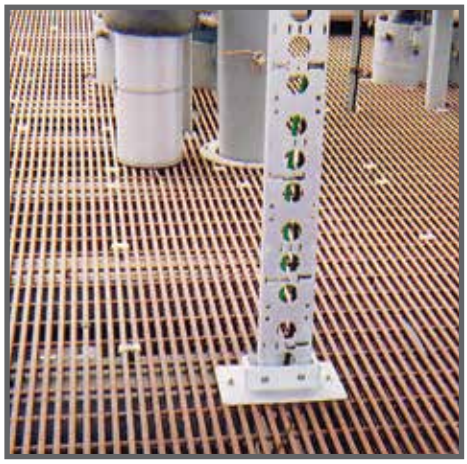

Safe-T-Span® pultruded grating with edge ramp

Safe-T-Span® Industrial Grating Details



I4010 & I6010 Grating

Copper Mining Facility



Offshore Oil & Gas Platform

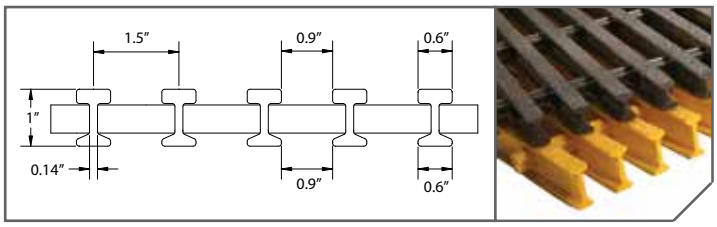
Safe-T-Span industrial grating is available in 1", 1-1/4", and 1-1/2" depths in an I-bar configuration with 40%, 50% and 60% open areas. 2" depth T-bar configuration with 33% or 50% open area is also available for applications which require wider spans or lower deflections. *For details and load charts for 1-1/4" depth products, please visit our website at www.fibergrate.com > Products > Pultruded Grating > Custom Pultruded Gratings.*

Grating Details

Refer to chart on page 4 for Grating Selection.

1" Deep I6010

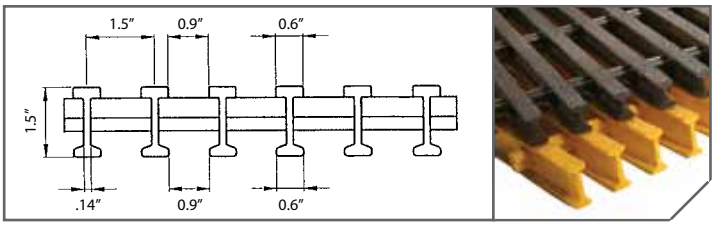
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
8	1"	60%	1-1/2"	2.7 psf



Section Properties per Ft of Width: A = 2.64 IN^2 I = 0.33 IN^4 S = 0.63 IN^3
Average EI = 1,700,000 lb - in^2 (SPAN ≥ 24")

1-1/2" Deep I6015

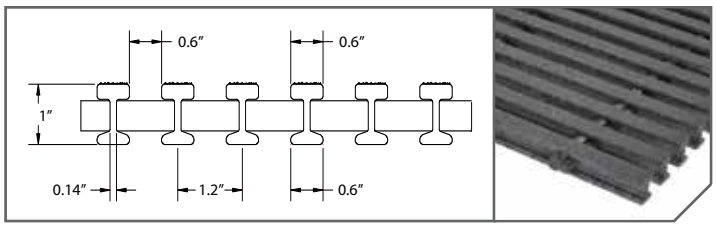
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
8	1-1/2"	60%	1-1/2"	3.2 psf



Section Properties per Ft of Width: A = 3.2 IN^2 I = 0.94 IN^4 S = 1.2 IN^3
Average EI = 4,600,000 lb - in^2 (SPAN ≥ 24")

1" Deep I5010

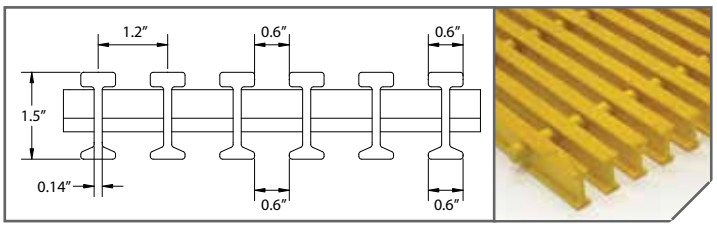
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
10	1"	50%	1.2"	3.3 psf



Section Properties per Ft of Width: A = 3.3 IN^2 I = 0.41 IN^4 S = 0.79 IN^3
Average EI = 2,100,000 lb - in^2 (SPAN ≥ 24")

1-1/2" Deep I5015

# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
10	1-1/2"	50%	1.2"	3.8 psf

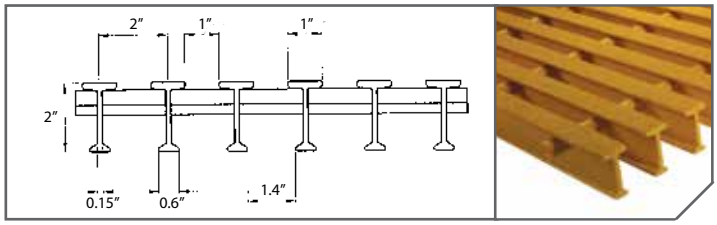


Section Properties per Ft of Width: A = 4 IN^2 I = 1.17 IN^4 S = 1.65 IN^3
Average EI = 5,700,000 lb - in^2 (SPAN ≥ 24")

Safe-T-Span® Industrial Grating Details

2" Deep T5020

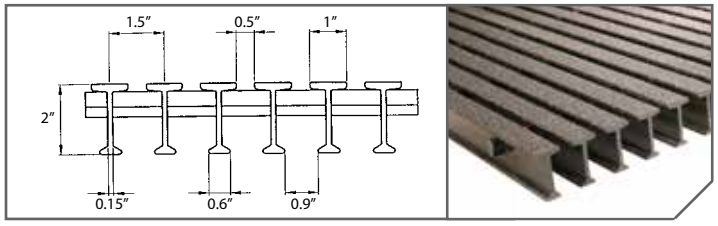
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
6	2"	50%	2"	3.4 psf



Section Properties per Ft of Width: A=3.2 IN² I=1.68 IN⁴ St=1.96 IN³ Sb=1.47 IN³
Average EI = 7,600,000 lb - in² (SPAN ≥ 24")

2" Deep T3320 (ADA Compliant)

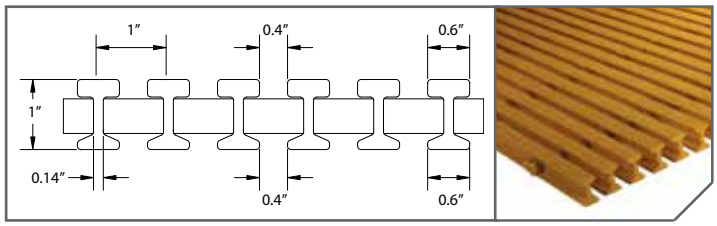
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
8	2"	33%	1-1/2"	3.7 psf



Section Properties per Ft of Width: A=4.28 IN² I=2.24 IN⁴ St=2.61 IN³ Sb=1.96 IN³
Average EI = 9,200,000 lb - in² (SPAN ≥ 24")

1" Deep I4010 (ADA Compliant)

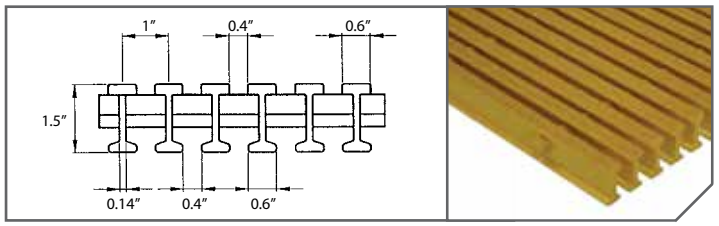
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
12	1"	40%	1"	3.8 psf



Section Properties per Ft of Width: A = 3.96 IN² I = 0.5 IN⁴ S = 0.95 IN³
Average EI = 2,500,000 lb - in² (SPAN ≥ 24")

1-1/2" Deep I4015 (ADA Compliant)

# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
12	1-1/2"	40%	1"	4.6 psf



Section Properties per Ft of Width: A = 4.8 IN² I = 1.41 IN⁴ S = 1.8 IN³
Average EI = 7,000,000 lb - in² (SPAN ≥ 24")

Safe-T-Span® High Load Capacity Grating

High Load Capacity (HI) pultruded grating is yet another product in the arsenal of engineered fiberglass reinforced plastic (FRP) solutions by Fibergrate. While capitalizing on some of the traditional benefits of pultruded grating products - high strength, corrosion resistance, slip resistance, fire retardancy, non conductivity and low maintenance - this pultruded FRP product has been engineered to carry the forklift and tractor trailer loads that traditional pultruded FRP grating products are unable to support.

- 37%, 47%, and 58% open surface area
- Available in 1", 1-1/2", 2", 2-1/2", and 3" depths
- Rated for up to H20 loads in all five depths
- Flame spread rating of 25 or less (when tested in accordance with ASTM E-84) and a Class 1 Fire Rating
- HI37 Grating is ADA Compliant
- Standard panels consist of:
  - Fire retardant vinyl ester resin system
  - Dark gray in color
  - Aluminum oxide grit top surface

Each HI grating is specially engineered to meet specific requirements. Contact the Fibergrate engineering team to determine which grating offers the best solution for your high load needs. (Applications with traffic perpendicular to trench or with turning wheel loads, contact Fibergrate engineering for design assistance.)

High Load Capacity Grating Details

Allowable Spans for Vehicular Loads

	Wheel Load (lb) (1/2 Axle Load + 30% Impact)	Load Distribution		Allowable Span[2,3]					Load Distribution		Allowable Span[2,3]					Load Distribution		Allowable Span[2,3]				
		Parallel to Axle (1)	Perpendicular to Axle	HI3710	HI3715	HI3720	HI3725	HI3730	Parallel to Axle (1)	Perpendicular to Axle	HI4710	HI4715	HI4720	HI4725	HI4730	Parallel to Axle (1)	Perpendicular to Axle	HI5810	HI5815	HI5820	HI5825	HI5830
AASHTO H-25 Truck[4] 40,000 lb Axle Load Dual Wheels	26,000	25" + 2"	25"	1'-5"	2'-0"	2'-5"	2'-11"	3'-6"	25" + 2-3/8"	25"	1'-4"	1'-11"	2'-4"	2'-9"	3'-4"	25" + 3"	25"	1'-3"	1'-10"	2'-3"	2'-7"	3'-2"
AASHTO H-20 Truck[4] 32,000 lb Axle Load Dual Wheels	20,800	20" + 2"	20"	1'-4"	1'-11"	2'-5"	2'-10"	3'-5"	20" + 2-3/8"	20"	1'-3"	1'-10"	2'-3"	2'-9"	3'-3"	20" + 3"	20"	1'-2"	1'-9"	2'-2"	2'-7"	3'-1"
AASHTO H-15 Truck[4] 24,000 lb Axle Load Dual Wheels	15,600	15" + 2"	15"	1'-3"	1'-10"	2'-4"	2'-10"	3'-5"	15" + 2-3/8"	15"	1'-2"	1'-9"	2'-3"	2'-8"	3'-3"	15" + 3"	15"	1'-1"	1'-8"	2'-1"	2'-6"	3'-1"
AASHTO H-10 Truck[4] 16,000 lb Axle Load	10,400	10" + 2"	10"	1'-1"	1'-9"	2'-4"	2'-10"	3'-6"	10" + 2-3/8"	10"	1'-0"	1'-8"	2'-3"	2'-8"	3'-4"	10" + 3"	10"	0'-11"	1'-7"	2'-1"	2'-6"	3'-1"
AASHTO H-5 Truck[4] 8,000 lb Axle Load	5,200	5" + 2"	5"	1'-0"	1'-10"	2'-5"	2'-11"	3'-7"	5" + 2-3/8"	5"	0'-11"	1'-9"	2'-4"	2'-10"	3'-6"	5" + 3"	5"	0'-10"	1'-8"	2'-2"	2'-8"	3'-4"
Passenger Vehicles[5] **6,322 lb Vehicle** **3,578 lb Load** **60% Drive Axle Load**	3,861	9" + 2"	9"	1'-5"	2'-2"	2'-10"	3'-6"	4'-3"	9" + 2-3/8"	9"	1'-4"	2'-1"	2'-11"	3'-4"	4'-1"	9" + 3"	9"	1'-3"	2'-0"	2'-7"	3'-2"	3'-10"
5 Ton Capacity Forklift[5] 14,400 lb Vehicle 24,400 lb Total Load 85% Drive Axle Load	13,480	11" + 2"	11"	1'-0"	1'-8"	2'-2"	2'-8"	3'-3"	11" + 2-3/8"	11"	0'-11"	1'-7"	2'-1"	2'-7"	3'-1"	11" + 3"	11"	0'-10"	1'-5"	2'-0"	2'-5"	2'-11"
3 Ton Capacity Forklift[5] 9,800 lb Vehicle 15,800 lb Total Load 85% Drive Axle Load	8,730	7" + 2"	7"	0'-11"	1'-8"	2'-5"	2'-9"	3'-4"	7" + 2-3/8"	7"	0'-10"	1'-7"	2'-1"	2'-7"	3'-2"	7" + 3"	7"	0'-9"	1'-4"	2'-0"	2'-5"	3'-0"
1 Ton Capacity Forklift[5] 4,200 lb Vehicle 6,200 lb Total Load 85% Drive Axle Load	3,425	4" + 2"	4"	1'-2"	2'-0"	2'-8"	3'-3"	3'-11"	4" + 2-3/8"	4"	1'-1"	1'-11"	2'-6"	3'-1"	3'-10"	4" + 3"	4"	1'-0"	1'-10"	2'-5"	3'-0"	3'-8"

NOTES:

1. Load is carried by the grating load bars immediately under wheel + two additional load bars, one on each side of wheel.
2. Allowable Span is based on a 0.25" maximum deflection and a Factor of Safety of 3.0. Other criteria may be required by certain construction codes. Check code requirements to determine design critieria.
3. Allowable span is strongly dependent on wheel width and vehicle weight/load capacity. If your application varies from the values given in this table, contact Fibergrate Engineering for assistance.
4. Load based on Standard Truck Load as defined in AASHTO Standard Specifications for Highway Bridges, 17th Ed. This does not imply that the allowable span given meets the deflection requirements of this specification.
5. Loads based on load criteria from NAAMM Metal Bar Grating Engineering Design Manual MBG 534-12

- Long Span Walkways
- Ramps and Loading Docks
- Trench Covers
- Flooring/Platforms
- Storage Areas
- Assembly Lines

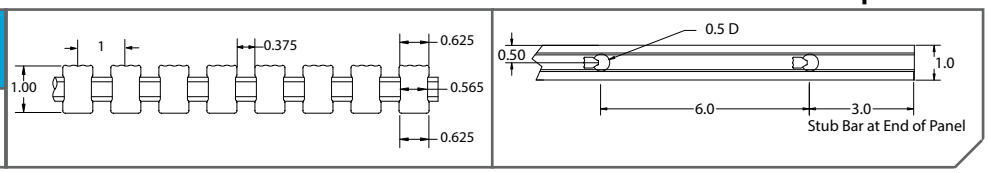
High Load Capacity Grating Details

Grating Details

HI37 Series

1" Deep HI3710

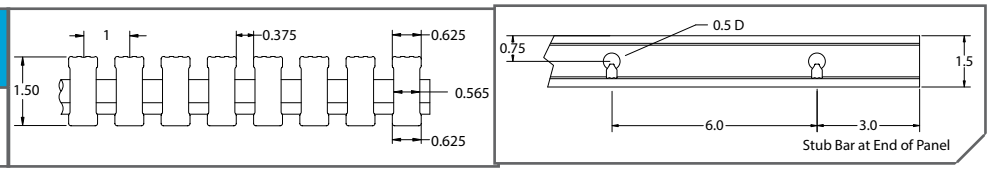
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1"	37%	1"	6.5 lb/ft²



Section Properties per Ft of Width: A=7.08 IN² I=0.59 IN⁴/FT S=1.19 IN³

1-1/2" Deep HI3715

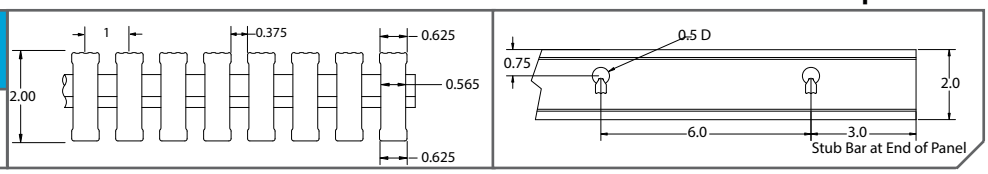
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1-1/2"	37%	1"	9.6 lb/ft²



Section Properties per Ft of Width: A=10.44 IN² I=1.99 IN⁴/FT S=2.66 IN³/FT

2" Deep HI3720

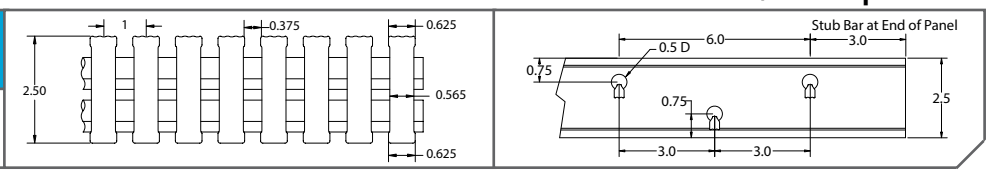
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2"	37%	1"	13 lb/ft²



Section Properties per Ft of Width: A=13.82 IN² I=4.7 IN⁴/FT S=4.7 IN³/FT

2-1/2" Deep HI3725

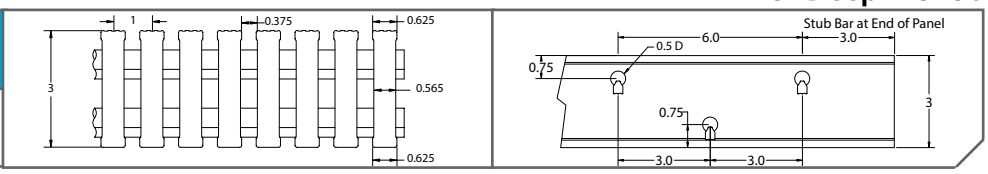
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2-1/2"	37%	1"	14.8 lb/ft²



Section Properties per Ft of Width: A=17.22 IN² I=9.13 IN⁴/FT S=7.3 IN³/FT

3" Deep HI3730

Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
3"	37%	1"	17.7 lb/ft²



Section Properties per Ft of Width: A=20.59 IN² I=15.70 IN⁴/FT S=10.46 IN³/FT

NOTES:

1. All pultruded grating panels are assembled to size from stocked bar lengths of 20' and 24' to minimize waste and cost. Maximum panel widths (tie bar length) are 4' nominal.
2. Available panel sizes are dependent upon application requirements and individual panel weight considerations because this is a very heavy product.

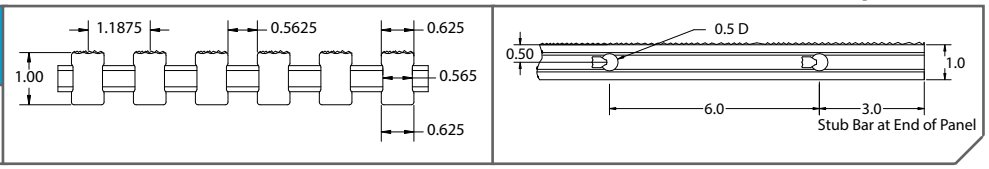
High Load Capacity Grating Details

Grating Details

HI47 Series

1" Deep HI4710

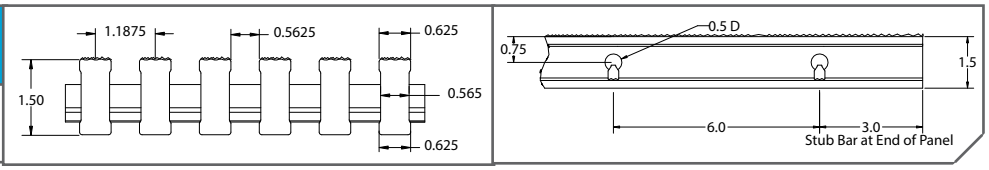
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1"	47%	1.1875"	5.5 lb/ft²



Section Properties per Ft of Width: A=5.96 IN² I=0.51 IN⁴/FT S=1 IN³/FT

1-1/2" Deep HI4715

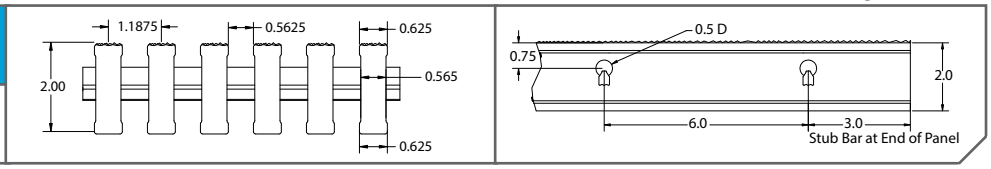
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1-1/2"	47%	1.1875"	8 lb/ft²



Section Properties per Ft of Width: A=8.79 IN² I=1.72 IN⁴/FT S=2.26 IN³/FT

2" Deep HI4720

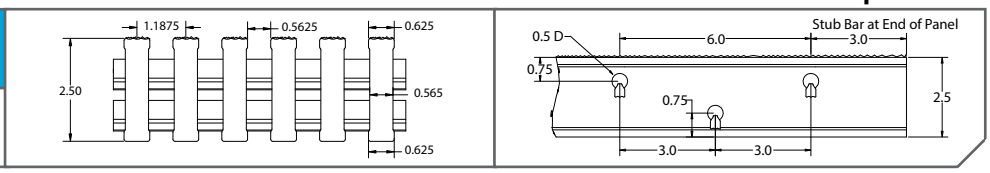
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2"	47%	1.1875"	10.9 lb/ft²



Section Properties per Ft of Width: A=11.64 IN² I=3.96 IN⁴/FT S=3.96 IN³/FT

2-1/2" Deep HI4725

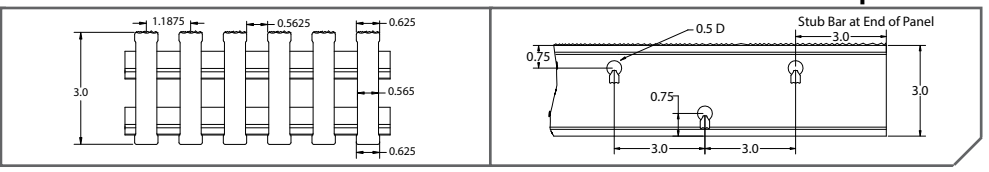
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2-1/2"	47%	1.1875"	12.3 lb/ft²



Section Properties per Ft of Width: A=14.5 IN² I=7.96 IN⁴/FT S=6.15 IN³/FT

3" Deep HI4730

Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
3"	47%	1.1875"	14.7 lb/ft²



Section Properties per Ft of Width: A=17.34 IN² I=13.22 IN⁴/FT S=8.81 IN³/FT

NOTES:

1. All pultruded grating panels are assembled to size from stocked bar lengths of 20' and 24' to minimize waste and cost. Maximum panel widths (tie bar length) are 4' nominal.
2. Available panel sizes are dependent upon application requirements and individual panel weight considerations because this is a very heavy product.

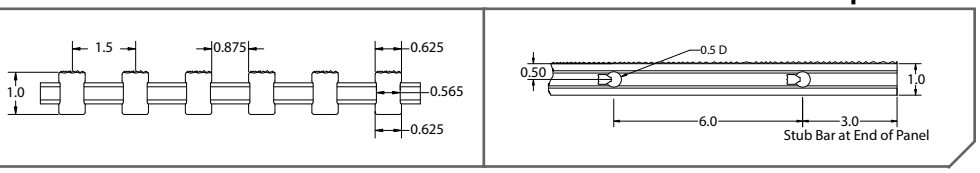
High Load Capacity Grating Details

Grating Details

HI58 Series

1" Deep HI5810

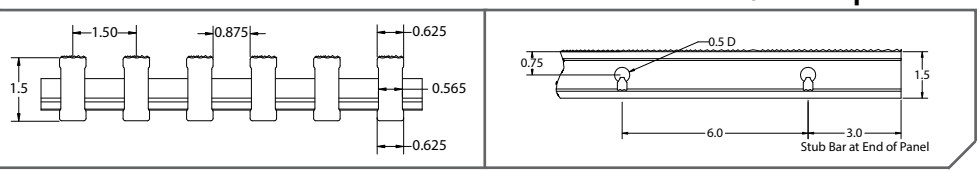
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1"	58%	1.5"	4.3 lb/ft²



Section Properties per Ft of Width: A=4.72 IN² I=0.4 IN⁴/FT S=0.78 IN³/FT

1-1/2" Deep HI5815

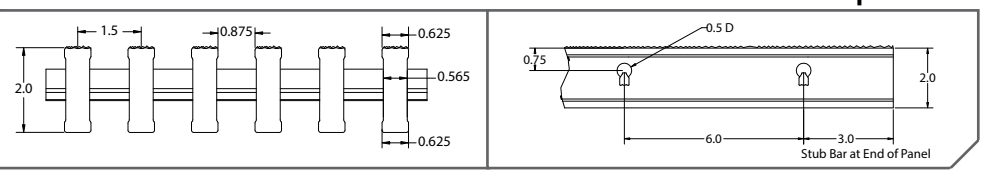
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
1-1/2"	58%	1.5"	6.5 lb/ft²



Section Properties per Ft of Width: A=6.96 IN² I=1.36 IN⁴/FT S=1.79 IN³/FT

2" Deep HI5820

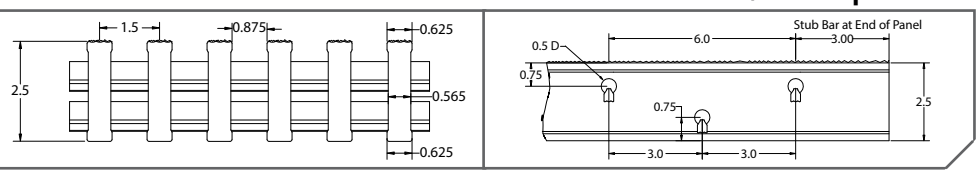
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2"	58%	1.5"	8.7 lb/ft²



Section Properties per Ft of Width: A=9.2 IN² I=3.12 IN⁴/FT S=3.12 IN³/FT

2-1/2" Deep HI5825

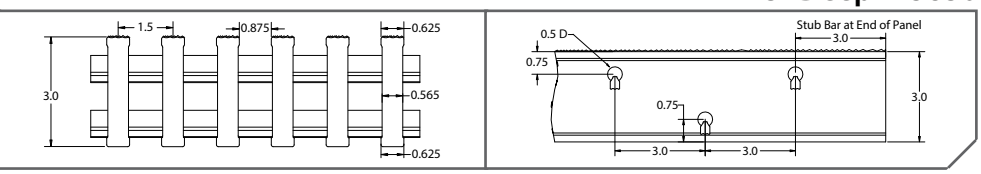
Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
2-1/2"	58%	1.5"	10 lb/ft²



Section Properties per Ft of Width: A=11.5 IN² I=6.09 IN⁴/FT S=4.87 IN³/FT

3" Deep HI5830

Load Bar Depth	Open Area	Load Bar Centers	Approx. Weight
3"	58%	1.5"	12 lb/ft²

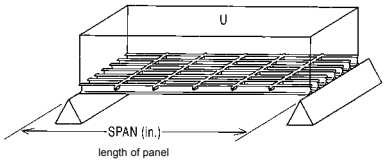


Section Properties per Ft of Width: A=13.73 IN² I=10.46 IN⁴/FT S=6.98 IN³/FT

NOTES:

1. All pultruded grating panels are assembled to size from stocked bar lengths of 20' and 24' to minimize waste and cost. Maximum panel widths (tie bar length) are 4' nominal.
2. Available panel sizes are dependent upon application requirements and individual panel weight considerations because this is a very heavy product.

Industrial Series Uniform Load Chart



IMPORTANT: Load information is different for Phenolic resin gratings. Please contact Fibergrate for Phenolic load information.

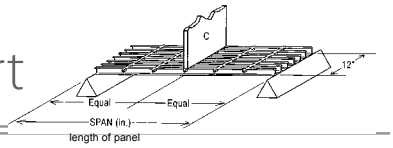
INDUSTRIAL SERIES SAFE-T-SPAN UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (psf) 50	100	200	300	500	1000	2000	MAXIMUM RECOMMENDED LOAD (psf)	ULTIMATE CAPACITY (psf)
12	I6010	<.01	<.01	<.01	<.01	0.01	0.02	0.04	7140	14280
	I6015	<.01	<.01	<.01	<.01	<.01	0.01	0.02	15240	30480
	I5010	<.01	<.01	<.01	<.01	<.01	0.01	0.03	8920	17840
	I5015	<.01	<.01	<.01	<.01	<.01	<.01	0.01	19050	38100
	T5020	<.01	<.01	<.01	<.01	<.01	<.01	0.01	15120	30240
	I4010	<.01	<.01	<.01	<.01	<.01	0.01	0.02	10700	21400
	I4015	<.01	<.01	<.01	<.01	<.01	<.01	0.01	22860	45720
	T3320	<.01	<.01	<.01	<.01	<.01	<.01	0.01	20160	40320
18	I6010	<.01	0.01	0.02	0.02	0.04	0.08	0.16	4520	9040
	I6015	<.01	<.01	<.01	0.01	0.02	0.03	0.06	9820	19650
	I5010	<.01	<.01	0.01	0.01	0.03	0.06	0.12	5640	11290
	I5015	<.01	<.01	<.01	<.01	0.01	0.02	0.04	12280	24560
	T5020	<.01	<.01	<.01	<.01	0.01	0.02	0.05	10080	20160
	I4010	<.01	<.01	0.01	0.02	0.03	0.05	0.11	6770	13540
	I4015	<.01	<.01	<.01	<.01	0.01	0.02	0.04	14740	29490
	T3320	<.01	<.01	<.01	<.01	0.01	0.02	0.04	13440	26880
24	I6010	0.01	0.02	0.05	0.07	0.12	0.24	—	2840	5680
	I6015	<.01	0.01	0.02	0.03	0.04	0.09	0.17	4880	9760
	I5010	<.01	0.01	0.04	0.05	0.09	0.19	—	3550	7100
	I5015	<.01	<.01	0.01	0.02	0.03	0.07	0.13	6100	12200
	T5020	<.01	<.01	<.01	0.02	0.03	0.05	0.11	5940	11880
	I4010	0.01	0.02	0.03	0.05	0.08	0.16	0.31	4260	8520
	I4015	<.01	<.01	0.01	0.02	0.03	0.06	0.11	7310	14620
	T3320	<.01	<.01	<.01	0.01	0.02	0.04	0.08	7920	15840
30	I6010	0.03	0.05	0.11	0.16	0.27	—	—	1840	3680
	I6015	0.01	0.02	0.04	0.06	0.10	0.20	0.41	3600	7200
	I5010	0.02	0.04	0.08	0.12	0.21	0.44	—	2300	4600
	I5015	<.01	0.01	0.03	0.04	0.08	0.16	0.32	4500	9000
	T5020	<.01	0.01	0.02	0.03	0.06	0.13	0.25	4160	8320
	I4010	0.02	0.04	0.07	0.11	0.18	0.36	—	2760	5520
	I4015	<.01	0.01	0.03	0.04	0.07	0.14	0.27	5400	10800
	T3320	<.01	0.01	0.02	0.03	0.05	0.09	0.19	5540	11080
36	I6010	0.05	0.10	0.21	0.31	—	—	—	1310	2620
	I6015	0.02	0.04	0.08	0.11	0.19	0.38	—	2500	5000
	I5010	0.04	0.08	0.16	0.24	—	—	—	1640	3280
	I5015	0.01	0.03	0.06	0.08	0.15	0.30	—	3120	6240
	T5020	0.01	0.02	0.05	0.07	0.12	0.23	0.47	2880	5760
	I4010	0.03	0.07	0.14	0.21	0.35	—	—	1960	3930
	I4015	0.01	0.03	0.05	0.08	0.13	0.25	0.50	3750	7500
	T3320	0.01	0.02	0.04	0.05	0.09	0.18	0.35	3840	7680
42	I6010	0.09	0.19	0.37	—	—	—	—	950	1900
	I6015	0.04	0.07	0.14	0.21	0.35	—	—	1840	3680
	I5010	0.07	0.15	0.29	0.44		—	—	1190	2380
	I5015	0.03	0.05	0.11	0.16	0.28	—	—	2300	4600
	T5020	0.02	0.05	0.09	0.14	0.23	0.45	—	2120	4240
	I4010	0.06	0.12	0.25	0.37	—	—	—	1430	2860
	I4015	0.02	0.05	0.09	0.14	0.23	0.47	—	2760	5520
	T3320	0.02	0.03	0.07	0.10	0.17	0.34	—	2820	5650
48	I6010	0.14	0.29	—	—	—	—	—	720	1440
	I6015	0.06	0.11	0.23	0.34	—	—	—	1410	2820
	I5010	0.11	0.23	0.45	—	—	—	—	900	1800
	I5015	0.04	0.08	0.18	0.27	0.45	—	—	1760	3520
	T5020	0.04	0.07	0.14	0.21	0.36	—	—	1620	3240
	I4010	0.10	0.19	0.38	—	—	—	—	1080	2160
	I4015	0.04	0.08	0.15	0.23	0.38	—	—	2110	4220
	T3320	0.03	0.05	0.11	0.16	0.27	—	—	2160	4320
54	I6010	0.25	—	—	—	—	—	—	570	1140
	I6015	0.10	0.19	0.39	—	—	—	—	1110	2220
	I5010	0.20	0.40	—	—	—	—	—	710	1420
	I5015	0.08	0.15	0.31	0.46	—	—	—	1380	2770
	T5020	0.06	0.12	0.24	0.36	—	—	—	1280	2560
	I4010	0.17	0.34	—	—	—	—	—	850	1700
	I4015	0.06	0.13	0.26	0.39	—	—	—	1670	3340
	T3320	0.04	0.09	0.18	0.27	0.45	—	—	1680	3360
60	I6010	0.42	—	—	—	—	—	—	460	920
	I6015	0.15	0.31	—	—	—	—	—	900	1800
	I5010	0.33	—	—	—	—	—	—	570	1150
	I5015	0.12	0.24	0.49	—	—	—	—	1120	2250
	T5020	0.09	0.18	0.36	—	—	—	—	1040	2080
	I4010	0.28	—	—	—	—	—	—	690	1380
	I4015	0.10	0.21	0.41	—	—	—	—	1350	2700
	T3320	0.07	0.14	0.27	0.41	—	—	—	1360	2720
72	I6015	0.34	—	—	—	—	—	—	630	1260
	I5015	0.27	—	—	—	—	—	—	780	1570
	T5020	0.18	0.35	—	—	—	—	—	720	1440
	I4015	0.23	0.45	—	—	—	—	—	940	1880
	T3320	0.13	0.26	—	—	—	—	—	950	1900

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 2:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. Walking loads, typically 50-65 PSF maximum are recommended for pedestrian traffic. Deflections for worker comfort are typically limited to the lesser of 3/8" or CLEAR SPAN divided by 125; for a firmer feel, limit deflection to the lesser of 1/4" or CLEAR SPAN divided by 200.
4. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact or dynamic conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to the ASCE Structural Plastics Design Manual.
5. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

Industrial Series Concentrated Line Load Chart



IMPORTANT: Load information is different for Phenolic resin gratings. Please contact Fibergrate for Phenolic load information.

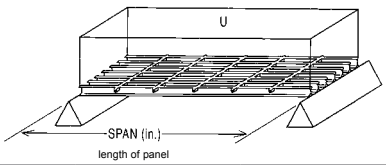
INDUSTRIAL SERIES SAFE-T-SPAN CONCENTRATED LINE LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (LBS/FT of Width)							MAXIMUM RECOM. LOAD (lbs/ft)	ULTIMATE CAPACITY (lbs/ft)
		50	100	200	300	500	1000	2000		
12	I6010	<.01	<.01	<.01	<.01	0.01	0.03	0.06	3570	7140
	I6015	<.01	<.01	<.01	<.01	<.01	0.01	0.02	7620	15240
	I5010	<.01	<.01	<.01	<.01	0.01	0.02	0.05	4460	8920
	I5015	<.01	<.01	<.01	<.01	<.01	0.01	0.02	9520	19050
	T5020	<.01	<.01	<.01	<.01	<.01	0.01	0.02	7560	15120
	I4010	<.01	<.01	<.01	<.01	0.01	0.02	0.04	5350	10700
	I4015	<.01	<.01	<.01	<.01	<.01	0.01	0.02	11430	22860
	T3320	<.01	<.01	<.01	<.01	<.01	<.01	0.01	10080	20160
18	I6010	<.01	0.01	0.02	0.03	0.04	0.09	0.17	3390	6780
	I6015	<.01	<.01	<.01	0.01	0.02	0.03	0.06	7370	14740
	I5010	<.01	0.01	0.02	0.02	0.03	0.07	0.14	4230	8470
	I5015	<.01	<.01	<.01	0.01	0.02	0.02	0.05	9210	18420
	T5020	<.01	<.01	<.01	<.01	0.01	0.03	0.05	7560	15120
	I4010	<.01	<.01	0.01	0.02	0.03	0.06	0.12	5080	10160
	I4015	<.01	<.01	<.01	<.01	0.01	0.02	0.04	11060	22120
	T3320	<.01	<.01	<.01	<.01	0.01	0.02	0.04	10080	20160
24	I6010	0.01	0.02	0.04	0.06	0.09	0.19	0.38	2840	5680
	I6015	<.01	<.01	0.01	0.02	0.03	0.07	0.14	4880	9760
	I5010	0.01	0.02	0.03	0.05	0.07	0.15	0.30	3550	7100
	I5015	<.01	<.01	0.01	0.02	0.02	0.06	0.11	6100	12200
	T5020	<.01	<.01	<.01	0.01	0.02	0.04	0.08	5940	11880
	I4010	<.01	0.01	0.03	0.04	0.06	0.13	0.25	4260	8520
	I4015	<.01	<.01	<.01	0.01	0.02	0.05	0.10	7310	14620
	T3320	<.01	<.01	<.01	0.01	0.02	0.03	0.06	7920	15840
30	I6010	0.02	0.03	0.07	0.10	0.17	0.35	—	2300	4600
	I6015	<.01	0.01	0.03	0.04	0.06	0.13	0.26	4500	9000
	I5010	0.02	0.02	0.06	0.08	0.14	0.28	—	2870	5750
	I5015	<.01	0.01	0.02	0.03	0.05	0.10	0.21	5620	11250
	T5020	<.01	<.01	0.01	0.02	0.04	0.08	0.16	5200	10400
	I4010	0.01	0.02	0.05	0.07	0.12	0.23	0.47	3450	6900
	I4015	<.01	0.01	0.02	0.03	0.05	0.11	0.22	6750	13500
	T3320	<.01	<.01	0.01	0.02	0.03	0.06	0.12	6930	13860
36	I6010	0.03	0.06	0.11	0.17	0.28	—	—	1970	3940
	I6015	0.01	0.02	0.04	0.06	0.10	0.20	0.40	3750	7500
	I5010	0.02	0.05	0.09	0.14	0.22	0.44	—	2460	4920
	I5015	0.01	0.02	0.03	0.05	0.08	0.16	0.32	4680	9370
	T5020	<.01	0.01	0.02	0.04	0.06	0.12	0.25	4320	8640
	I4010	0.02	0.04	0.07	0.11	0.18	0.37	—	2950	5900
	I4015	<.01	0.01	0.03	0.04	0.07	0.13	0.26	5630	11260
	T3320	<.01	0.01	0.02	0.03	0.05	0.09	0.19	5760	11520
42	I6010	0.04	0.08	0.17	0.25	0.42	—	—	1670	3340
	I6015	0.02	0.03	0.06	0.10	0.16	0.32	—	3220	6440
	I5010	0.03	0.06	0.14	0.20	0.34	—	—	2080	4170
	I5015	0.02	0.02	0.05	0.08	0.13	0.26		4020	8050
	T5020	0.01	0.02	0.04	0.06	0.10	0.21	0.41	3710	7420
	I4010	0.03	0.06	0.11	0.17	0.28	—	—	2500	5000
	I4015	0.01	0.02	0.04	0.06	0.11	0.21	0.42	4820	9640
	T3320	0.01	0.02	0.03	0.05	0.08	0.16	0.31	4950	9900
48	I6010	0.06	0.11	0.23	0.34	—	—	—	1440	2880
	I6015	0.02	0.05	0.09	0.14	0.23	0.46	—	2810	5620
	I5010	0.05	0.09	0.18	0.27	0.46	—	—	1800	3600
	I5015	0.02	0.04	0.07	0.11	0.18	0.37	—	3510	7020
	T5020	0.01	0.03	0.06	0.09	0.15	0.29	—	3250	6500
	I4010	0.04	0.08	0.15	0.23	0.38		—	2160	4320
	I4015	0.02	0.03	0.06	0.09	0.15	0.30	—	4220	8440
	T3320	0.01	0.02	0.04	0.07	0.11	0.22	0.44	4330	8660
54	I6010	0.09	0.18	0.36	—	—	—	—	1280	2560
	I6015	0.03	0.07	0.14	0.21	0.35	—	—	2500	5000
	I5010	0.07	0.14	0.29	0.43	—	—	—	1600	3200
	I5015	0.02	0.06	0.11	0.17	0.28	—	—	3120	6250
	T5020	0.02	0.04	0.08	0.13	0.21	0.42	—	2890	5780
	I4010	0.06	0.12	0.24	0.36	—	—	—	1920	3840
	I4015	0.03	0.05	0.09	0.14	0.23	0.46	—	3750	7500
	T3320	0.02	0.03	0.06	0.10	0.16	0.32	—	3780	7560
60	I6010	0.13	0.27	—	—	—	—	—	1150	2300
	I6015	0.05	0.10	0.20	0.30	0.49	—	—	2250	4500
	I5010	0.10	0.22	0.43	—	—	—	—	1430	2870
	I5015	0.04	0.08	0.16	0.24	0.39	—	—	2810	5620
	T5020	0.03	0.06	0.12	0.17	0.29	—	—	2600	5200
	I4010	0.09	0.18	0.36	—	—	—	—	1730	3460
	I4015	0.04	0.07	0.13	0.20	0.33	—	—	3380	6760
	T3320	0.02	0.04	0.09	0.13	0.22	0.44	—	3400	6800
72	I6010	0.26	—	—	—	—	—	—	960	1920
	I6015	0.09	0.18	0.36	—	—	—	—	1880	3760
	I5010	0.21	0.41	—	—	—	—	—	1200	2400
	I5015	0.07	0.14	0.29	0.43	—	—	—	2350	4700
	T5020	0.05	0.09	0.19	0.28	0.47	—	—	2170	4340
	I4010	0.17	0.34	—	—	—	—	—	1440	2880
	I4015	0.06	0.12	0.24	0.36	—	—	—	2810	5620
	T3320	0.04	0.07	0.14	0.21	0.35	—	—	2830	5660

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 2:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. Walking loads, typically 50-65 PSF maximum are recommended for pedestrian traffic. Deflections for worker comfort are typically limited to the lesser of 3/8" or CLEAR SPAN divided by 125; for a firmer feel, limit deflection to the lesser of 1/4" or CLEAR SPAN divided by 200.
4. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact or dynamic conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to the ASCE Structural Plastics Design Manual.
5. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI37 Grating Uniform Load Chart

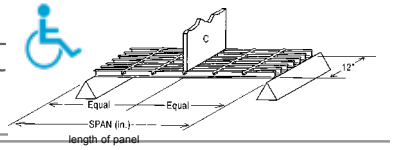


HI37 PULTRUDED SERIES UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES													
CLEAR SPAN (in)	STYLE	LOAD (psf)										MAXIMUM RECOM. LOAD (psf)	ULTIMATE CAPACITY (psf)
		100	200	300	400	500	600	700	800	900	1000		
12	HI3710	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	14800	44400
	HI3715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	27600	82800
	HI3720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	71300	214000
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	73200	219800
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	94000	282000
18	HI3710	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	7000	21200
	HI3715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	15300	45900
	HI3720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	32500	97700
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	35200	105700
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	44400	133400
24	HI3710	0.02	0.03	0.05	0.06	0.08	0.09	0.11	0.12	0.14	0.16	4200	12700
	HI3715	<0.01	<0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	10300	30900
	HI3720	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	18800	56400
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	21300	63900
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	26500	79600
30	HI3710	0.04	0.08	0.11	0.15	0.19	0.23	0.27	0.30	0.34	0.38	2700	8100
	HI3715	<0.01	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	6600	19800
	HI3720	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04	12300	37100
	HI3725	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	14600	43800
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.01	17900	53800
36	HI3710	0.08	0.16	0.24	0.32	0.39	0.47	—	—	—	—	1800	5600
	HI3715	0.02	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	4500	13700
	HI3720	<0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.09	8800	26400
	HI3725	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	10800	32400
	HI3730	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	13100	39400
42	HI3710	0.15	0.29	0.44	—	—	—	—	—	—	—	1300	4100
	HI3715	0.03	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.31	0.35	3300	10100
	HI3720	0.02	0.03	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	6400	19400
	HI3725	<0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.07	0.08	8200	24600
	HI3730	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	10100	30400
48	HI3710	0.25	0.50	—	—	—	—	—	—	—	—	1000	3100
	HI3715	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.47	—	—	2500	7700
	HI3720	0.03	0.05	0.08	0.11	0.13	0.16	0.19	0.22	0.24	0.27	4900	14800
	HI3725	0.01	0.03	0.04	0.06	0.07	0.08	0.10	0.11	0.13	0.14	6500	19500
	HI3730	<0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.07	0.08	8100	24400
52	HI3710	0.34	—	—	—	—	—	—	—	—	—	900	2700
	HI3715	0.08	0.16	0.25	0.33	0.41	0.49	—	—	—	—	2100	6500
	HI3720	0.04	0.07	0.11	0.15	0.19	0.22	0.26	0.30	0.33	0.37	4200	12600
	HI3725	0.02	0.04	0.06	0.08	0.10	0.11	0.13	0.15	0.17	0.19	5500	16600
	HI3730	0.01	0.02	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.11	7000	21200
60	HI3715	0.14	0.29	0.43	—	—	—	—	—	—	—	1600	4900
	HI3720	0.07	0.13	0.20	0.26	0.33	0.40	0.46	—	—	—	3100	9500
	HI3725	0.03	0.07	0.10	0.14	0.17	0.20	0.24	0.27	0.31	0.34	4100	12500
	HI3730	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20	5400	16200
66	HI3715	0.21	0.42	—	—	—	—	—	—	—	—	1300	4000
	HI3720	0.10	0.19	0.29	0.39	0.48	—	—	—	—	—	2600	7800
	HI3725	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	3400	10300
	HI3730	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.23	0.26	0.29	4400	13400
72	HI3715	0.30	—	—	—	—	—	—	—	—	—	1100	3400
	HI3720	0.14	0.27	0.41	—	—	—	—	—	—	—	2200	6600
	HI3725	0.07	0.14	0.21	0.28	0.35	0.42	0.49	—	—	—	2800	8600
	HI3730	0.04	0.08	0.12	0.17	0.21	0.25	0.29	0.33	0.37	0.42	3700	11200
84	HI3720	0.25	—	—	—	—	—	—	—	—	—	1600	4800
	HI3725	0.13	0.26	0.39	—	—	—	—	—	—	—	2100	6300
	HI3730	0.08	0.15	0.23	0.31	0.38	0.46	—	—	—	—	2700	8200
96	HI3720	0.43	—	—	—	—	—	—	—	—	—	1200	3700
	HI3725	0.22	0.44	—	—	—	—	—	—	—	—	1600	4800
	HI3730	0.13	0.26	0.39	—	—	—	—	—	—	—	2100	6300

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI37 Grating Concentrated Line Load Chart



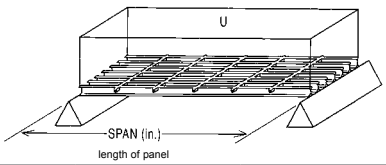
HI37 PULTRUDED SERIES LINE LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (LBS/FT of Width)										MAXIMUM RECOM. LOAD (lbs/ft)	ULTIMATE CAPACITY (lbs/ft)
		100	200	300	500	1000	2000	3000	4000	5000	6000		
12	HI3710	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.05	0.07	0.09	0.11	7400	22200
	HI3715	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	13800	41400
	HI3720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	35600	107000
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	36600	109900
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	47000	141000
18	HI3710	<0.01	0.01	0.02	0.03	0.06	0.11	0.17	0.23	0.28	0.34	5300	15900
	HI3715	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.04	0.06	0.07	0.09	11400	34400
	HI3720	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.03	0.03	0.04	24400	73300
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.02	26400	79200
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	33300	100000
24	HI3710	0.01	0.02	0.04	0.06	0.12	0.25	0.37	0.50	—	—	4200	12700
	HI3715	<0.01	<0.01	<0.01	0.01	0.03	0.06	0.09	0.12	0.15	0.18	10300	30900
	HI3720	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.04	0.06	0.07	0.09	18800	56400
	HI3725	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.03	0.04	0.05	21300	63900
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	26500	79600
30	HI3710	0.02	0.05	0.07	0.12	0.24	0.49	—	—	—	—	3400	10200
	HI3715	<0.01	0.01	0.02	0.03	0.06	0.12	0.17	0.23	0.29	0.35	8200	24700
	HI3720	<0.01	<0.01	<0.01	0.01	0.03	0.06	0.08	0.11	0.14	0.17	15400	46300
	HI3725	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.05	0.06	0.08	0.09	18200	54800
	HI3730	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.05	0.06	22400	67300
36	HI3710	0.04	0.08	0.13	0.21	0.42	—	—	—	—	—	2800	8500
	HI3715	0.01	0.02	0.03	0.05	0.10	0.20	0.30	0.40	—	—	6800	20600
	HI3720	<0.01	<0.01	0.01	0.02	0.05	0.09	0.14	0.18	0.23	0.27	13200	39600
	HI3725	<0.01	<0.01	<0.01	0.01	0.02	0.05	0.07	0.10	0.12	0.15	16200	48600
	HI3730	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.05	0.06	0.08	0.09	19700	59100
42	HI3710	0.07	0.13	0.20	0.33	—	—	—	—	—	—	2400	7300
	HI3715	0.02	0.03	0.05	0.08	0.16	0.32	0.48	—	—	—	5800	17600
	HI3720	<0.01	0.01	0.02	0.04	0.07	0.14	0.22	0.29	0.36	0.43	11300	33900
	HI3725	<0.01	<0.01	0.01	0.02	0.04	0.08	0.11	0.15	0.19	0.23	14400	43200
	HI3730	<0.01	<0.01	<0.01	0.01	0.02	0.05	0.07	0.09	0.12	0.14	17700	53300
48	HI3710	0.10	0.20	0.30	0.50	—	—	—	—	—	—	2100	6300
	HI3715	0.02	0.05	0.07	0.12	0.24	0.47	—	—	—	—	5100	15400
	HI3720	0.01	0.02	0.03	0.05	0.11	0.22	0.32	0.43	—	—	9900	29700
	HI3725	<0.01	0.01	0.02	0.03	0.06	0.11	0.17	0.22	0.28	0.33	13000	39100
	HI3730	<0.01	<0.01	<0.01	0.02	0.03	0.07	0.10	0.13	0.17	0.20	16300	48900
52	HI3710	0.13	0.25	0.38	—	—	—	—	—	—	—	1900	5900
	HI3715	0.03	0.06	0.09	0.15	0.30	—	—	—	—	—	4700	14200
	HI3720	0.01	0.03	0.04	0.07	0.14	0.27	0.41	—	—	—	9100	27400
	HI3725	<0.01	0.01	0.02	0.04	0.07	0.14	0.21	0.28	0.35	0.42	12000	36100
	HI3730	<0.01	<0.01	0.01	0.02	0.04	0.08	0.13	0.17	0.21	0.25	15300	46000
60	HI3710	0.19	0.39	—	—	—	—	—	—	—	—	1700	5100
	HI3715	0.05	0.09	0.14	0.23	0.46	—	—	—	—	—	4100	12300
	HI3720	0.02	0.04	0.06	0.11	0.21	0.42	—	—	—	—	7900	23700
	HI3725	0.01	0.02	0.03	0.05	0.11	0.22	0.33	0.43	—	—	10400	31200
	HI3730	<0.01	0.01	0.02	0.03	0.06	0.13	0.19	0.26	0.32	0.38	13500	40600
66	HI3710	0.26	—	—	—	—	—	—	—	—	—	1500	4600
	HI3715	0.06	0.12	0.19	0.31	—	—	—	—	—	—	3700	11200
	HI3720	0.03	0.06	0.08	0.14	0.28	—	—	—	—	—	7200	21600
	HI3725	0.01	0.03	0.04	0.07	0.14	0.29	0.43	—	—	—	9400	28400
	HI3730	<0.01	0.02	0.03	0.04	0.09	0.17	0.26	0.34	0.43	—	12300	36900
72	HI3710	0.34	—	—	—	—	—	—	—	—	—	1400	4200
	HI3715	0.08	0.16	0.24	0.40	—	—	—	—	—	—	3400	10300
	HI3720	0.04	0.07	0.11	0.18	0.36	—	—	—	—	—	6600	19800
	HI3725	0.02	0.04	0.06	0.09	0.19	0.38	—	—	—	—	8600	26000
	HI3730	0.01	0.02	0.03	0.06	0.11	0.22	0.33	0.44	—	—	11200	33800
84	HI3715	0.13	0.25	0.38	—	—	—	—	—	—	—	2900	8800
	HI3720	0.06	0.12	0.17	0.29	—	—	—	—	—	—	5600	16900
	HI3725	0.03	0.06	0.09	0.15	0.30	—	—	—	—	—	7400	22300
	HI3730	0.02	0.04	0.05	0.09	0.18	0.35	—	—	—	—	9600	29000
96	HI3715	0.19	0.38	—	—	—	—	—	—	—	—	2500	7700
	HI3720	0.09	0.17	0.26	0.43	—	—	—	—	—	—	4900	14800
	HI3725	0.04	0.09	0.13	0.22	0.44	—	—	—	—	—	6500	19500
	HI3730	0.03	0.05	0.08	0.13	0.26	—	—	—	—	—	8400	25300

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI47 Grating Uniform Load Chart



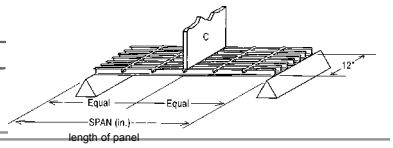
HI47 PULTRUDED SERIES UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (psf) 100	200	300	400	500	600	700	800	900	1000	MAXIMUM RECOM. LOAD (psf)	ULTIMATE CAPACITY (psf)
12	HI4710	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	12400	37300
	HI4715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	23200	69600
	HI4720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	60100	180300
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	61700	185100
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	79200	237600
18	HI4710	<0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.05	0.06	0.06	5900	17800
	HI4715	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	12800	38500
	HI4720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	27400	82400
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29600	89000
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	37400	112400
24	HI4710	0.02	0.04	0.06	0.07	0.09	0.11	0.13	0.15	0.17	0.18	3500	10700
	HI4715	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.04	8600	26000
	HI4720	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	15800	47600
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	17900	53900
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	22300	67000
30	HI4710	0.04	0.09	0.13	0.18	0.22	0.27	0.31	0.36	0.40	0.45	2200	6800
	HI4715	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.11	5500	16600
	HI4720	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	10400	31200
	HI4725	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	12300	36900
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	15100	45300
36	HI4710	0.09	0.19	0.28	0.37	0.46	—	—	—	—	—	1500	4700
	HI4715	0.02	0.04	0.07	0.09	0.11	0.13	0.16	0.18	0.20	0.22	3800	11500
	HI4720	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	7400	22200
	HI4725	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	9100	27300
	HI4730	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	11000	33200
42	HI4710	0.17	0.34	—	—	—	—	—	—	—	—	1100	3500
	HI4715	0.04	0.08	0.12	0.17	0.21	0.25	0.29	0.33	0.37	0.41	2800	8400
	HI4720	0.02	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	5400	16300
	HI4725	<0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	6900	20800
	HI4730	<0.01	0.01	0.02	0.02	0.03	0.04	0.04	0.05	0.05	0.06	8500	25600
48	HI4710	0.29	—	—	—	—	—	—	—	—	—	800	2600
	HI4715	0.07	0.14	0.21	0.28	0.35	0.42	0.49	—	—	—	2100	6500
	HI4720	0.03	0.06	0.10	0.13	0.16	0.19	0.22	0.26	0.29	0.32	4100	12500
	HI4725	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.13	0.15	0.16	5400	16400
	HI4730	<0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	6800	20600
52	HI4710	0.40	—	—	—	—	—	—	—	—	—	700	2200
	HI4715	0.10	0.19	0.29	0.39	0.48	—	—	—	—	—	1800	5500
	HI4720	0.04	0.09	0.13	0.18	0.22	0.26	0.31	0.35	0.40	0.44	3500	10600
	HI4725	0.02	0.05	0.07	0.09	0.11	0.14	0.16	0.18	0.20	0.23	4600	14000
	HI4730	0.01	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12	0.13	5900	17800
60	HI4715	0.17	0.34	—	—	—	—	—	—	—	—	1300	4100
	HI4720	0.08	0.16	0.23	0.31	0.39	0.47	—	—	—	—	2600	8000
	HI4725	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40	3500	10500
	HI4730	0.02	0.05	0.07	0.10	0.12	0.14	0.17	0.19	0.21	0.24	4500	13600
66	HI4715	0.25	—	—	—	—	—	—	—	—	—	1100	3400
	HI4720	0.11	0.23	0.34	0.46	—	—	—	—	—	—	2200	6600
	HI4725	0.06	0.12	0.18	0.24	0.29	0.35	0.41	0.47	—	—	2900	8700
	HI4730	0.03	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.31	0.35	3700	11300
72	HI4715	0.36	—	—	—	—	—	—	—	—	—	900	2800
	HI4720	0.16	0.32	0.49	—	—	—	—	—	—	—	1800	5500
	HI4725	0.08	0.17	0.25	0.33	0.42	—	—	—	—	—	2400	7300
	HI4730	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.39	0.44	0.49	3100	9500
84	HI4720	0.30	—	—	—	—	—	—	—	—	—	1300	4000
	HI4725	0.15	0.31	0.46	—	—	—	—	—	—	—	1700	5300
	HI4730	0.09	0.18	0.27	0.37	0.46	—	—	—	—	—	2300	6900
96	HI4725	0.26	—	—	—	—	—	—	—	—	—	1300	4100
	HI4730	0.16	0.31	0.47	—	—	—	—	—	—	—	1700	5300

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI47 Grating Concentrated Line Load Chart



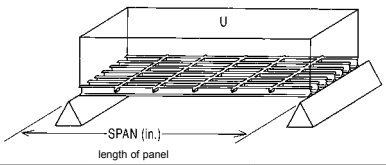
HI47 PULTRUDED SERIES LINE LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (LBS/FT of Width)										MAXIMUM RECOM. LOAD (lbs/ft)	ULTIMATE CAPACITY (lbs/ft)
		100	200	300	500	1000	2000	3000	4000	5000	6000		
12	HI4710	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.06	0.08	0.11	0.13	6200	18600
	HI4715	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.04	11600	34800
	HI4720	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	30000	90100
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	30800	92500
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	39600	118800
18	HI4710	<0.01	0.01	0.02	0.03	0.07	0.13	0.20	0.27	0.33	0.40	4400	13300
	HI4715	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.05	0.07	0.09	0.10	9600	28900
	HI4720	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.04	0.05	20600	61800
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	22200	66800
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	28100	84300
24	HI4710	0.01	0.03	0.04	0.07	0.15	0.29	0.44	—	—	—	3500	10700
	HI4715	<0.01	<0.01	0.01	0.02	0.04	0.07	0.11	0.14	0.18	0.21	8600	26000
	HI4720	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.05	0.07	0.09	0.10	15800	47600
	HI4725	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.05	0.06	17900	53900
	HI4730	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.04	22300	67000
30	HI4710	0.03	0.06	0.09	0.14	0.29	—	—	—	—	—	2800	8500
	HI4715	<0.01	0.01	0.02	0.03	0.07	0.14	0.21	0.27	0.34	0.41	6900	20800
	HI4720	<0.01	<0.01	<0.01	0.02	0.03	0.07	0.10	0.13	0.16	0.20	13000	39000
	HI4725	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.05	0.07	0.09	0.11	15300	46100
	HI4730	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.03	0.04	0.06	0.07	18900	56700
36	HI4710	0.05	0.10	0.15	0.25	0.50	—	—	—	—	—	2300	7100
	HI4715	0.01	0.02	0.04	0.06	0.12	0.24	0.36	0.48	—	—	5700	17300
	HI4720	<0.01	0.01	0.02	0.03	0.05	0.11	0.16	0.22	0.27	0.32	11100	33400
	HI4725	<0.01	<0.01	<0.01	0.01	0.03	0.06	0.09	0.12	0.15	0.17	13600	41000
	HI4730	<0.01	<0.01	<0.01	<0.01	0.02	0.04	0.06	0.07	0.09	0.11	16600	49800
42	HI4710	0.08	0.16	0.24	0.39	—	—	—	—	—	—	2000	6100
	HI4715	0.02	0.04	0.06	0.09	0.19	0.38	—	—	—	—	4900	14800
	HI4720	<0.01	0.02	0.03	0.04	0.09	0.17	0.26	0.34	0.43	—	9500	28600
	HI4725	<0.01	<0.01	0.01	0.02	0.05	0.09	0.14	0.18	0.23	0.27	12100	36400
	HI4730	<0.01	<0.01	<0.01	0.01	0.03	0.06	0.08	0.11	0.14	0.17	14900	44900
48	HI4710	0.12	0.24	0.35	—	—	—	—	—	—	—	1700	5300
	HI4715	0.03	0.06	0.08	0.14	0.28	—	—	—	—	—	4300	13000
	HI4720	0.01	0.03	0.04	0.06	0.13	0.26	0.38	—	—	—	8300	25000
	HI4725	<0.01	0.01	0.02	0.03	0.07	0.13	0.20	0.26	0.33	0.40	10900	32900
	HI4730	<0.01	<0.01	0.01	0.02	0.04	0.08	0.12	0.16	0.20	0.24	13700	41200
52	HI4710	0.15	0.30	0.45	—	—	—	—	—	—	—	1600	4900
	HI4715	0.04	0.07	0.11	0.18	0.36	—	—	—	—	—	4000	12000
	HI4720	0.02	0.03	0.05	0.08	0.16	0.33	0.49	—	—	—	7700	23100
	HI4725	<0.01	0.02	0.03	0.04	0.08	0.17	0.25	0.34	0.42	—	10100	30400
	HI4730	<0.01	<0.01	0.01	0.02	0.05	0.10	0.15	0.20	0.25	0.30	12900	38700
60	HI4710	0.23	0.46	—	—	—	—	—	—	—	—	1400	4200
	HI4715	0.05	0.11	0.16	0.27	—	—	—	—	—	—	3400	10400
	HI4720	0.03	0.05	0.08	0.13	0.25	—	—	—	—	—	6600	20000
	HI4725	0.01	0.03	0.04	0.06	0.13	0.26	0.39	—	—	—	8700	26300
	HI4730	<0.01	0.02	0.02	0.04	0.08	0.15	0.23	0.30	0.38	0.46	11400	34200
66	HI4710	0.31	—	—	—	—	—	—	—	—	—	1300	3900
	HI4715	0.07	0.15	0.22	0.37	—	—	—	—	—	—	3100	9400
	HI4720	0.03	0.07	0.10	0.17	0.33	—	—	—	—	—	6000	18200
	HI4725	0.02	0.03	0.05	0.09	0.17	0.34	—	—	—	—	7900	23900
	HI4730	0.01	0.02	0.03	0.05	0.10	0.20	0.30	0.41	—	—	10300	31100
72	HI4710	0.40	—	—	—	—	—	—	—	—	—	1100	3500
	HI4715	0.10	0.19	0.29	0.48	—	—	—	—	—	—	2800	8600
	HI4720	0.04	0.09	0.13	0.22	0.43	—	—	—	—	—	5500	16700
	HI4725	0.02	0.04	0.07	0.11	0.22	0.45	—	—	—	—	7300	21900
	HI4730	0.01	0.03	0.04	0.07	0.13	0.26	0.39	—	—	—	9500	28500
84	HI4715	0.15	0.30	0.45	—	—	—	—	—	—	—	2400	7400
	HI4720	0.07	0.14	0.21	0.34	—	—	—	—	—	—	4700	14300
	HI4725	0.04	0.07	0.11	0.18	0.35	—	—	—	—	—	6200	18800
	HI4730	0.02	0.04	0.06	0.10	0.21	0.42	—	—	—	—	8100	24400
96	HI4715	0.23	0.45	—	—	—	—	—	—	—	—	2100	6500
	HI4720	0.10	0.20	0.31	—	—	—	—	—	—	—	4100	12500
	HI4725	0.05	0.11	0.16	0.26	—	—	—	—	—	—	5400	16400
	HI4730	0.03	0.06	0.09	0.16	0.31	—	—	—	—	—	7100	21300

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI58 Grating Uniform Load Chart



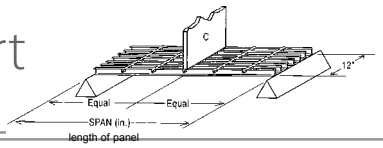
HI58 PULTRUDED SERIES UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (psf) 100	200	300	400	500	600	700	800	900	1000	MAXIMUM RECOM. LOAD (psf)	ULTIMATE CAPACITY (psf)
12	HI5810	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	9800	29500
	HI5815	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	18300	55100
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	47600	142800
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	48800	146600
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	62700	188100
18	HI5810	<0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.08	4700	14100
	HI5815	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	0.02	10100	30500
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21700	65200
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	23500	70500
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29600	89000
24	HI5810	0.02	0.05	0.07	0.09	0.12	0.14	0.16	0.19	0.21	0.23	2800	8500
	HI5815	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06	6800	20500
	HI5820	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	12500	37600
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	14200	42600
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	17700	53100
30	HI5810	0.06	0.11	0.17	0.23	0.28	0.34	0.40	0.45	—	—	1800	5400
	HI5815	0.01	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12	0.14	4300	13100
	HI5820	<0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.06	8200	24700
	HI5825	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	9700	29200
	HI5830	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	11900	35900
36	HI5810	0.12	0.23	0.35	0.47	—	—	—	—	—	—	1200	3700
	HI5815	0.03	0.06	0.08	0.11	0.14	0.17	0.20	0.22	0.25	0.28	3000	9100
	HI5820	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	5800	17600
	HI5825	<0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	7200	21600
	HI5830	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04	8700	26300
42	HI5810	0.22	0.44	—	—	—	—	—	—	—	—	900	2700
	HI5815	0.05	0.10	0.16	0.21	0.26	0.31	0.36	0.42	0.47	—	2200	6700
	HI5820	0.02	0.05	0.07	0.09	0.12	0.14	0.17	0.19	0.21	0.24	4300	12900
	HI5825	0.01	0.02	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.12	5400	16400
	HI5830	<0.01	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	6700	20300
48	HI5810	0.37	—	—	—	—	—	—	—	—	—	700	2100
	HI5815	0.09	0.18	0.27	0.36	0.44	—	—	—	—	—	1700	5100
	HI5820	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40	3300	9900
	HI5825	0.02	0.04	0.06	0.08	0.10	0.13	0.15	0.17	0.19	0.21	4300	13000
	HI5830	0.01	0.02	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.12	5400	16300
52	HI5815	0.12	0.24	0.37	0.49	—	—	—	—	—	—	1400	4300
	HI5820	0.06	0.11	0.17	0.22	0.28	0.33	0.39	0.45	—	—	2800	8400
	HI5825	0.03	0.06	0.09	0.11	0.14	0.17	0.20	0.23	0.26	0.29	3700	11100
	HI5830	0.02	0.03	0.05	0.07	0.09	0.10	0.12	0.14	0.15	0.17	4700	14100
60	HI5815	0.22	0.43	—	—	—	—	—	—	—	—	1000	3200
	HI5820	0.10	0.20	0.30	0.40	0.49	—	—	—	—	—	2100	6300
	HI5825	0.05	0.10	0.15	0.20	0.25	0.31	0.36	0.41	0.46	—	2700	8300
	HI5830	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30	3600	10800
66	HI5815	0.32	—	—	—	—	—	—	—	—	—	900	2700
	HI5820	0.14	0.29	0.43	—	—	—	—	—	—	—	1700	5200
	HI5825	0.07	0.15	0.22	0.30	0.37	0.45	—	—	—	—	2300	6900
	HI5830	0.04	0.09	0.13	0.18	0.22	0.26	0.31	0.35	0.40	0.44	2900	8900
72	HI5815	0.45	—	—	—	—	—	—	—	—	—	700	2200
	HI5820	0.20	0.41	—	—	—	—	—	—	—	—	1400	4400
	HI5825	0.11	0.21	0.32	0.42	—	—	—	—	—	—	1900	5700
	HI5830	0.06	0.12	0.19	0.25	0.31	0.37	0.44	0.50	—	—	2500	7500
84	HI5820	0.38	—	—	—	—	—	—	—	—	—	1000	3200
	HI5825	0.20	0.39	—	—	—	—	—	—	—	—	1400	4200
	HI5830	0.12	0.23	0.35	0.46	—	—	—	—	—	—	1800	5500
96	HI5825	0.33	—	—	—	—	—	—	—	—	—	1000	3200
	HI5830	0.20	0.39	—	—	—	—	—	—	—	—	1400	4200

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

HI58 Grating Concentrated Line Load Chart



HI58 PULTRUDED SERIES LINE LOAD TABLE - DEFLECTIONS IN INCHES

CLEAR SPAN (in)	STYLE	LOAD (LBS/FT of Width)										MAXIMUM RECOM. LOAD (lbs/ft)	ULTIMATE CAPACITY (lbs/ft)
		100	200	300	500	1000	2000	3000	4000	5000	6000		
12	HI5810	<0.01	<0.01	<0.01	0.01	0.03	0.05	0.08	0.11	0.13	0.16	4900	14700
	HI5815	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.04	0.05	9100	27500
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	23800	71400
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	24400	73300
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	31300	94000
18	HI5810	<0.01	0.02	0.03	0.04	0.08	0.17	0.25	0.34	0.42	—	3500	10600
	HI5815	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.07	0.09	0.11	0.13	7600	22900
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	0.04	0.05	0.06	16300	48900
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	17600	52900
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	22200	66700
24	HI5810	0.02	0.04	0.06	0.09	0.19	0.37	—	—	—	—	2800	8500
	HI5815	<0.01	<0.01	0.01	0.02	0.04	0.09	0.13	0.18	0.22	0.27	6800	20500
	HI5820	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.07	0.09	0.11	0.13	12500	37600
	HI5825	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.04	0.05	0.06	0.08	14200	42600
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.03	0.04	0.05	17700	53100
30	HI5810	0.04	0.07	0.11	0.18	0.36	—	—	—	—	—	2200	6800
	HI5815	<0.01	0.02	0.03	0.04	0.09	0.17	0.26	0.35	0.43	—	5400	16400
	HI5820	<0.01	<0.01	0.01	0.02	0.04	0.08	0.12	0.16	0.21	0.25	10300	30900
	HI5825	<0.01	<0.01	<0.01	0.01	0.02	0.05	0.07	0.09	0.11	0.14	12100	36500
	HI5830	<0.01	<0.01	<0.01	<0.01	0.01	0.03	0.04	0.06	0.07	0.08	14900	44900
36	HI5810	0.06	0.13	0.19	0.31	—	—	—	—	—	—	1800	5600
	HI5815	0.01	0.03	0.04	0.07	0.15	0.30	0.45	—	—	—	4500	13700
	HI5820	<0.01	0.01	0.02	0.03	0.07	0.14	0.20	0.27	0.34	0.41	8800	26400
	HI5825	<0.01	<0.01	0.01	0.02	0.04	0.07	0.11	0.15	0.18	0.22	10800	32400
	HI5830	<0.01	<0.01	<0.01	0.01	0.02	0.05	0.07	0.09	0.12	0.14	13100	39400
42	HI5810	0.10	0.20	0.30	0.50	—	—	—	—	—	—	1600	4800
	HI5815	0.02	0.05	0.07	0.12	0.24	0.48	—	—	—	—	3900	11700
	HI5820	0.01	0.02	0.03	0.05	0.11	0.22	0.33	0.43	—	—	7500	22600
	HI5825	<0.01	0.01	0.02	0.03	0.06	0.11	0.17	0.23	0.29	0.34	9600	28800
	HI5830	<0.01	<0.01	0.01	0.02	0.03	0.07	0.10	0.14	0.17	0.21	11800	35500
48	HI5810	0.15	0.30	0.45	—	—	—	—	—	—	—	1400	4200
	HI5815	0.04	0.07	0.11	0.18	0.36	—	—	—	—	—	3400	10200
	HI5820	0.02	0.03	0.05	0.08	0.16	0.32	0.49	—	—	—	6600	19800
	HI5825	<0.01	0.02	0.03	0.04	0.08	0.17	0.25	0.33	0.42	—	8600	26000
	HI5830	<0.01	<0.01	0.01	0.02	0.05	0.10	0.15	0.20	0.25	0.30	10800	32600
52	HI5810	0.19	0.38	—	—	—	—	—	—	—	—	1300	3900
	HI5815	0.05	0.09	0.14	0.23	0.45	—	—	—	—	—	3100	9500
	HI5820	0.02	0.04	0.06	0.10	0.21	0.41	—	—	—	—	6100	18300
	HI5825	0.01	0.02	0.03	0.05	0.11	0.21	0.32	0.42	—	—	8000	24000
	HI5830	<0.01	0.01	0.02	0.03	0.06	0.13	0.19	0.25	0.31	0.38	10200	30600
60	HI5810	0.29	—	—	—	—	—	—	—	—	—	1100	3400
	HI5815	0.07	0.14	0.21	0.35	—	—	—	—	—	—	2700	8200
	HI5820	0.03	0.06	0.09	0.16	0.32	—	—	—	—	—	5200	15800
	HI5825	0.02	0.03	0.05	0.08	0.16	0.33	0.49	—	—	—	6900	20800
	HI5830	<0.01	0.02	0.03	0.05	0.10	0.19	0.29	0.38	0.48	—	9000	27100
66	HI5810	0.39	—	—	—	—	—	—	—	—	—	1000	3000
	HI5815	0.09	0.18	0.28	0.46	—	—	—	—	—	—	2400	7400
	HI5820	0.04	0.08	0.13	0.21	0.42	—	—	—	—	—	4800	14400
	HI5825	0.02	0.04	0.07	0.11	0.22	0.43	—	—	—	—	6300	18900
	HI5830	0.01	0.03	0.04	0.06	0.13	0.26	0.38	—	—	—	8200	24600
72	HI5815	0.12	0.24	0.36	—	—	—	—	—	—	—	2200	6800
	HI5820	0.05	0.11	0.16	0.27	—	—	—	—	—	—	4400	13200
	HI5825	0.03	0.06	0.08	0.14	0.28	—	—	—	—	—	5700	17300
	HI5830	0.02	0.03	0.05	0.08	0.17	0.33	0.50	—	—	—	7500	22500
84	HI5815	0.19	0.38	—	—	—	—	—	—	—	—	1900	5800
	HI5820	0.09	0.17	0.26	0.43	—	—	—	—	—	—	3700	11300
	HI5825	0.04	0.09	0.13	0.22	0.45	—	—	—	—	—	4900	14900
	HI5830	0.03	0.05	0.08	0.13	0.26	—	—	—	—	—	6400	19300
96	HI5815	0.28	—	—	—	—	—	—	—	—	—	1700	5100
	HI5820	0.13	0.26	0.39	—	—	—	—	—	—	—	3300	9900
	HI5825	0.07	0.13	0.20	0.33	—	—	—	—	—	—	4300	13000
	HI5830	0.04	0.08	0.12	0.20	0.39	—	—	—	—	—	5600	16900

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 3:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to ASCE Structural Plastics Design Manual.
4. Fibergrate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergrate Engineering.
5. Fibergrate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
6. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

Safe-T-Span® Pedestrian Grating Details

Designed specifically for pedestrian walkways, Fibergrate's Safe-T-Span pultruded pedestrian grating is ideal for applications where a slip resistant, corrosion resistant, durable, lightweight material is required. Safe-T-Span pedestrian pultruded grating is available in 1" and 1-1/2" depths and in several configurations and panel sizes. Safe-T-Span 1" deep pedestrian grating is designed for access areas and walkways where pedestrian traffic is the heaviest load. Pedestrian 1-1/2" deep grating is approximately three times stiffer than the 1" deep version and is used for applications where wider spans (up to 72") or lower deflection criteria are required.

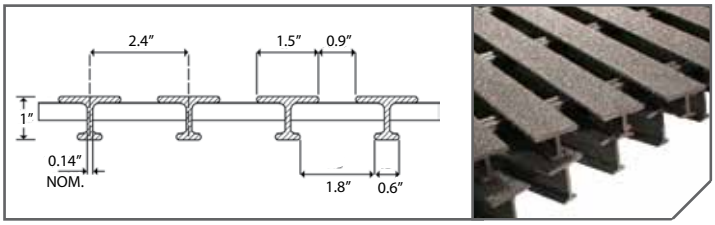
Pontoon Boardwalk in Portland, Oregon

Grating Details

Refer to chart on page 4 for Grating Selection.

1" Deep T3810

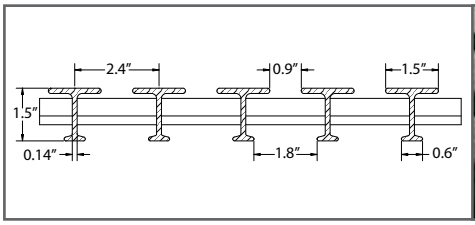
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
5	1"	38%	2.4"	1.9 psf

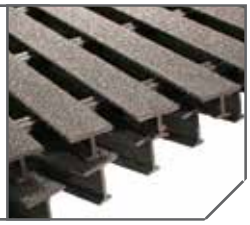


Section Properties per Ft of Width: A=1.76 IN² I=0.23 IN⁴ St=0.65 IN³ Sb=0.35 IN³
Average EI = 1,120,000 lb - in² (SPAN ≥ 24")

1-1/2" Deep T3815

# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
5	1-1/2"	38%	2.4"	2.7 psf

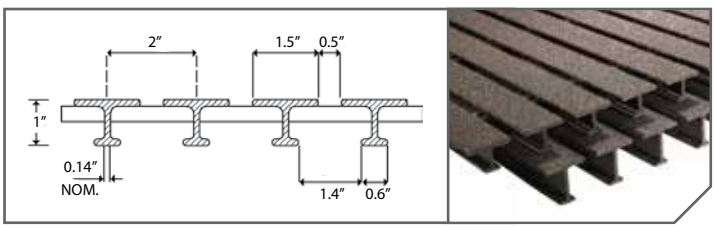




Section Properties per Ft of Width: A=2.28 IN² I=0.66 IN⁴ St=1.23 IN³ Sb=0.69 IN³
Average EI = 3,440,000 lb - in² (SPAN ≥ 24")

1" Deep T2510 (ADA Compliant)

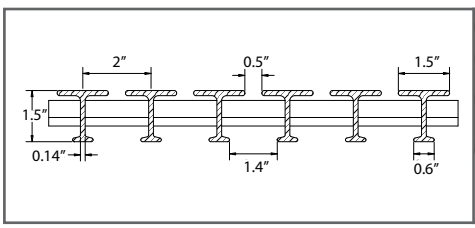
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
6	1"	25%	2"	2.5 psf



Section Properties per Ft of Width: A=2.11 IN² I=0.27 IN⁴ St=0.79 IN³ Sb=0.42 IN³
Average EI = 1,340,000 lb - in² (SPAN ≥ 24")

1-1/2" Deep T2515 (ADA Compliant)

# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
6	1-1/2"	25%	2"	2.9 psf



Section Properties per Ft of Width: A=2.73 IN² I=0.8 IN⁴ St=1.47 IN³ Sb=0.83 IN³
Average EI = 4,130,000 lb - in² (SPAN ≥ 24")

Aqua Grate® Pedestrian Grating Details

Aqua Grate T1210 and T1215 pultruded pedestrian grating is specifically engineered to withstand the corrosive conditions associated with recreational and general marine applications and to meet ADA guidelines. With its nominal 1/4" space between the 1-1/2" wide bearing bars, Aqua Grate offers optimum comfort and safety for bathers walking with bare feet — a must in high traffic, public recreational areas. Aqua Grate grating has a unique combination of corrosion resistance and light weight which provides easy, inexpensive installations in such facilities as swimming pools, water parks, marinas and piers.

Boat dock on Horseshoe Lake in Haliburton, Ontario.

Aqua Grate is available in a variety of lengths and widths, making it useful for a number of waterfront and recreational applications. The fine grit surface of Aqua Grate provides a high level of slip resistance, yet at the same time offers a comfortable barefoot walking surface. Protection against long-term UV exposure is provided by a synthetic surfacing veil and UV inhibitors in the resin formulation. Whether subjected to chlorinated water in public and private pools or salt water environments found in marine and waterfront applications, Aqua Grate will offer years of low cost, low maintenance service.

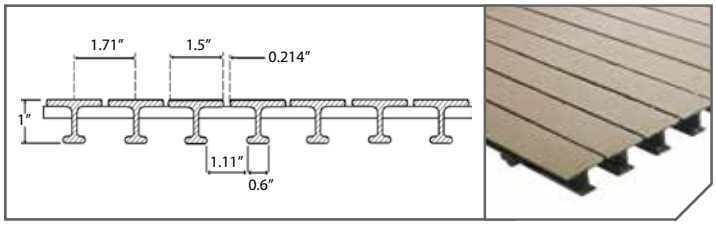
Corinthian Yacht Club Harbor in San Francisco, California.

Grating Details

Refer to chart on page 4 for Grating Selection.

1" Deep T1210 (ADA Compliant)

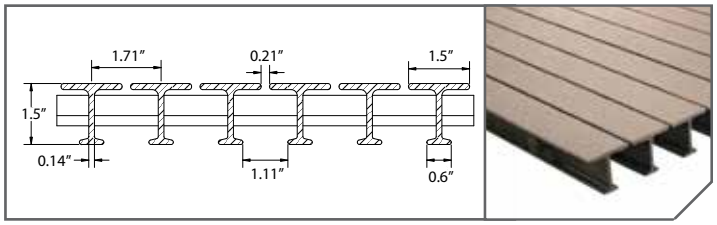
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
7	1"	12%	1.714"	2.7 psf



Section Properties per Ft of Width: A=2.46 IN² I=0.32 IN⁴ St=0.94 IN³ Sb=0.49 IN³
Average EI = 1,568,000 lb - in² (SPAN ≥ 24")

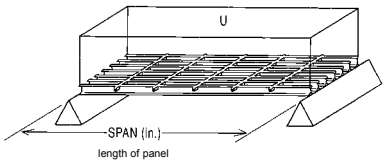
1-1/2" Deep T1215 (ADA Compliant)

# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
7	1-1/2"	12%	1.714"	3.2 psf



Section Properties per Ft of Width: A=3.19 IN² I=0.93 IN⁴ St=1.72 IN³ Sb=0.97 IN³
Average EI = 4,827,000 lb - in² (SPAN ≥ 24")

Pedestrian Series Uniform Load Chart



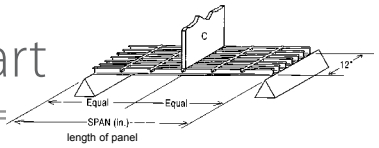
PEDESTRIAN SERIES SAFE-T-SPAN UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES										
CLEAR SPAN (in)	STYLE	LOAD (psf)							MAXIMUM RECOMMENDED LOAD (psf)	ULTIMATE CAPACITY (psf)
		50	100	200	300	500	1,000	2,000		
12	T3810	<.01	<.01	<.01	<.01	0.01	0.03	0.06	2730	5460
	T3815	<.01	<.01	<.01	<.01	0.01	0.01	0.03	4220	8440
	T2510	<.01	<.01	<.01	<.01	0.01	0.02	0.05	3280	6560
	T2515	<.01	<.01	<.01	<.01	0.01	0.01	0.02	5060	10120
	T1210	<.01	<.01	<.01	<.01	0.01	0.02	0.04	4590	9180
	T1215	<.01	<.01	<.01	<.01	0.01	0.01	0.02	5060	10120
18	T3810	<.01	0.01	0.02	0.04	0.06	0.12	—	1820	3640
	T3815	<.01	<.01	0.01	0.01	0.02	0.05	0.10	2810	5620
	T2510	<.01	0.01	0.02	0.03	0.05	0.10	0.20	2180	4360
	T2515	<.01	<.01	0.01	0.01	0.02	0.04	0.08	3380	6760
	T1210	<.01	<.01	0.01	0.03	0.04	0.09	0.18	3060	6120
	T1215	<.01	<.01	0.01	0.01	0.02	0.04	0.07	3940	7880
24	T3810	0.02	0.03	0.07	0.10	0.17	034	—	1370	2740
	T3815	0.01	0.01	0.02	0.04	0.06	0.12	0.24	2110	4220
	T2510	0.01	0.03	0.06	0.08	0.14	0.28	—	1640	3280
	T2515	<.01	0.01	0.02	0.03	0.05	0.10	0.20	2530	5060
	T1210	0.01	0.02	0.05	0.07	0.12	0.24	0.48	2290	4580
	T1215	<.01	0.01	0.02	0.03	0.04	0.09	0.17	2950	5900
30	T3810	0.04	0.08	0.16	0.24	0.40	—	—	1090	2180
	T3815	0.01	0.03	0.06	0.08	0.14	0.28	—	1690	3380
	T2510	0.03	0.07	0.13	0.20	0.33	—	—	1310	2620
	T2515	0.01	0.02	0.05	0.07	0.12	0.23	0.47	2030	4060
	T1210	0.03	0.06	0.11	0.17	0.29	—	—	1840	3680
	T1215	0.01	0.02	0.04	0.06	0.10	0.20	0.40	2360	4720
36	T3810	0.08	0.16	0.32	0.49	—	—	—	860	1720
	T3815	0.03	0.06	0.11	0.17	0.28	—	—	1410	2820
	T2510	0.07	0.14	0.27	0.41	—	—	—	1040	2080
	T2515	0.02	0.05	0.09	0.14	0.23	046	—	1690	3380
	T1210	0.06	0.11	0.23	0.35	—	—	—	1450	2900
	T1215	0.02	0.04	0.08	0.12	0.20	0.40	—	1970	3940
42	T3810	0.15	0.30	—	—	—	—	—	630	1260
	T3815	0.05	0.10	0.20	0.30	—	—	—	1100	2200
	T2510	0.12	0.25	0.50	—	—	—	—	760	1520
	T2515	0.04	0.08	0.17	0.25	0.41	—	—	1320	2640
	T1210	0.11	0.21	0.43	—	—	—	—	1060	2120
	T1215	0.04	0.07	0.14	0.21	0.36	—	—	1540	3080
48	T3810	0.25	0.50	—	—	—	—	—	490	980
	T3815	0.08	0.17	0.33	—	—	—	—	840	1680
	T2510	0.21	0.42	—	—	—	—	—	580	1160
	T2515	0.07	0.14	0.28	0.42	—	—	—	1010	2020
	T1210	0.18	0.36	—	—	—	—	—	820	1640
	T1215	0.06	0.12	0.24	0.36	—	—	—	1180	2360
54	T3815	0.13	0.26	—	—	—	—	—	670	1340
	T2515	0.11	0.22	0.44	—	—	—	—	800	1600
	T1215	0.09	0.19	0.38	—	—	—	—	930	1860
60	T3815	0.20	0.40	—	—	—	—	—	540	1080
	T2515	0.16	0.33	—	—	—	—	—	650	1300
	T1215	0.14	0.28	—	—	—	—	—	760	1520
66	T3815	0.29	—	—	—	—	—	—	450	900
	T2515	0.24	0.48	—	—	—	—	—	540	1080
	T1215	0.21	0.41	—	—	—	—	—	620	1240
72	T3815	0.41	—	—	—	—	—	—	370	740
	T2515	0.34	—	—	—	—	—	—	450	900
	T1215	0.29	—	—	—	—	—	—	520	1040

IMPORTANT: Installation should provide for fully supported abutments of grating panels. Otherwise higher deflection values may be experienced, and tripping hazards may occur. Stub bars should not be less than 1" in clip attachment areas. Safe-T-Span pedestrian grating load bars at platform edges should be full supported.

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 2:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. Walking loads, typically 50-65 PSF maximum are recommended for pedestrian traffic. Deflections for worker comfort are typically limited to the lesser of 3/8" or CLEAR SPAN divided by 125; for a firmer feel, limit deflection to the lesser of 1/4" or CLEAR SPAN divided by 200.
4. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact or dynamic conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to the ASCE Structural Plastics Design Manual.
5. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

Pedestrian Series Concentrated Line Load Chart



PEDESTRIAN SERIES SAFE-T-SPAN CONCENTRATED LINE LOAD TABLE - DEFLECTIONS IN INCHES										
CLEAR SPAN (in)	STYLE	LOAD (LBS/FT of Width) 50	100	200	300	500	1,000	2,000	MAXIMUM RECOMMENDED LOAD (lbs/ft)	ULTIMATE CAPACITY (lbs/ft)
12	T3810	<.01	<.01	<.01	0.01	0.02	0.05	0.09	2730	5460
	T3815	<.01	<.01	<.01	0.01	0.01	0.02	0.04	4220	8440
	T2510	<.01	<.01	<.01	0.01	0.02	0.04	0.08	3280	6560
	T2515	<.01	<.01	<.01	0.01	0.01	0.02	0.04	5060	10120
	T1210	<.01	<.01	<.01	<.01	0.01	0.04	0.06	4590	9180
	T1215	<.01	<.01	<.01	<.01	0.01	0.02	0.03	5900	11800
18	T3810	<.01	0.01	0.03	0.04	0.07	0.13	0.26	2590	5180
	T3815	<.01	0.01	0.01	0.02	0.03	0.05	0.10	4220	8440
	T2510	<.01	0.01	0.02	0.03	0.05	0.11	0.22	3100	6200
	T2515	<.01	<.01	0.01	0.01	0.02	0.04	0.09	5060	10120
	T1210	<.01	0.01	0.02	0.03	0.05	0.09	0.19	4350	8700
	T1215	<.01	<.01	0.01	0.01	0.02	0.04	0.07	5900	11800
24	T3810	0.01	0.03	0.05	0.08	0.13	0.27	—	1940	3880
	T3815	<.01	0.01	0.02	0.03	0.05	0.09	0.19	3370	6740
	T2510	0.01	0.02	0.04	0.07	0.11	0.22	0.45	2330	4660
	T2515	<.01	0.01	0.02	0.02	0.04	0.08	0.16	4040	8080
	T1210	0.01	0.02	0.04	0.06	0.09	0.19	0.38	3260	6520
	T1215	<.01	<.01	0.01	0.02	0.03	0.07	0.14	4720	9440
30	T3810	0.03	0.05	0.10	0.15	0.26	—	—	1550	3100
	T3815	0.01	0.03	0.04	0.05	0.09	0.18	0.36	2700	5400
	T2510	0.02	0.04	0.09	0.13	0.21	0.43		1860	3720
	T2515	0.01	0.01	0.03	0.04	0.07	0.15	0.30	3230	6460
	T1210	0.02	0.04	0.07	0.11	0.19	0.36	—	2610	5220
	T1215	0.01	0.01	0.03	0.04	0.06	0.13	0.25	3770	7540
36	T3810	0.04	0.09	0.17	0.26	0.43	—	—	1290	2580
	T3815	0.01	0.03	0.06	0.09	0.15	0.30	—	2250	4500
	T2510	0.04	0.07	0.14	0.22	0.36	—	—	1550	3100
	T2515	0.01	0.02	0.05	0.07	0.12	0.25	0.49	2700	5400
	T1210	0.03	0.06	0.12	0.19	0.31	—	—	2170	4340
	T1215	0.01	0.02	0.04	0.06	0.11	0.21	0.42	31470	6280
42	T3810	0.07	0.14	0.27	0.41	—	—	—	1110	2220
	T3815	0.02	0.09	0.09	0.14	0.23	0.45	—	1930	3860
	T2510	0.06	0.11	0.23	0.34	—	—	—	1330	2660
	T2515	0.02	0.04	0.08	0.11	0.19	0.38	—	2310	4620
	T1210	0.05	0.10	0.19	0.29	0.49	—	—	1860	3720
	T1215	0.02	0.03	0.06	0.10	0.16	0.32	—	2700	5400
48	T3810	0.10	0.20	0.40	—	—	—	—	970	1940
	T3815	0.03	0.07	0.13	0.20	0.33	—	—	1680	3360
	T2510	0.08	0.17	0.33	0.50	—	—	—	1160	2320
	T2515	0.03	0.06	0.11	0.17	0.28	—	—	2020	4040
	T1210	0.07	0.14	0.29	0.43	—	—	—	1630	3260
	T1215	0.02	0.05	0.10	0.14	0.24	0.48	—	2360	4720
54	T3815	0.05	0.09	0.19	0.28	0.47	—	—	1500	3000
	T2515	0.04	0.08	0.16	0.23	0.39	—	—	1800	3600
	T1215	0.03	0.07	0.13	0.20	0.33	—	—	2100	4200
60	T3815	0.06	0.13	0.25	0.38	—	—	—	1350	2700
	T2515	0.05	0.10	0.21	0.31	—	—	—	1620	3240
	T1215	0.04	0.09	0.18	0.27	0.45	—	—	1890	3780
66	T3815	0.08	0.17	0.33	—	—	—	—	1230	2460
	T2515	0.07	0.14	0.28	0.42	—	—	—	1470	2940
	T1215	0.06	0.12	0.24	0.36	—	—	—	1720	3440
72	T3815	0.11	0.22	0.43	—	—	—	—	1120	2240
	T2515	0.09	0.18	0.36	—	—	—	—	1350	2700
	T1215	0.08	0.15	0.31	0.46	—	—	—	1500	3140

IMPORTANT: Installation should provide for fully supported abutments of grating panels. Otherwise higher deflection values may be experienced, and tripping hazards may occur. Stub bars should not be less than 1" in clip attachment areas. Safe-T-Span pedestrian grating load bars at platform edges should be full supported.

NOTES:

1. The designer should not exceed the MAX RECOMMENDED LOAD at any given span. MAX RECOMMENDED LOAD represents a 2:1 factor of safety on ULTIMATE CAPACITY.
2. ULTIMATE CAPACITY represents a complete and total failure of the grating. Values are provided to illustrate the reserve strength of the grating at a given span and are NOT to be used for design. Functionality of grating is limited to MAX RECOMMENDED LOAD.
3. Walking loads, typically 50-65 PSF maximum are recommended for pedestrian traffic. Deflections for worker comfort are typically limited to the lesser of 3/8" or CLEAR SPAN divided by 125; for a firmer feel, limit deflection to the lesser of 1/4" or CLEAR SPAN divided by 200.
4. The allowable loads in this table are for STATIC LOAD CONDITIONS at ambient temperatures only. Allowable loads for impact or dynamic conditions should be a maximum of ONE-HALF the values shown. Long term loads will result in added deflection due to creep in the material and will also require higher safety factors to ensure acceptable performance. For applications at elevated temperatures, consult factory. The designer is further referenced to the ASCE Structural Plastics Design Manual.
5. All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.

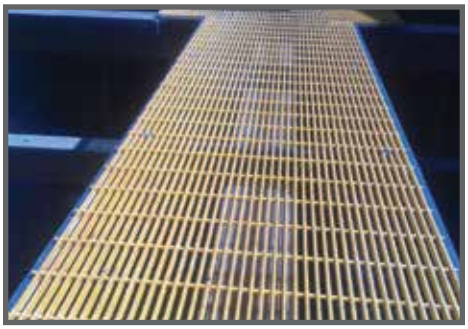
Custom Pultruded Gratings

Fibergrate Composite Structures has developed a number of specialty pultruded gratings to meet specific requirements brought to us by our customers. These grating solutions were developed in partnerships with our customers, capitalizing on Fibergrate's 20+ years of pultruded experience and the customers' intimate knowledge of their markets and applications. Fibergrate continues to work closely with our customers on a daily basis to provide the products required for new applications, so please call us about your project today!

For more information about all our custom pultruded gratings with unique depths and open areas, including details and load charts visit *www.fibergrate.com > Products > Pultruded Grating > Custom Pultruded Gratings.* Two of our more popular custom gratings include our SI and WT series pultruded products.

SI Pultruded Series

HVAC Screening



Walkway Grating

Dock & Marine Gangway

The SI Series of grating is available in open areas of 60%, 73% and 83%, providing excellent airflow and light transmission. The profile of the SI Series has an appearance similar to metal grating. It is useful in areas where a close match to a steel or an aluminum profile for an existing installation is needed. SI sections with bonded rod crossbars are suitable for use in low pedestrian traffic areas.

WT Pultruded Series

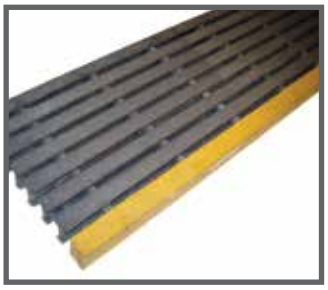
WT1815 Grating (18% open area with 1-1/2" of depth)

The WT Pedestrian Series is offered in a variety of sizes with open areas including 35%, 18% or even 0% and depths of 1" or 1-1/2". The T-shaped top of the load bar provides maximum surface area underfoot, thus the most comfortable walking surface and a smoother surface for two-wheel moving equipment. These designs are excellent for areas with high traffic and light hand trucks or wheeled carts. WT00 provides a cost effective solid deck surface.

Safe-T-Span® Pultruded Stair Treads

Safe-T-Span® Industrial & Pedestrian Stair Treads

Slip resistant and non conductive Safe-T-Span pultruded stair treads offer the same level of safety, strength and corrosion resistance as other Fibergrate pultruded fiberglass products. Designed for use in applications where wider support spans are required, Safe-T-Span pultruded stair treads for industrial and pedestrian applications are available in 1", 1-1/2" and 2" depths in the ISOFR and VEFR resin systems. Fibergrate's I6015 and I4015 1-1/2" deep treads are also available in the phenolic resin system.



Industrial Stair Tread

Load and Deflection Information

TREAD TYPE	Load (lbs.)	SPAN (in.)	18	24	30	36	42	48
		SPAN/150	.12	.16	.20	.24	.28	.32
1" Deep, I6010 (60% Open)	250		.03	.08	.14	.22	.34	.46
	500		.07	.15	.28	.44	.68	.92
1-1/2" Deep, I6015 (60% Open)	250		.01	.02	.04	.06	.09	.13
	500		.02	.04	.08	.11	.18	.26
2" Deep T5020 (50% Open)	250		.01	.02	.03	.04	.06	.09
	500		.02	.04	.06	.09	.12	.18
1" Deep I4010 (40% Open)	250		.02	.05	.10	.16	.24	.33
	500		.05	.11	.20	.32	.49	.65
1-1/2" Deep, I4015 (40% Open)	250		.01	.01	.03	.04	.06	.09
	500		.02	.03	.05	.07	.12	.17
2" Deep, T3320 (33% Open)	250		.01	.01	.02	.03	.05	.07
	500		.02	.03	.04	.06	.09	.14
1" Deep, T1210 (12% Open)	250		.06	.13	.19	.26	.37	.47
	500		.10	.22	.34	.46	—	—
1-1/2" Deep, T1215 (12% Open)	250		.05	.07	.07	.11	.15	.18
	500		.08	.12	.16	.20	.28	.36
1" Deep, T2510 (25% Open)	250		.05	.13	.20	.27	.39	.50
	500		.09	.23	.37	.50	—	—
1-1/2" Deep, T2515 (25% Open)	250		.03	.06	.09	.12	.15	.18
	500		.05	.11	.16	.21	.28	.35
1" Deep, T3810 (38% Open)	250		.06	.15	.23	.32	.47	—
	500		.09	.25	.41	—	—	—
1-1/2" T3815 (38% Open)	250		.03	.06	.09	.12	.18	.23
	500		.05	.11	.17	.23	.34	.45

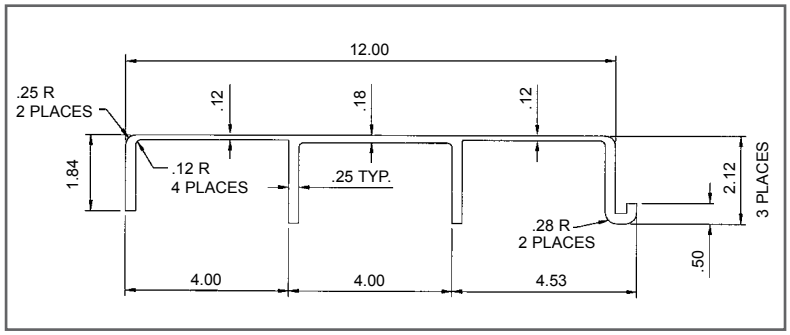
NOTES:

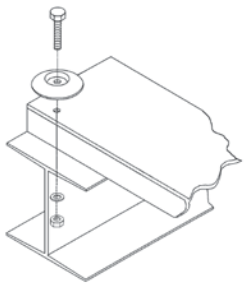
1. It is suggested that stair tread deflection be limited to SPAN/150. Deflections based on this ratio are provided at the top of the table.
2. Deflection in the body of the table are for concentrated loads of both 250 lbs. and 500 lbs. A concentrated load is applied at the center of the tread, over a width of 4" and a length of 6", starting at the nosing edge to simulate the landing of a foot.
3. Deflections are not appreciably different due to stair tread depth. Actual depth will vary depending on stair tread configuration.

Dynadeck® Interlocking Flooring

Used in a wide range of industrial and commercial applications, Dynadeck® interlocking pultruded flooring panels provide a unique combination of durability, easy install, and low maintenance. Dynadeck is designed to be easily installed with sections snapping together more than three times faster than conventional flooring and can be disassembled for transporting. Dynadeck is available with a smooth solid top and is ADA compliant. It can also be gritted to provide a slip resistant surface.

Standard Smooth Solid Details





Type W Hold-Down Clips are recommended to secure Dynadeck panels to structural supports in order to eliminate potential damage to the panel.

Load / Deflection Information

SPAN	U/C	100 lb	200 lb	300 lb	500 lb	1000 lb	2000 lb
2 ft	ΔU	.010	.018	.029	.049	.097	.194
	ΔC	.008	.015	.024	.039	.079	.158
3 ft	ΔU	.035	.070	.105	.175	.350	—
	ΔC	.019	.038	.057	.095	.190	.380
4 ft	ΔU	.111	.222	.333	.555	1.110	—
	ΔC	.045	.090	.135	.225	.450	.900
5 ft	ΔU	.270	.540	.810	1.350	—	—
	ΔC	.068	.175	.263	.438	.876	—
6 ft	ΔU	.562	1.124	1.686	—	—	—
	ΔC	.151	.302	.453	.755	1.510	—

U – Uniform Load (lbs./ft.)
ΔU – Uniform Load Deflection (in.)
C– Concentrated Load (lbs./ft at center of span)
ΔC– Concentrated Load Deflection (in.)

Applications

- Cooling Tower Fan Decks
- Cooling Tower Access Walkways
- Roofing Walkways
- Odor Containment Trench Covers
- Offshore Platform Protective Walls

Dynadeck® Resins

- ISOFR - Dark Gray (Standard), Flame Spread of 25 or Less
- VEFR - Beige, Flame Spread of 25 or Less

Dynadeck® Surfaces

- Smooth Solid
- Optional Gritted Solid

Chemical Resistance Guide

Chemical Environment	% Concentration	Temp °F	Fibergrate® Molded				Safe-T-Span® Pultruded	
			Vi-Corr®	Corvex®	FGI-AM®	XFR	VEFR	ISOFR
Acetic Acid	50	MAX	C	C	C	I	C	C
Acetone	100	75	S	I	I	I	I	N
Alcohols	100	120	C	I	I	S	I	I
Alum	ALL	MAX	C	C	C	C	C	C
Aluminum Chloride	ALL	MAX	C	C	C	C	C	C
Aluminum Fluoride	20	75	C	I	I	I	I	I
Ammonium Hydroxide	30	75	C	N	N	N	I	N
Ammonium Salts-Neutral	ALL	120	C	C	C	S	C	S
Ammonium Salts-Aggressive	ALL	75	S	I	I	I	T	N
Aromatic Solvents	ALL	75	T	N	N	N	N	N
Barium Salts	ALL	MAX	C	C	C	C	C	C
Benzene	100	140	I	I	I	I	I	N
Black Liquor (Pulp Mill)	ALL	MAX	C	I	I	I	I	N
Bleach Liquor (Pulp Mill)	ALL	MAX	C	I	I	N	I	N
Calcium Hydroxide	25	MAX	C	S	S	I	S	I
Calcium Hypochlorite	ALL	MAX	C	I	I	I	I	N
Calcium Salts	ALL	MAX	C	C	C	C	C	C
Carbon Tetrachloride	100	75	C	I	I	S	S	N
Chlorinated Hydrocarbons	100	75	T	T	T	N	T	T
Chlorine Dioxide	SAT	140	C	N	N	N	S	N
Chlorine Water	SAT	120	C	I	I	I	I	N
Chlorine, Wet	SAT	MAX	C	N	N	N	N	N
Chlorobenzene	100	75	S	N	N	N	N	N
Chlorobenzene	ALL	Up to 100	C	N	N	N	N	N
Chloroform	100	75	N	N	N	N	N	N
Chromic Acid	50	140	S	S	S	N	I	N
Citric Acid	ALL	MAX	C	C	C	C	C	C
Copper Cyanide Plating	ALL	125	C	S	S	N	S	I
Copper Salts	ALL	MAX	C	C	C	C	C	C
Crude Oil (Sweet or Sour)	ALL	MAX	C	C	C	C	C	C
Dichlorobenzene	100	75	T	N	N	N	N	N
Ethers		75	T	N	N	N	N	N
Ferric Chloride	100	MAX	C	C	C	C	C	C
Ferric Salts	ALL	MAX	C	C	C	C	C	C
Fluoride Salts+HCl	ALL	75	C	S	S	I	I	N
Fluosilicic Acid	10	75	C	S	S	S	S	I
Formaldehyde	37	150	C	I	I	I	S	I
Formic Acid	25	100	C	S	S	I	S	I
Fuel (Diesel, Jet, Gasoline)	ALL	100	C	C	C	C	C	C
Glycerine	100	MAX	C	C	C	C	C	C
Green Liquor (Pulp Mill)	ALL	MAX	C	N	N	N	I	N
Hydrobromic Acid	48	MAX	S	S	S	I	I	N
Hydrochloric Acid	10	MAX	C	S	S	C	S	S
Hydrochloric Acid	30	MAX	C	S	S	I	I	I
Hydrochloric Acid (concentrated)	ALL	Up to 180	I	N	N	N	N	N
Hydrocyanic Acid	ALL	MAX	C	I	I	I	S	I
Hydrofluoric Acid	20	75	S	N	N	N	N	N
Hydrogen Peroxide	30	75	C	N	N	I	S	N
Lactic Acid	100	MAX	C	C	C	C	C	C
Lime Slurry	SAT	MAX	C	C	C	C	C	C
Lithium Chloride	SAT	MAX	N	N	N	N	N	N
Lithium Salts	ALL	MAX	C	C	C	C	T	T
Magnesium Salts	ALL	MAX	C	C	C	C	C	C
Maleic Acid	100	MAX	C	S	S	C	S	I
Mercury Chloride	100	MAX	C	C	C	C	C	C
Nickel Salts	ALL	MAX	C	C	C	C	C	C
Nitric Acid	20	120	C	S	S	I	I	I
Nitric Acid	35	100	C	N	N	I	I	N
Nitric Acid	40	Ambient	I	N	N	N	N	N
Nitric, Hydrofluoric	20:2	75	I	N	N	N	N	N
Nitrous Acid	10	75	C	C	C	C	C	C
Ozone for Sewage Treatment		100	C	C	C	C	C	C
Perchloroethylene	100	75	S	N	N	I	I	N
Phenol	10	75	C	N	N	N	I	N
Phenol	88	Ambient	S	N	N	N	N	N
Phosphoric Acid	85	MAX	C	C	C	C	C	S
Phosphoric Acid, Super	115	MAX	C	I	I	S	S	N
Potassium Hydroxide	10	120	C	I	I	N	S	N
Potassium Salts	ALL	MAX	C	C	C	C	C	C
Silver Nitrate	100	MAX	C	C	C	C	C	C
Sodium Cyanide	ALL	75	C	I	I	I	S	I
Sodium Hydroxide	50	MAX	C	I	I	N	I	N
Sodium Hydroxide	10	MAX	C	N	N	N	N	N
Sodium Hypochlorite (Stable)	10	100	C	S	S	S	S	I
Sodium Salts-Neutral	ALL	MAX	C	C	C	C	C	C
Sodium Salts-Aggressive	ALL	75	S	I	I	I	T	N
Sulfur Dioxide	SAT	MAX	C	S	S	S	S	S
Sulfuric Acid	25	MAX	C	S	S	S	S	I
Sulfuric Acid	50	MAX	C	S	S	S	S	N
Sulfuric Acid	75	100	C	I	I	I	I	N
Toluene	100	120	S	I	I	N	I	N
Trichloroethane1,1,1	ALL	75	S	I	I	I	I	N
Trisodium Phosphate	50	MAX	C	I	I	I	I	N
Water (Fresh, Salt, Moderate D.I.)	100	MAX	C	C	C	C	C	C
Wet Chlorine/Hydrochloric Acid	10-20	Up to 350	S	N	N	N	N	N
White Liquor (Pulp Mill)	ALL	MAX	C	I	I	I	S	N
Zinc Chloride Plating	ALL	75	C	S	S	S	S	N
Zinc Salts	100	MAX	C	C	C	C	C	C

C - Continuous exposure of the grating to the Chemical Environment listed at the temperature listed.
S - Frequent exposure of the grating to splashes and spills from the Chemical Environment listed with that environment at the temperature listed.
I - nfrequent exposure of the grating to splashes and spills from the Chemical Environment listed with that environment at the temperature listed and the spill immediately cleaned up or washed from the grating.
N - Not recommended for the concentrations and temperatures listed.
T - Test

Consult Fibergrate for corrosion recommendations at concentrations, temperatures or chemicals not listed in this guide.
MAX TEMP is 180˚F for ViCorr and Pultruded VEFR; 150˚ for Corvex, FGI-AM, XFR and Pultruded ISOFR.
The information in this Corrosion Guide is correct to the best of Fibergrate's knowledge. It is based on extensive experience with fiberglass grating in corrosive applications. Because actual use conditions differ and mixtures of corrosives will occur in service, the end user must test for use under actual conditions. Fibergrate's responsibility for claims arising from breach of warranty, negligence or otherwise is limited to the purchase price of the material sold by Fibergrate. Test coupons are available upon specific request.

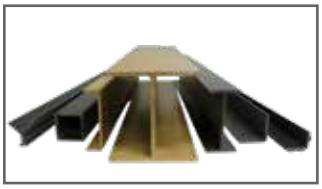
Fibergrate Products & Services

Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.

Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.

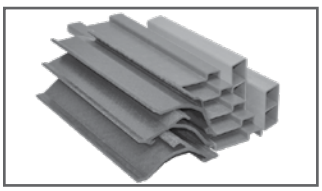


Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.

Dynarail® & DynaRound™ Guardrail, Handrail & Ladder

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail square tube and DynaRound round tube railing systems and Dynarail safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.



Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.

Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.

Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

Heavy Metal SAFE

QUALITY CERTIFIED ISO 9001-2008 FACILITIES

Fibergrate Composite Structures

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Fiberglass Guardrail, Handrail & Ladders

Fibergrate
Composite Structures

Building the World to Last®

HIGH PERFORMANCE **COMPOSITE SOLUTIONS**

FRP Railing & Ladder Systems

The FRP guardrail, handrail, and ladder systems offered by Fibergrate Composite Structures combine corrosion resistance, long life and a low maintenance design, making them superior to conventional metallic systems. These advanced systems are designed and manufactured with lightweight components that are easy to fabricate and install. Savings on labor and equipment often make the total installed cost of FRP railing systems comparable to that of steel. Combining lower installation costs with low maintenance and long life results in a significantly lower life cycle cost than that of its counterparts.

DYNARAIL® GUARDRAIL

The 1-3/4" x 1/8" pultruded square tube guardrail line includes everything needed to install OSHA- and IBC-compliant horizontal and inclined railing systems with either two or three rails. Fibergrate can also provide specialty picketed guardrail systems.

DYNAROUND™ GUARDRAIL

Fibergrate's newest guardrail solution is composed of 1.9" O.D. pultruded tubes. This UV-coated system was designed as a more durable alternative to standard aluminum and steel round railings. DynaRound can be used in applications where safety and ergonomics are a major concern. Round rails eliminate the flat surfaces of square tube systems which can become a resting place for tools and other equipment, creating potentially hazardous situations for dropping/falling objects. The rounded railing and corners also eliminate sharp edges, providing a more comfortable grip for end-users. In addition, the overall appearance of the system is more aesthetically pleasing than the square tube alternative because all fasteners are hidden which provides a smooth, clean look. Fibergrate can also provide customized round guardrail systems.

DYNARAIL® HANDRAIL

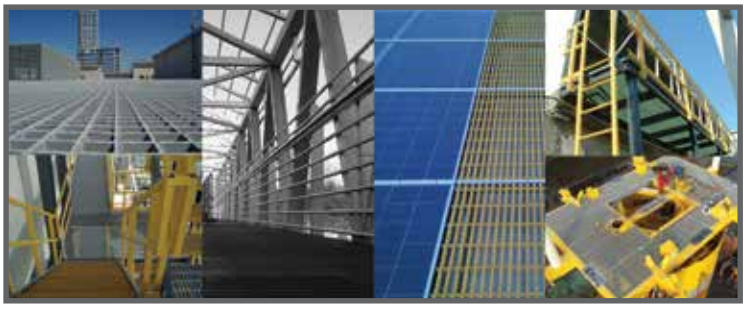
The Dynarail handrail (grab rail) system can be added to a Dynarail (square tube) or DynaRound (round tube) guardrail or wall to meet code requirements.

DYNARAIL® LADDERS

The Dynarail ladder line includes ladders, standard walk-thrus and safety cages.

Dynarail and DynaRound components, including the railing, kickplate, and ladder rungs, are manufactured using the proven Fibergrate pultrusion process. In this process, continuous fiber rovings and mat as well as a synthetic veil are mechanically drawn through a resin bath and shaped through a series of forming guides, then pulled through a heated die.

FIBERGRATE MARKETS



- Architectural/Commercial
- Bridge & Highway
- Chemical
- Food & Beverage
- Manufacturing
- Metals & Mining
- Oil & Gas
- Power/Utilities
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater

Dynarail® & DynaRound™ Railings & Ladders

Why Use FRP?

Corrosion Resistant: Dynarail® and DynaRound™ fiberglass railings and ladders are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

Low Maintenance: The corrosion resistant properties of Fibergrate's FRP products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.

Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

Low Install Cost: Due to ease of fabrication and lightweight, FRP guardrail and handrail systems eliminate the need for heavy lifting equipment. Components are also labeled with tags that correspond to engineering drawings to ensure time-efficient and accurate installation.

Fire Retardant: Flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meets the self-extinguishing requirements of ASTM D-635.

Long Service Life: Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

UV Protection: UV inhibitors in the resin matrix, along with a synthetic surfacing veil, provide optimum protection from the effects of UV weathering. *(Note: An optional UV coating is required for Dynarail railing and ladder system installations with intense UV exposure. The DynaRound system is UV coated.)*

NSF® Standard 61-Certified FRP Products:
Fibergrate is now able to offer NSF Standard 61-Certified Dynarail® FRP guardrail, handrail and ladder systems. These products complement the complete line of NSF Standard 61-Certified Fibergrate® molded gratings, Dynaform® fiberglass structural shapes, and Safe-T-Span® pultruded gratings assembled from NSF Standard 61-Certified FRP components. Molded gratings are available in all Fibergrate® molded grating mesh patterns and thicknesses, except 4' x 12' Micro-Mesh® panels.

Heavy Metal Safe:
The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.

Resin Systems

- **ISOFR**
  Isophthalic polyester resin formulation with a low flame spread rating of 25 or less designed for applications where there is moderate exposure to corrosive elements.

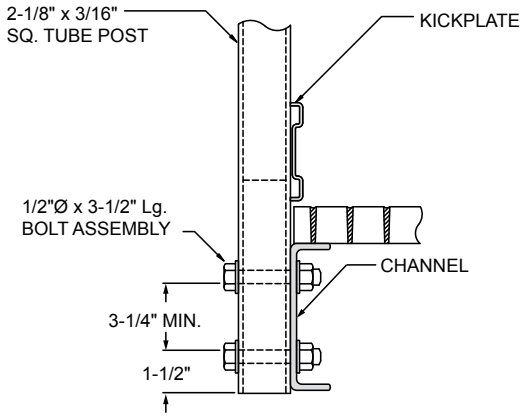
- **VEFR**
  Vinyl ester resin system with a flame spread of 25 or less for dependable resistance to both acidic and alkaline environments.

Table of Contents:

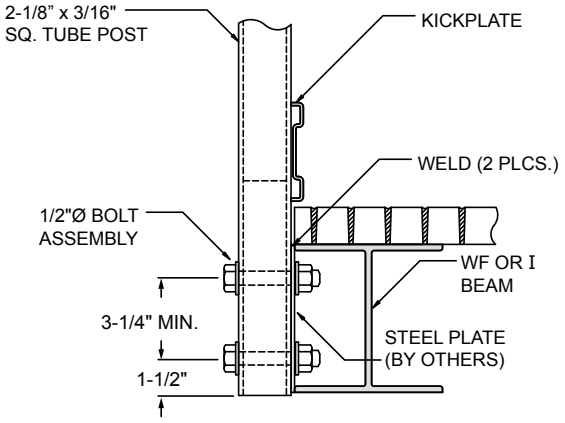
Dynarail® Post Installation Methods

See page 7 for part numbers. For installation conditions not shown, contact Fibergrate.
All details are for posts spaced 6' max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

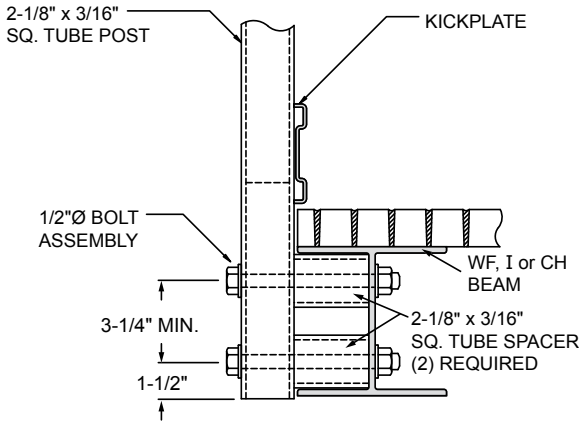
DRAWING A - POST TO FRP OR STEEL CHANNEL



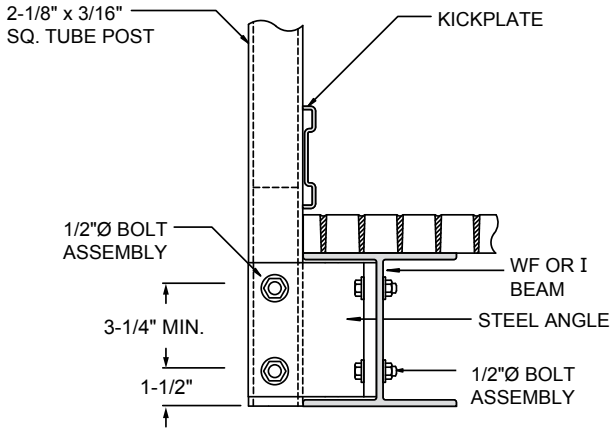
DRAWING B - POST TO STEEL PLATE ON STEEL BEAM



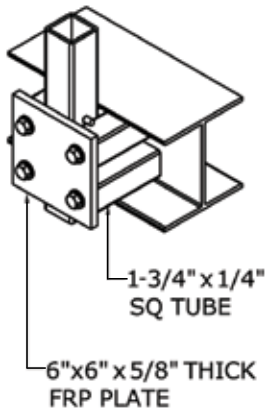
DRAWING C - POST TO FRP OR STEEL BEAM OR CHANNEL WITH FRP SPACERS



DRAWING D - POST TO STEEL ANGLE ON FRP OR STEEL BEAM



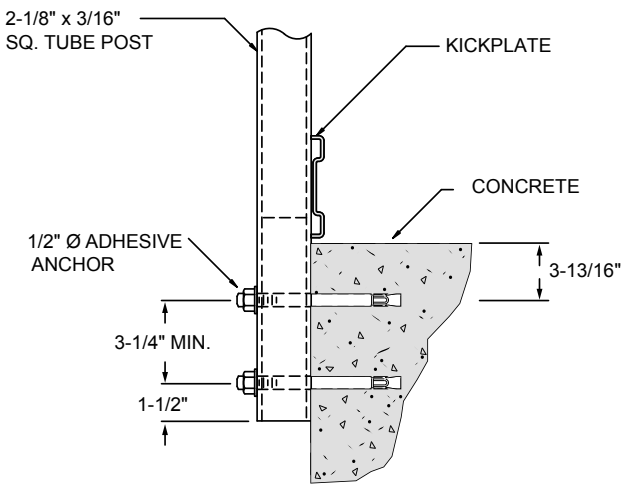
DRAWING E - REMOVABLE POST TO FRP OR STEEL BEAM



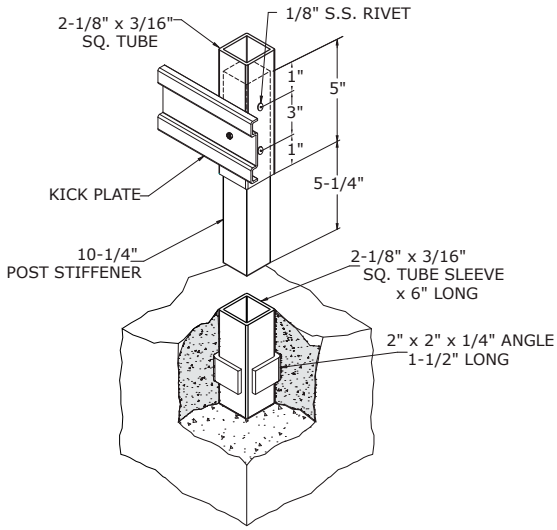
Dynarail® Post Installation Methods

See page 7 for part numbers. For installation conditions not shown, contact Fibergrate.
All details are for posts spaced 6' max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

DRAWING F - SIDE-MOUNTED POST

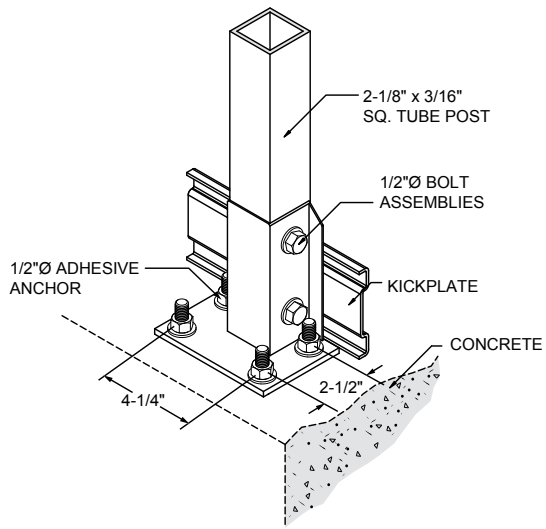


DRAWING G - EMBEDDED POST



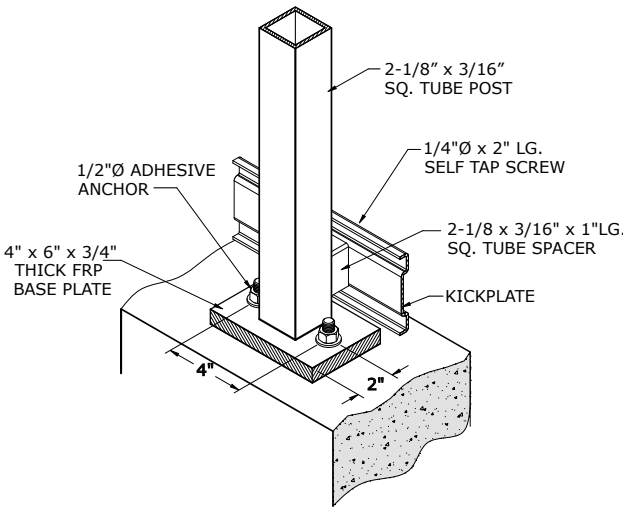
DRAWING H - TOP MOUNT STAINLESS STEEL STANCHION BASE

5'-6" max on center post spacing for IBC to meet a F.O.S. of 2.0



DRAWING I - TOP MOUNT FRP STANCHION BASE

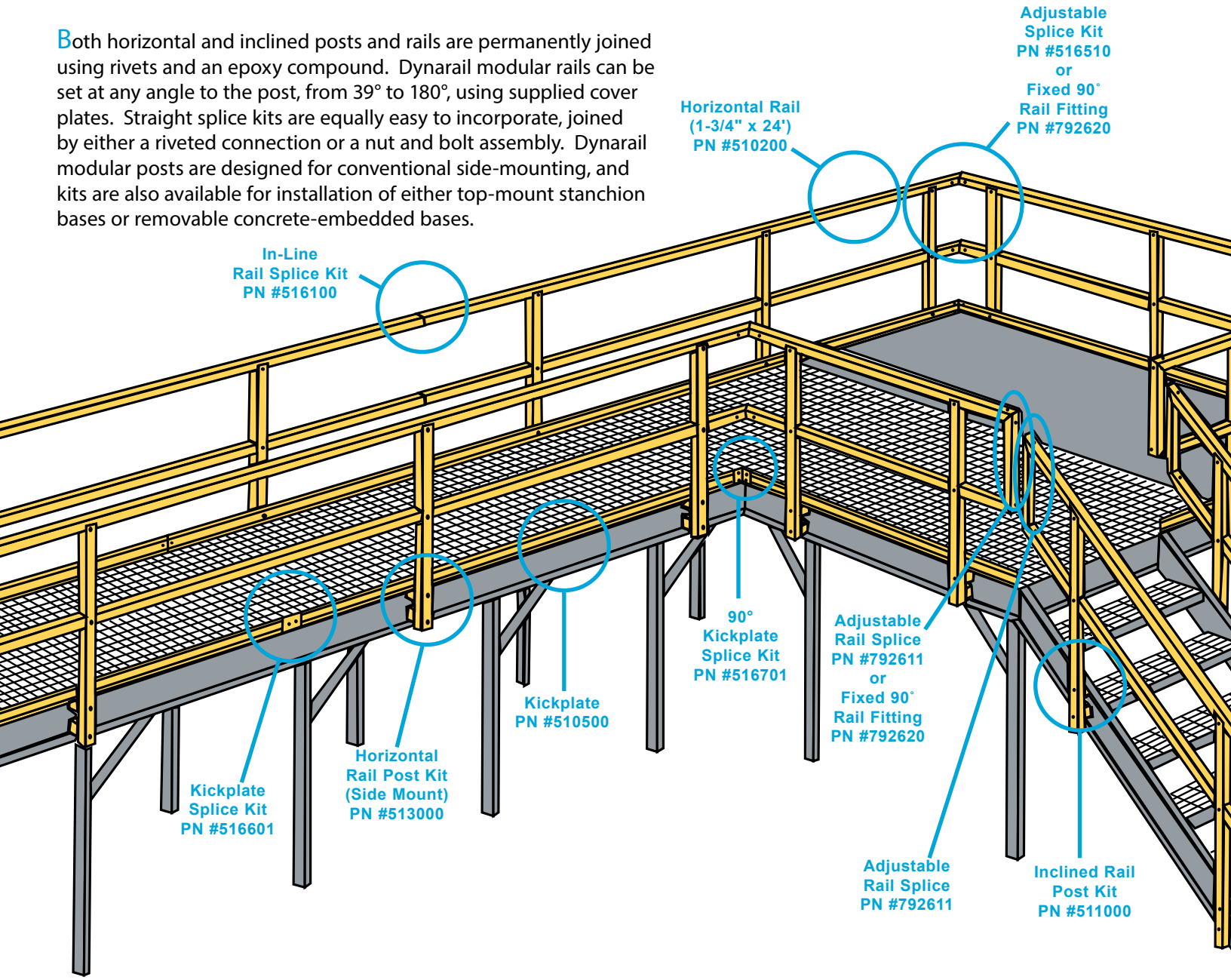
4' max on center post spacing for IBC to meet a F.O.S. of 2.0

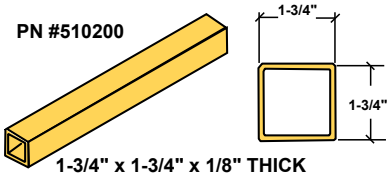


MAX PULLOUT FORCE ON EACH CONCRETE ANCHOR BOLT			
	Drawing F	Drawing H	Drawing I
OSHA (200 lb)	2129 lbf	1292 lbf	2100 lbf
IBC (50 lb/ft)	3193 lbf	1777 lbf	2100 lbf

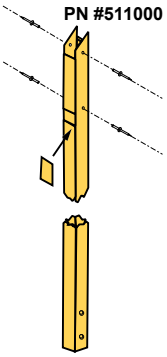
Dynarail® Modular Guardrail System

Both horizontal and inclined posts and rails are permanently joined using rivets and an epoxy compound. Dynarail modular rails can be set at any angle to the post, from 39° to 180°, using supplied cover plates. Straight splice kits are equally easy to incorporate, joined by either a riveted connection or a nut and bolt assembly. Dynarail modular posts are designed for conventional side-mounting, and kits are also available for installation of either top-mount stanchion bases or removable concrete-embedded bases.

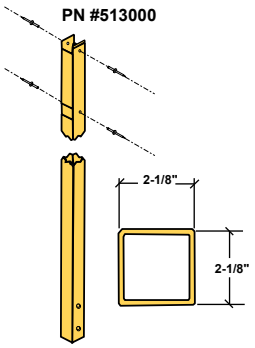




1-3/4" x 1-3/4" x 1/8" THICK SQ. TUBE RAIL

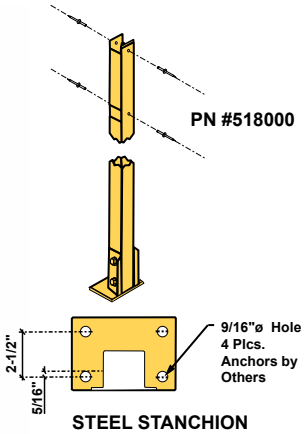


INCLINED RAIL POST KIT

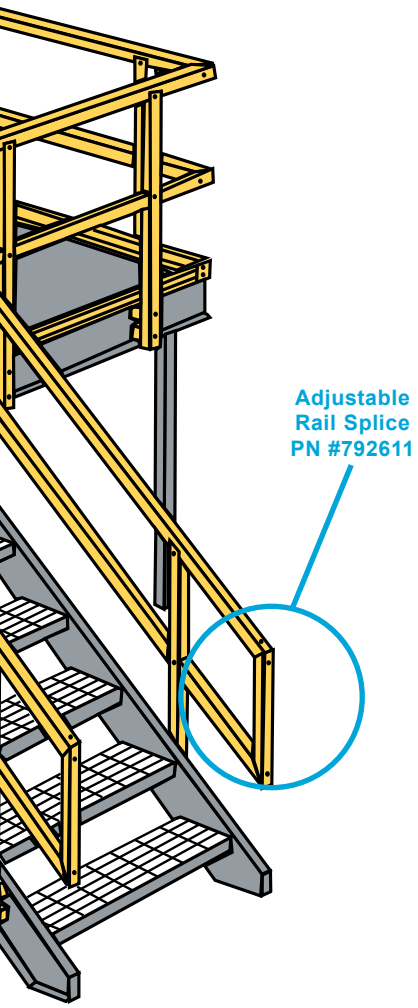


2-1/8" x 2-1/8" x 3/16" THICK SIDE MOUNTED SQ. TUBE POST KIT

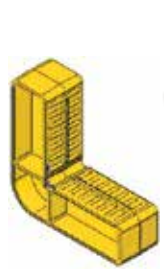
EMBED TO CONCRETE POST KIT



STEEL STANCHION BASE POST KIT

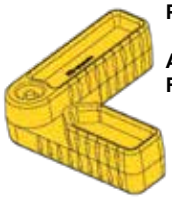


PART #	DESCRIPTION NOTE: All part numbers listed are ISOFR and are NON-UV coated items unless otherwise noted.	
511000	Post Kit (Inclined Rail)	1 ea. Post 2-1/8" x 3/16" x 45" High Sq. Tube
		4 ea. Cover Plates 2-1/8" x 3-1/4"
		4 ea. Rivets 18-8 SS
513000	Post Kit (Horizontal Rail) Side Mount	1 ea. Post 2-1/8" x 3/16" x 50-1/4" High Sq. Tube (Undrilled)
		4 ea. Rivets 1/8" x 3/8" 18-8 SS
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
517000	Post Kit (Horizontal Rail) Removable Concrete Embedded	1 ea. Post 2-1/8" x 3/16" x 41-1/2" High
		1 ea. 1-3/4" Sq. Bar Extension 5" Long
		1 ea. Sleeve 2-1/8" x 3/16" x 6" Sq. Tube (Ships Loose)
		4 ea. Rivets 18-8 SS
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
518000	Post Kit (Horizontal Rail) Top Mount (SS Base)	1 ea. Post 2-1/8" x 3/16" x 41-1/4" High
		1 ea. Stanchion Base 316 SS
		2 ea. Bolts 1/2" x 3" and Nuts 316 SS
		4 ea. Rivets 18-8 SS
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
518200	Post Kit (Horizontal Rail) Top Mount (FRP Base)	1 ea. Post 2-1/8" x 3/16" x 40-3/4" High
		1 ea. Stanchion Base FRP
		1 ea 2-1/8" x 3/16" Sq. Tube Kickplate Spacer
		1 ea. 1/4" Hex Bolt Assembly
		4 ea. Rivets 18-8 SS
510500	Kickplate	9/16" Deep x 4" High x 1/8" Thick x 24' Long
516601	Kickplate Splice Kit (VEFR)	1 ea. Splice 1-3/4" x 4" x 3/16"
		2 ea. 1/4" x 1" x Socket Round Head Bolts, Nuts and Washers
516701	Kickplate Splice Kit 90° (VEFR)	1 ea. Splice 2-1/8" x 1-1/8" x 3/16"
		2 ea. 1/4" x 1" x Socket Round Head Bolts, Nuts and Washers
516510	Adjustable Splice Kit	2 ea. Adjustable Rail Splices
		8 ea. Rivets 18-8 SS
516400	90° Fixed Splice Kit	2 ea. Fixed 90° Rail Splices
		8 ea. Rivets 18-8 SS
516100	In-Line Splice Kit	1 ea. Splice 1-1/2" Sq. Tube
		4 ea. Rivets 18-8 SS
510200	Rail	1-3/4" x 1/8" x 24' Long Yellow Square Tube
792611	Adjustable Rail Splice	1 ea. Adjustable from 39° to 180°
792620	90° Rail Splice	1 ea. Fixed 90° Railing Connector
519105	In-Line Rail Splice	In-Line Splice Square 9-7/8"
519170	End Cap	End Cap for 1-3/4" Sq. Tube Guardrail
510100	Spacer Material	21' of 2-1/8" x 3/16" Yellow Square Tube
Bonding material should be ordered with each shipment of railing material. Order 1 kit (# 549100) for every 15 posts		
SI Conversions: inch = 25.4 mm 1 foot = .305 m 1 mm = .0394 inches 1 meter = 3.28 feet		



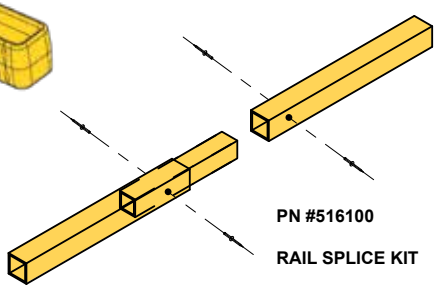
PN #792620

FIXED 90˚ RAIL SPLICE



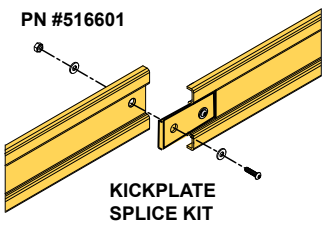
PN #792611

ADJUSTABLE RAIL SPLICE



PN #516100

RAIL SPLICE KIT

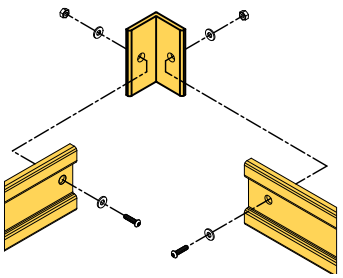


PN #516601

KICKPLATE SPLICE KIT

PN #516701

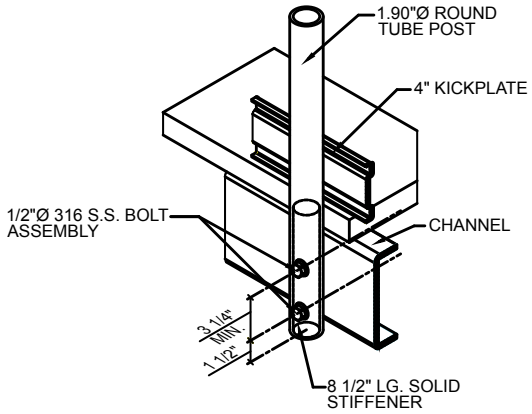
90° KICKPLATE SPLICE KIT



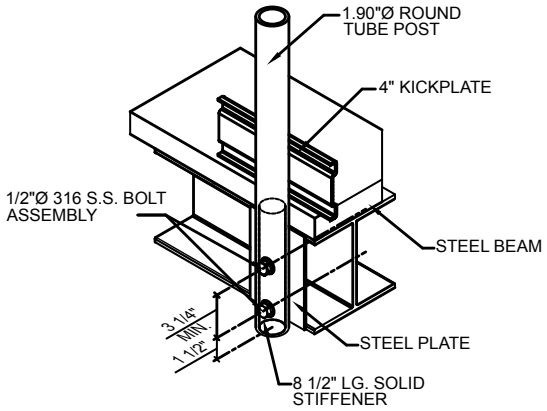
DynaRound™ Post Installation Methods

All details are for posts spaced 4' max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

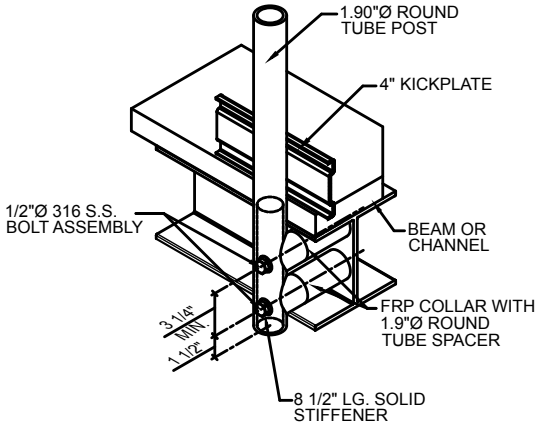
DRAWING A - POST TO FRP OR STEEL CHANNEL



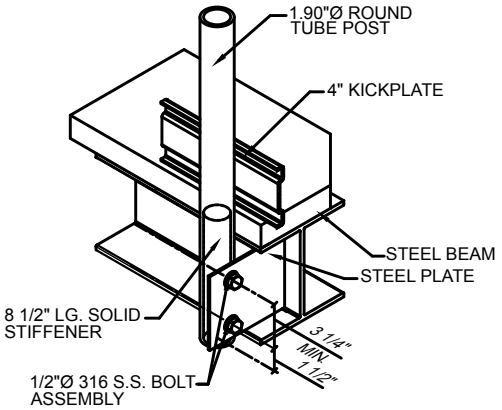
DRAWING B - POST TO STEEL PLATE ON STEEL BEAM



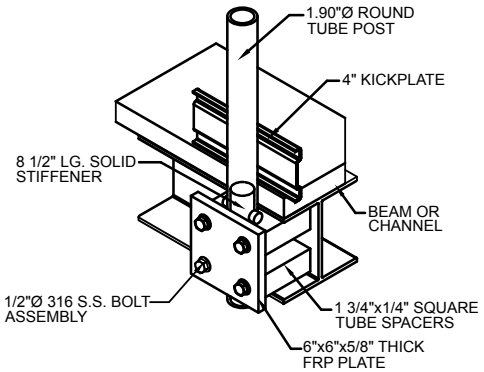
DRAWING C - POST TO FRP OR STEEL BEAM OR CHANNEL WITH FRP SPACERS



DRAWING D - POST TO STEEL ANGLE ON FRP OR STEEL BEAM



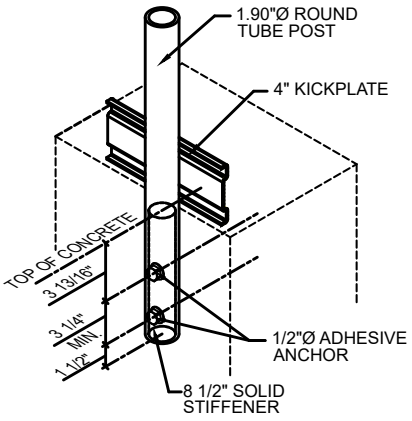
DRAWING E - REMOVABLE POST TO FRP OR STEEL BEAM



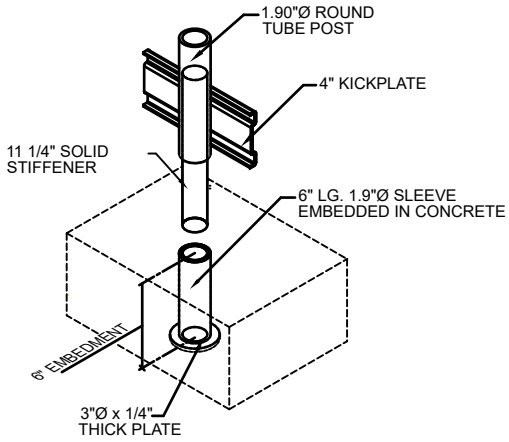
DynaRound™ Post Installation Methods

All details are for posts spaced 4' max on centers to meet a F.O.S. of 2.0 under OSHA and IBC loads, unless noted otherwise.

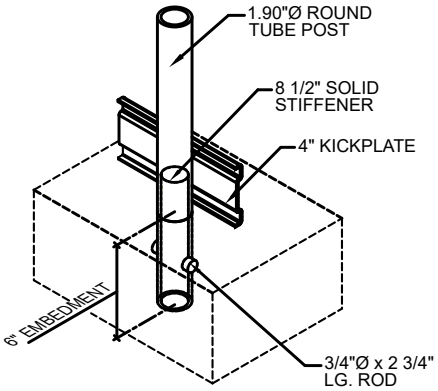
DRAWING F - SIDE MOUNT POST TO CONCRETE



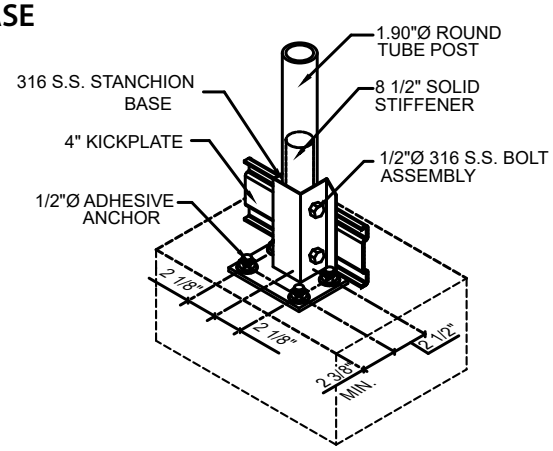
DRAWING G - REMOVABLE EMBEDDED POST IN CONCRETE



DRAWING H - FIXED EMBEDDED POST IN CONCRETE

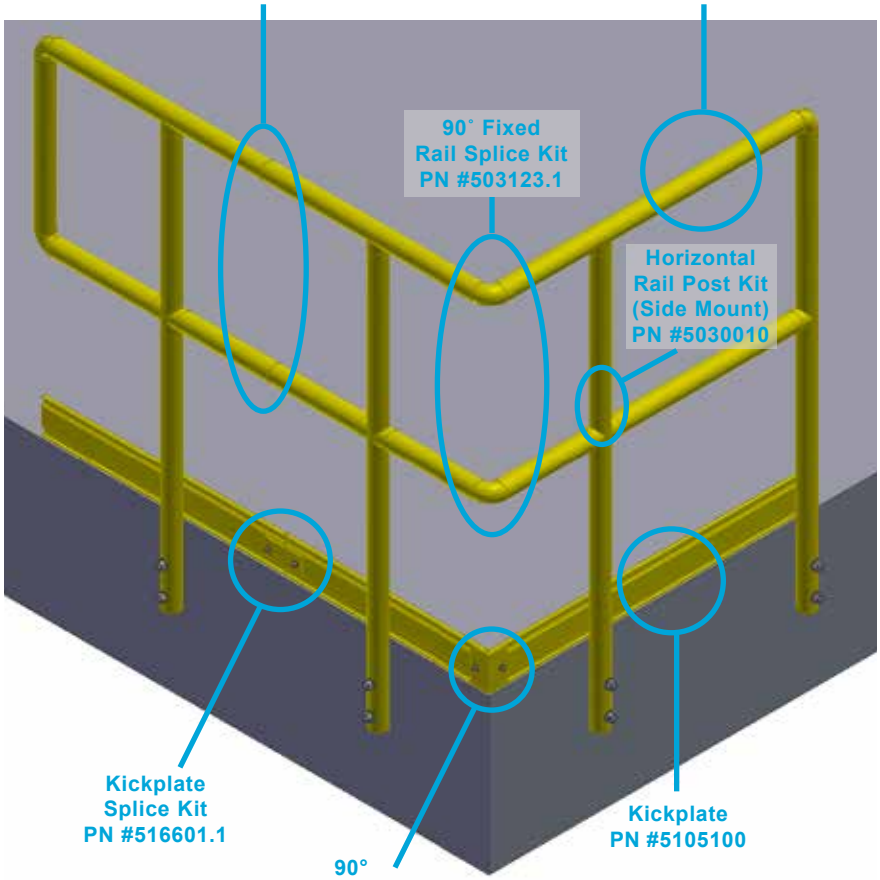


DRAWING I - TOP MOUNTED STAINLESS STEEL STANCHION BASE

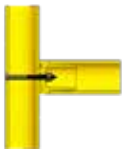


DynaRound™ Modular Guardrail System

The DynaRound modular railing system is offered as UV coated for maximum weather resistance. Straight and adjustable rail splice kits are easy to incorporate, installed with riveted + bonded connections. Rail to post connections use saddle connectors with hidden bolts for the cleanest installation possible. Specially designed saddles and connectors minimize the number of miter cuts required to make a gap free installation easy. *Inclined guardrail assemblies need to be shop fabricated.*



Cross Sections of Rail to Post Connections

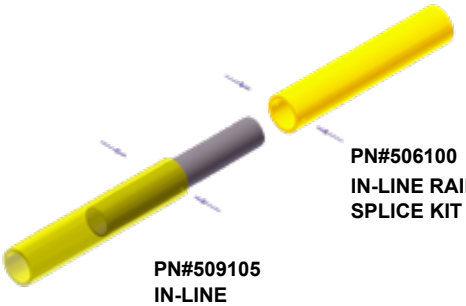


END POST CONNECTOR KIT
PN#503115.1

POST TO MID-RAIL CONNECTOR KIT
PN#503114.1

POST TO TOP RAIL CONNECTOR KIT
PN#503113.1

PN#7926150
END CAP



PN#506100
IN-LINE RAIL SPLICE KIT

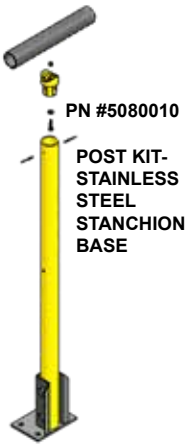
PN#509105
IN-LINE RAIL SPLICE

PN #5001010
1.9" O.D. x 1.5" I.D., 20' LG ROUND TUBE RAIL

PN #7926120
SADDLE CONNECTOR

PN #5082310
OPEN SADDLE

PN #5030010
POST KIT SIDE-MOUNTED

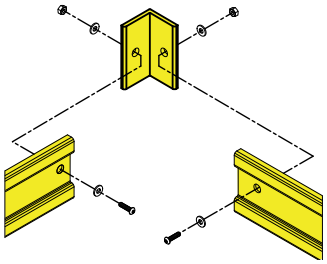


PN #5080010
POST KIT-STAINLESS STEEL STANCHION BASE

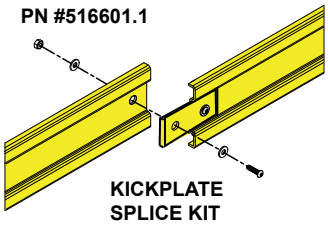
PN #5070010
POST KIT-EMBED TO CONCRETE

PN #516701.1

90° KICKPLATE SPLICE KIT



PN #516601.1



KICKPLATE
SPLICE KIT

PN#792614
ADJUSTABLE
RAIL SPLICE

PN #7926130
FIXED 90˚
RAIL SPLICE

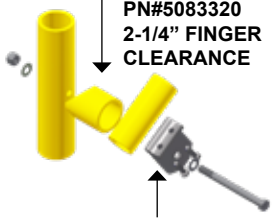
SS HANDRAIL BRACKET
TO POST KIT

PN#503116.1
1-1/2" FINGER
CLEARANCE

PN#503117.1
2-1/4" FINGER
CLEARANCE

SPACER

PN#5083310
1-1/2" FINGER
CLEARANCE
PN#5083320
2-1/4" FINGER
CLEARANCE



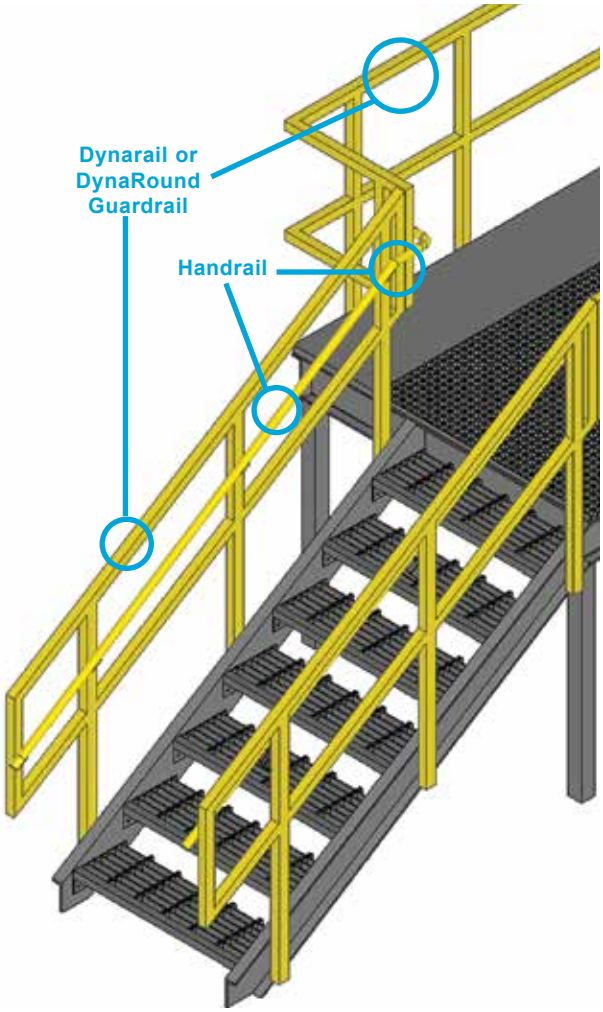
PN#794509
(BRACKET ONLY)

TWO SELF TAPPING SCREWS (PN#756670) ARE REQUIRED TO ATTACH SS BRACKET TO HANDRAIL TUBE. ONE SPACER (PN#5083310 OR PN#5083320) AND ONE 3/8" x 4-1/2" DIA HEX HEAD BOLT ARE REQUIRED TO CONNECT BRACKET TO GUARDRAIL POST.

PART #	DESCRIPTION NOTE: All part numbers listed are VEFR; those containing exposed material are UV coated items.	
5030010	Post Kit Side Mount	1 ea. Round Tube Horizontal Post
		Saddle Connector
		1/4" x 1-1/2" Bolt, 1/4" Washer
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
		1/4"-20 Rivnut 18-8 SS; 2 ea. Rivets 18-8 SS
5070010	Post Kit Removable Embed to Concrete	1 ea. Round Tube Removable Horizontal Intermediate Post
		Saddle Connector
		1/4" x 1-1/2" Bolt
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
		1/4"-20 Rivnut 18-8 SS; 2 ea. Rivets 18-8 SS
5080010	Post Kit (SS Base)	1 ea. Round Tube Horizontal Intermediate Post
		1 ea. Stanchion Base 316 SS
		2 ea. 1/2" x 3" Bolts; 1/4" x 1-1/2" Bolt
		Saddle Connector
		1 ea. #10 x 1" Hex Washer Head Self Tap Screw
		1/4"-20 Rivnut 18-8 SS; 2 ea. Rivets 18-8 SS
5105100*	Kickplate	9/16" Deep x 4" High x 1/8" Thick x 24' Long
516601.1*	Kickplate Splice Kit	1 ea. Splice 1-3/4" x 4" x 3/16"
		2 ea. 1/4" x 1" x Socket Round Head Bolts, Nuts and Washers
516701.1*	Kickplate Splice Kit 90°	1 ea. Splice 2-1/8" x 1-1/8" x 3/16"
		2 ea. 1/4" x 1" x Socket Round Head Bolts, Nuts and Washers
503115.1	End Post Connector Kit	Saddle Connector
		1 ea. 1/4" x 2-3/4" Flat Head Machine Screw, 1/4" Washer, 1/4" Lock-nut
		2 ea. 1/8" Rivets
503114.1	Post to Mid Rail Connector Kit	2 ea. Saddle Connectors
		1 ea. 1/4" x 3-1/2" Hex Head Bold, 2 ea. 1/4" Washer
		1 ea. 1/4" Lock-nut; 4 ea. 1/8" Rivets
503113.1	Post to Top Rail Connector Kit	Saddle Connector
		1 ea. 1/4" x 1" Hex Head Bolt, 1/4" Washer, 1/4" Rivnut
		2 ea. 1/8" Rivets
503116.1	Handrail Bracket to Post Kit (1-1/2" Finger Clearance)	1 ea. 1.9" O.D. Round Tube Spacer (1-1/2" Finger Clearance)
		2 ea. #14 x 1" Self Tap Screw
		SS Handrail Bracket
		1 ea. 3/8" x 4-1/2" Hex Head Bolt & 3/8" Lock-nut; 2 ea. 3/8" Washers
503117.1	Handrail Bracket to Post Kit (2-1/4" Finger Clearance)	1 ea. 1.9" O.D. Round Tube Spacer (2-1/4" Finger Clearance)
		2 ea. #14 x 1" Self Tap Screw
		SS Handrail Bracket
		1 ea. 3/8" x 4-1/2" Hex Head Bolt & 3/8" Lock-nut; 2 ea. 3/8" Washers
506510	Adjustable Splice Kit	2 ea. Adjustable from 39° to 180° Rail Splices
		8 ea. Rivets 18-8 SS
503123.1	90° Fixed Splice Kit	2 ea. Fixed 90° Rail Splices
		8 ea. Rivets 18-8 SS
506100	In-Line Splice Kit	2 ea. Splice 1.9" O.D. Round Tube
		8 ea. Rivets 18-8 SS
5001010	Rail	1.9." O.D. x 1.5" I.D. x 20' Long Yellow Round Tube
792614	Adjustable Rail Splice	1 ea. Adjustable from 39° to 180°
7926130	90° Rail Splice	1 ea. Fixed 90° Handrail Connector
509105	In-Line Rail Splice	In-Line Splice Round 10"
7926150	End Cap	Round Guardrail End Cap
794509	Handrail Bracket	316 SS Handrail Bracket for 1.9" O.D. Post
5083310	Spacer (1-1/2" F.C.)	1 ea. 1.9" O.D. HR Bracket Spacer (1-1/2" Finger Clearance)
5083320	Spacer (2-1/4" F.C.)	1 ea. 1.9" O.D. HR Bracket Spacer (2-1/4" Finger Clearance)
7926120	Saddle Connector	Saddle Connector for Round Guardrail
5082310	Open Saddle	Open Saddle for Round Guardrail
792610	Riv. Nut Install Tool	Rivet Nut Installation Tool
*Kickplate Assembly PNs are the UV coated VEFR counterparts to the PNs used for the square tube system.		
Bonding material should be ordered with each shipment of railing material. Order 1 kit (# 549100) for every 15 posts		
SI Conversions: inch = 25.4 mm 1 foot = .305 m 1 mm = .0394 inches 1 meter = 3.28 feet		

Modular Dynarail® Handrail Systems

For those projects that require a handrail (or grab rail) system to meet code requirements, Fibergrate's Dynarail Handrail system can be used with both Dynarail and DynaRound guardrail systems. Please see below for details and part numbers. If you require further assistance, call us or visit our website.

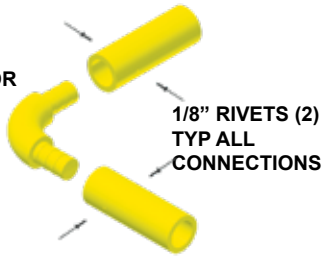


PART#	DESCRIPTION
162728	Rail used as Handrail 1-1/2" x 1/4" x 20' Long Yellow Round Tube
792650	Fixed 90° Handrail Connector
792640	Adjustable Handrail Connector 1 ea. Adjustable from 39° to 180°
522090	Handrail Splice - 1" ø FRP Round Rod
792660	Handrail End Cap
794510	SS Handrail Bracket (1-1/2" Finger Clearance)
794511	SS Handrail Bracket (2-1/4" Finger Clearance)
794515	SS Backer Plate
756670	1 ea. #10 x 1" Hex Head Self Tap Screw
Bonding material (1 Kit - PN#549100) should be ordered with each shipment of handrail material.	
SI Conversions: inch = 25.4 mm 1 foot = .305 m 1 mm = .0394 inches 1 meter = 3.28 feet	

FIXED 90° HANDRAIL CONNECTOR
PN#792650

ADJUSTABLE HANDRAIL CONNECTOR
PN#792640

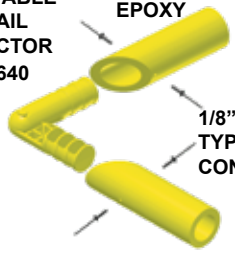
FIXED HANDRAIL CONNECTOR
PN#792650



ROUND TUBE USED AS HANDRAIL

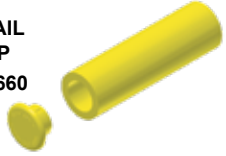
ADJUSTABLE HANDRAIL CONNECTOR
PN#792640

SAND & APPLY EPOXY

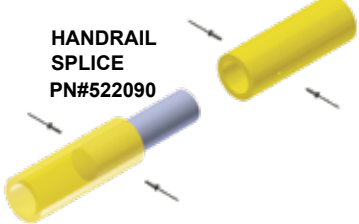


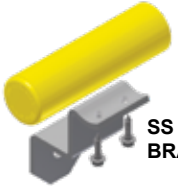
ROUND TUBE USED AS HANDRAIL

HANDRAIL END CAP
PN#792660



HANDRAIL SPLICE
PN#522090





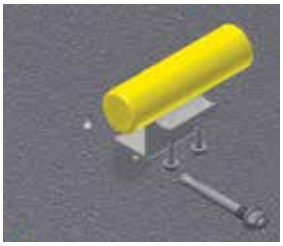
SS HANDRAIL BRACKET

PN#794510 (FOR 1-1/2" FINGER CLEARANCE)

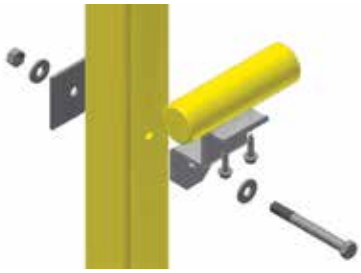
PN#794511 (FOR 2-1/4" FINGER CLEARANCE)

SELF TAPPING SCREWS (PN#756670) ARE REQUIRED TO ATTACH SS BRACKET TO ROUND HANDRAIL TUBE

For DynaRound - see pg. 11



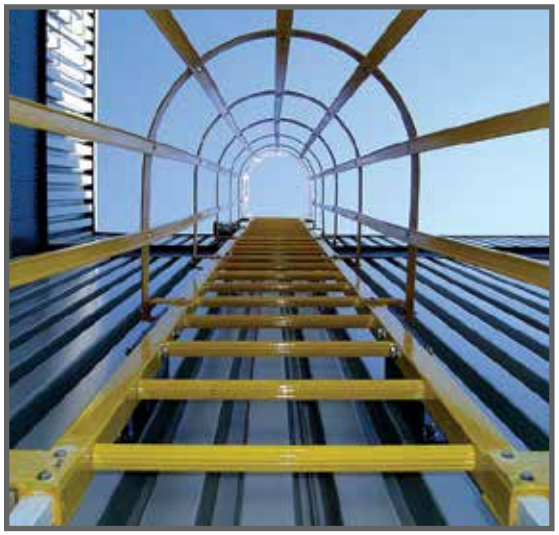
FOR ATTACHMENT TO A CONCRETE WALL:
PN#794510 AND PN#794511 REQUIRE 3/8" DIA. CONCRETE ANCHOR



FOR ATTACHMENT TO AN FRP POST:
PN#794510 & PN#794511 REQUIRE 3/8" DIA. HEX HEAD BOLT & SS BACKER PLATE (PN#794515) ON OPPOSITE SIDE OF POST TO PREVENT POST FROM BEING CRUSHED BY BOLT

Dynarail FRP Safety Ladders

The innovative Dynarail® fiberglass reinforced plastic (FRP) safety ladder and cage system meets or exceeds OSHA requirements. Dynarail cage components are shipped in compact kit form - not large, bulky units prone to damage. The safety cage is ready for field assembly with predrilled hoops for fast and easy attachment to the ladder and vertical safety bars.



Ladders are stocked in standard heights of 8′, 10′, 12′, 14′, 16′, 18′, 20′ and 24′ and are available in taller heights using splice kits. Ladders may be ordered with or without safety cage kits.

Safety features are built-in from the ground up. Special clip angles have been developed to securely anchor the ladder. Intermediate stand-off brackets laterally stabilize the ladder to the supporting structure on 6′ centers. Ladder rungs include heavily serrated flutes for slip resistant footholds.

Technical Data *(Except where noted, all materials are yellow vinyl ester, fire retardant - VEFR)*

LADDER:

Maximum length without splice	24′-0″	Outside Diameter of rung	1-1/4″
Clear inside width (inside rail to rail)	18″	Inside Diameter of rung	3/4″
Outside width (outside rail to rail)	21-1/2″	Rail - outside width	1-3/4″
Rung Spacing (center to center)	12″	Rail - wall thickness	1/4″
		Weight per foot (approximately)	3.0 lbs.

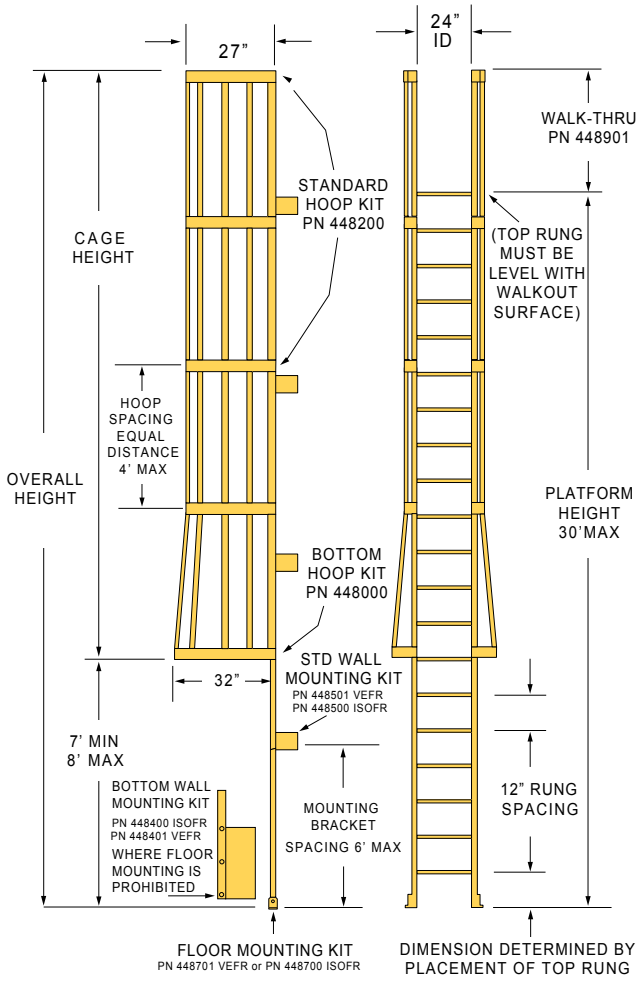
CAGE:

Product	Description
Standard Hoop Kit (PN 448200)	27” from center line of ladder rung to inside of hoop 3” wide x 1/4” thick hand layup Predrilled holes *(with necessary bolt assemblies)*
Bottom Hoop Kit (PN 448000)	31” from center line of ladder rung to inside of hoop 3” wide x 1/4” thick hand layup Predrilled holes *(with necessary bolt assemblies)*
Hoop Brackets (Included with hoop kits)	1/4” thick, “U” shaped hand layup Predrilled holes *(with necessary bolt assemblies)*
Vertical I-Bars (PN 446211 - 10 ft; PN 446210 - 20 ft)	I-Bar, 1-1/2" deep x 5/8" flange x 1/8" thick
Bottom Wall Mount Bracket Kit* (PN 448400 ISOFR Dk Gray, PN 448401 VEFR Beige) *Required when ladder cannot be floor mounted*	2-3/16” x 8” x 3/8” angle, 18” long Two per set *(with necessary bolt assemblies)*
Wall Mount Bracket Kit* (PN 448500 ISOFR Dk Gray, PN 448501 VEFR Beige)	2-3/16” x 8” x 3/8” angle, 6” long 7” from wall to center of rung Two per set *(with necessary bolt assemblies)*
Floor Mount Clip Kit* (PN 448700 ISOFR Dk Gray, PN 448701 VEFR Beige)	4” x 4” x 3/8” angle, 2-3/4” long Two per set *(with necessary bolt assemblies)*

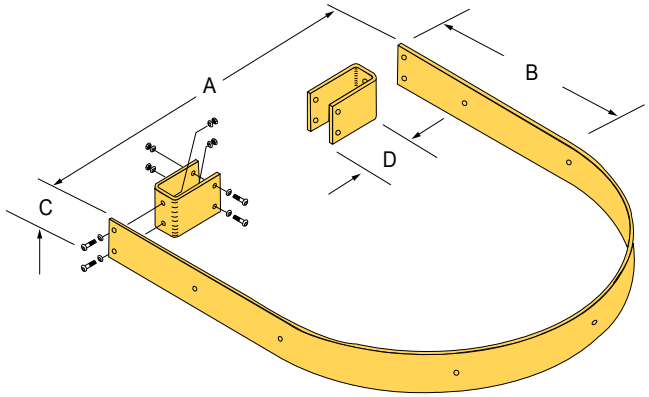
NOTE:** *Wall mount brackets and floor mount clips are predrilled with 9/16” diameter holes for 1/2” diameter anchor bolts only.* ***Anchor bolts not included.

Dynarail® FRP Safety Ladders

Dynarail® Ladder System Data



Dynarail® Hoop Data



Hoop Kit	PART NUMBER	A	B	C	D
Bottom	448000	35"	16"	3"	8.5"
Standard	448200	27"	16"	3"	4.5"

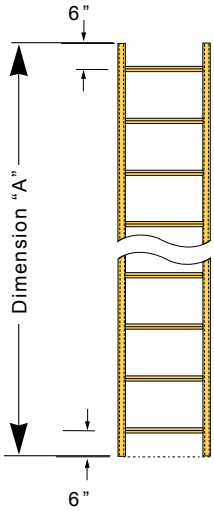
Component Selection Guide

Cage Assembly Components

	Hoops Required		Vertical I-Bars Required	
Cage Height	Standard Hoop Kit PN 448200	Bottom Hoop Kit PN 448000	10' Vertical I-Bar PN 446211	20' Vertical I-Bar PN 446210
3' 0"	1	1	3	0
3' 6" to 4' 0"	1	1	1	1
4' 7-1/2"	1	1	4	0
4' 7-1/2" to 5' 3"	2	1	4	0
5' 6"	2	1	4	0
6' 0" to 6' 6"	2	1	0	2
7' 0"	2	1	2	2
7' 6"	2	1	0	3
8' 0" to 8' 10-1/4"	2	1	7	0
8' 10-1/4" to 10' 0"	3	1	7	0
10' 6" to 13' 1"	3	1	0	5
13' 1"	4	1	0	5
13' 6" to 14'	4	1	3	4
14' 6" to 17' 3-3/4"	4	1	0	7
17' 3-3/4" to 20' 0"	5	1	0	7
20' 0"	5	1	0	7
20' 6" to 21' 7/12"	5	1	1	8
21' 7/12" to 22' 6"	6	1	1	8
23' 0" to 24' 0"	6	1	4	7
24' 6" to 25' 10-1/2"	6	1	1	10
25' 10-1/2" to 26' 6"	7	1	1	10

Ladder Mounting Accessories

Ladder Height *ISOFR-DK GRAY VEFR - BEIGE*	Floor Mount Kits Required PN 448700 ISOFR PN 448701 VEFR	Bottom Wall Mount Kits PN 448400 ISOFR PN 448401 VEFR	Wall Mount Kits Required PN 448500 ISOFR PN 448501 VEFR
0" to 6"	1	1	1
6' 6" to 12' 0"	1	1	2
12' 6" to 18' 0"	1	1	3
18' 6" to 24' 0"	1	1	4
24' 6" to 30' 0"	1	1	5
30' 6" to 36' 0"	1	1	6



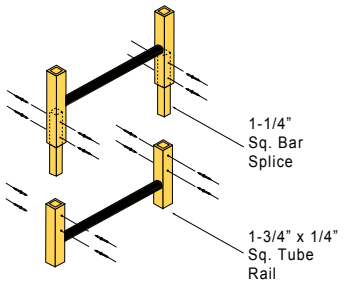
Ladder and Accessories

Ladders ("A" dimension = stock length)	
Length*	Part Number
8'	444508
10'	444510
12'	444512
14'	444514
16'	444516
18'	444518
20'	444520
24'	444524
Accessories	
Description	Part Number
Ladder Rail Splice Kit	448600
24" Wide Walk-thru Kit	448901

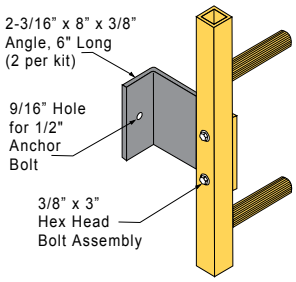
**Field Cut to size*

Note: *Top rung step-off must be even with upper walking surface*

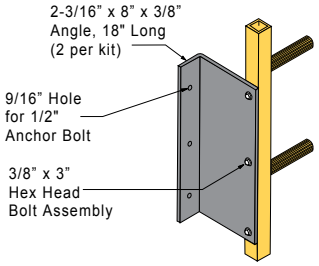
Assembly & Mounting Details



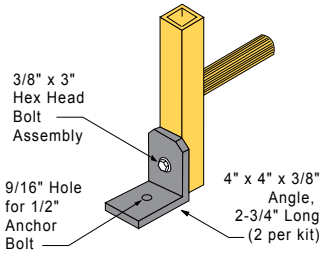
Ladder Splice Kit
PN 448600



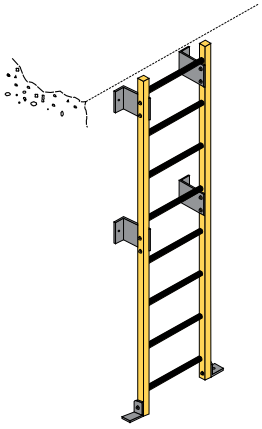
Standard Wall Mount Kit
PN 448501 VEFR BEIGE



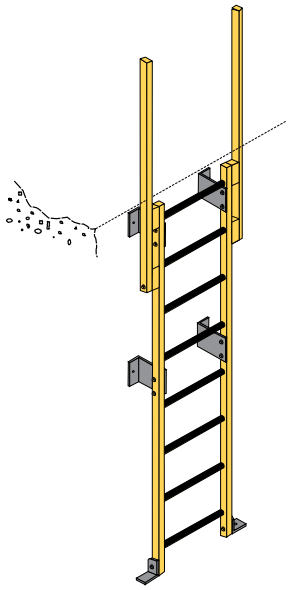
Bottom Wall Mount Kit
PN 448401 VEFR BEIGE



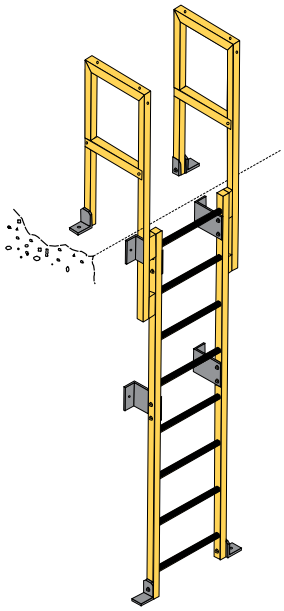
Floor Mount Kit
PN 448701 VEFR BEIGE



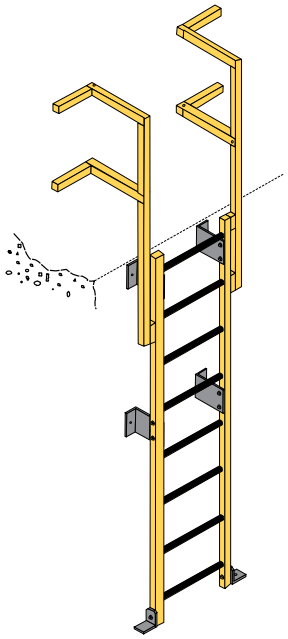
Ladder



Ladder with 24" Walk-thru



Ladder with Walk-thru and Rail Connections to Floor



Ladder with Walk-thru and Connections to Rail

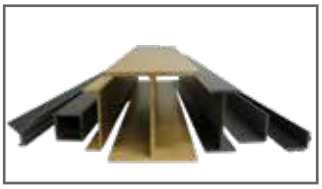
Fibergrate Products & Services

Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.

Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.

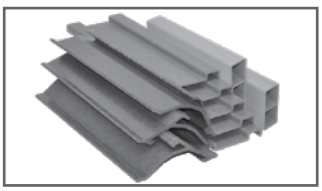


Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.

Dynarail® & DynaRound™ Guardrail, Handrail & Ladder

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® square tube and DynaRound™ round tube railing systems and Dynarail safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.



Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.

Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.

Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

Heavy Metal SAFE

QUALITY MANAGEMENT SYSTEM CERTIFIED ISO 9001

Fibergrate Composite Structures

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Dynaform® Structural Shapes

Products Brochure

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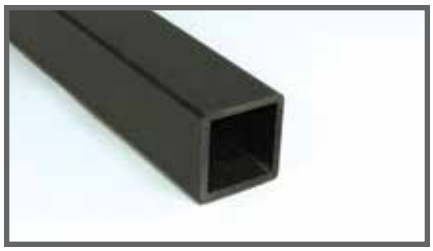
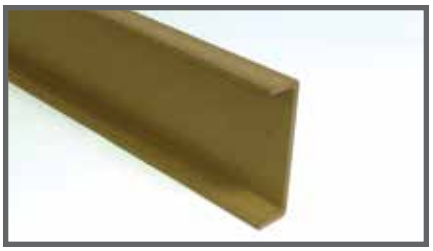
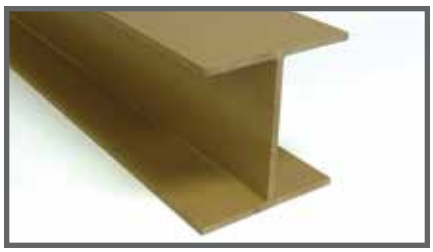
High Performance Composite Solutions

Dynaform® Structural Shapes


Square Tube


Channel


Angle


Wide Flange Beam


Concrete Embedment Angles

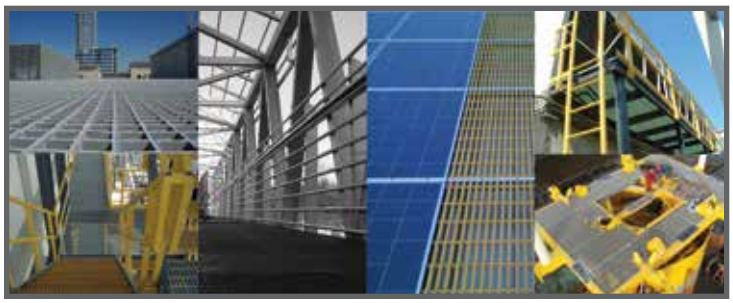

Custom Pultruded Shapes

Dynaform® pultruded fiberglass structural shapes from Fibergrate Composite Structures Inc. are used in a wide range of applications and provide a unique combination of corrosion resistance, high strength, dimensional stability and lightweight, along with thermal and electric non-conductivity. Durable Dynaform shapes provide years of low maintenance service in areas where steel, aluminum or wood components are traditionally specified. Today, these shapes are often used in highly corrosive applications where stainless steel and other expensive components were once required.

Dynaform structural shapes are produced from the highest quality materials, providing durability and years of low maintenance service. All shapes have been tested for physical properties according to standardized ASTM procedures. For test results showing the superior characteristics of the full range of Dynaform structural shapes, see the Typical Coupon Properties tables on page 7. *For more design information consult our Dynaform Design Guide* or *Guidelines for the Engineer and Designer.*

A leading manufacturer of fiberglass products, Fibergrate offers pultruded shapes that exceed the requirements of even the most demanding applications.

Fibergrate Markets



- Architectural
- Bridge & Highway
- Chemical
- Commercial
- Food & Beverage
- Manufacturing
- Metals & Mining
- Microelectronics
- Oil & Gas
- Pharmaceutical
- Power
- Pulp & Paper
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater

Dynaform® Structural Shapes

Custom Structural Shapes: In addition to traditional shapes such as I beam, wide flange and channel, Fibergrate offers custom shape solutions designed to meet specific industry and customer needs. Examples of such structures include framing materials, wall panels, and shapes that meet special military requirements. For assistance with your unique requirements, contact Fibergrate's Design Team.

Corrosion Resistant: Dynaform® structural shapes are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

Low Maintenance: The corrosion resistant properties of FRP structural shapes and other products reduce or eliminate the need for sandblasting, scraping and painting. Products are also easily cleaned with a high pressure washer.

Fire Retardant: Dynaform shapes have a flame spread rating of 25 or less, as tested in accordance with ASTM E-84, and meet the self-extinguishing requirements of ASTM D-635.

Low Install Cost: Due to ease of fabrication and lightweight, FRP structural shapes eliminate the need for heavy lifting equipment.

Long Service Life: Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

NSF® Standard 61-Certified: Fibergrate offers NSF Standard 61-Certified Dynaform® fiberglass structural shapes. In addition, we offer Dynarail® FRP railing and ladder systems, and Safe-T-Span® pultruded gratings assembled from NSF Standard 61-Certified FRP components. To complement this complete line of products is our NSF Standard 61-Certified molded grating. Our gratings are available in all Fibergrate® molded grating mesh patterns and thicknesses, except 4 x 12 Micro-Mesh® panels.

Heavy Metal Safe: The EPA, OSHA and other regulatory agencies created to protect our lives and our natural resources have increased legislation to control heavy metals such as lead, chrome, cadmium and other metals in all products where exposure is a health threat. Fibergrate Composite Structures Inc. supports this strengthened legislation and has, for more than 20 years, voluntarily tested for heavy metals in our products and minimized or eliminated heavy metals from our products.

Resin Systems

- ISOFR (Dark Gray): An isophthalic polyester resin formulation which exhibits the same characteristics as ISO, while also providing a low flame-spread rating of 25 or less (when tested according to ASTM E-84).
- VEFR (Beige): A vinyl ester resin system which offers proven chemical resistance. VEFR is also capable accommodating higher temperature service while providing a low flame-spread rating 25 or less (when tested according to ASTM E-84).
- ISO (Olive Green): An excellent isophthalic polyester resin offering resistance to a wide range of chemicals, ISO is particularly suited for highly acidic conditions.

Dynaform® Quality and Versatility

A Commitment To Quality

With 50 years of experience, Fibergrate offers customers unparalleled expertise in the design and manufacture of quality fiberglass products. All phases involved in the development of Dynaform® products are housed in the company's modern manufacturing facility of more than 105,000 covered square feet in Stephenville, Texas. Guiding this operation, from design to testing of final product, is Fibergrate's Total Quality Management (TQM) program.

Critical to the production of Fibergrate's quality shapes is the pultrusion process. Fiberglass and other reinforcements are drawn through a bath of thermosetting resin. The immersed fibers are then shaped through a series of forming guides and mechanically pulled through a heated die to produce the specific structural shape. Using this pultrusion process, continuous cross-section parts can be made to virtually any length.

Dynaform structural shapes combine fiberglass and specially developed resins in a polymer matrix designed to meet the most demanding chemical, flame retardant, electrical, strength and environmental standards. Fibergrate's thermosetting polyester or vinyl ester resin systems supply the exceptional corrosion resistance of these structural shapes, while strategically placed fiberglass rovings and mat add structural integrity. In addition, all exterior surfaces of Dynaform shapes are covered by a synthetic veil for added protection against ultraviolet ray exposure.

Fabricated Dynaform columns ready for shipment.

A completed Dynaform shape exits the pultrusion process.

Dynaform® Quality and Versatility

Building with Dynaform Shapes

The unique qualities of Dynaform structural shapes make them ideal for use in areas where conventional materials have been traditionally employed. Combining high strength-to-weight ratio and dimensional stability with exceptional corrosion resistance, Dynaform shapes have become the structural component of choice for a wide range of industrial and commercial applications. These shapes have provided a high level of structural integrity in the construction of:

- Walkways and Bridges
- Handrails & Ladders
- Trash and Bar Screens
- Mezzanines
- Maintenance Platforms
- Tank Loading Platforms
- Access Platforms
- Helidecks
- Tank Covers and Supports
- Buildings and Sheds
- Pipe and Equipment Racks
- Wellbay Platforms

Square tube railing manufactured with Dynaform component products offer long life in the corrosive environment of this wastewater treatment plant.

As the chosen product for a highly corrosive battery manufacturing facility, this Dynaform platform will provide years of service.

Dynaform support structure and square tube railing provide a high level of corrosion resistance for this offshore platform.

Advanced design and engineering of Dynaform structural shapes provide a lightweight, high strength support structure for this plating facility.

Dynaform® Shapes and Availability

Resin System & Color:
ISO = Isophthalic Polyester Resin; Color: Olive Green
ISOFR = Isophthalic Polyester Fire Retardant Resin; Color: Dark Gray
VEFR = Vinyl Ester Fire Retardant Resin; Color: Beige
Note: Special colors are available

Legend:
- ● Available
- ☒ Available in Yellow
- † Available in White (Natural) Only
- ▼ Available in NSF approved VE Resin
- X Available in VEFR Dark Gray Only
- ◊ Available in Light Gray Only

Profile	Size (inches)	ISO	ISOFR	VEFR	Wt/Ft
Equal Leg Angle	1 x 1/8	●	●	●	0.21
	1-1/4 x 1/8	●	●	●	0.23
	1-1/2 x 3/16	●	●	●	0.37
	1-1/2 x 1/4	●	●	●	0.51
	2 x 1/4	●	●	●	0.68
	3 x 1/4	●	●	●	1.04
	3 x 3/8	●	●	●	1.65
	4 x 1/4	●	●	●	1.41
	4 x 3/8	●	●	●	2.23
	4 x 1/2	●	●	●	2.92
	6 x 3/8	●	●	●	3.44
	6 x 1/2	●	●	●	4.50
Channel	2 x 9/16 x 1/8	●	●	●	0.25
	3 x 7/8 x 1/4	●	●	●	0.77
	3 x 1 x 1/4	●	●	●	0.87
	4 x 1-1/8 x 1/4	●	●	●	1.11
	4 x 1-3/8 x 3/16		●		0.86
	4 x 1-1/2 x 3/8		●	●	
	6 x 1-5/8 x 1/4	●	●	●	1.64
	6 x 1-11/16 x 3/8	●	●	●	2.52
	8 x 2-3/16 x 3/8	●	●	●	3.40
	10 x 2-3/4 x 1/2	●	●	●	5.65
I Beam	3 x 1-1/2 x 1/4	●	●	●	1.11
	4 x 2 x 1/4	●	●	●	1.46
	6 x 3 x 1/4	●	●	●	2.24
	6 x 3 x 3/8	●	●	●	3.29
	8 x 4 x 3/8	●	●	●	4.46
	8 x 4 x 1/2	●	●	●	5.85
	10 x 5 x 3/8	●	●	●	5.78
	10 x 5 x 1/2	●	●	●	7.41
	12 x 6 x 1/2		●	●	8.97
	18 x 3/8 x 4-1/2 x 1/2				8.48
	24 x 3/8 x 7-1/2 x 3/4				16.47
Wide Flange Beam	3 x 3 x 1/4	●	●	●	1.69
	4 x 4 x 1/4	●	●	●	2.10
	6 x 6 x 1/4	●	●	●	3.41
	6 x 6 x 3/8	●	●	●	5.05
	8 x 8 x 3/8	●	●	●	6.80
	8 x 8 x 1/2	●	●	●	8.97
	10 x 10 x 3/8	●	●	●	8.78
	10 x 10 x 1/2	●	●	●	11.31
	12 x 12 x 1/2	●	●	●	13.65
Round Tube	1 x 1/8	●	●	●	0.25
	1-1/4 x 1/8				0.32
	1-1/2 x 1/8	●	●	●	0.45
	1-1/2 x 1/4	●	●	☒ ●	0.79
	1-3/4 x 1/8				0.47
	1-3/4 x 1/4	●	●	●	0.94
	2 x 1/4	●	●	●	1.12
	3 x 1/4				1.68

Profile	Size (inches)	ISO	ISOFR	VEFR	Wt/Ft
Square Tube	1 x 1/8	●	●	●	0.32
	1-1/4 x 1/8	●	●	●	0.41
	1-1/4 x 1/4	●	●	●	0.68
	1-1/2 x 1/8	●	☒ ●	●	0.54
	1-1/2 x 1/4	●	●	●	0.98
	1-3/4 x 1/8	●	●	●	0.63
	1-3/4 x 1/4 ▼	●	☒ ●	☒ ●	1.10
	2 x 1/8	●	●	●	0.69
	2 x 1/4	●	●	●	1.40
	2-1/8 x 3/16		●		1.14
	2-1/4 x 1/8	●	●	●	0.88
	2-1/2 x 1/4	●	CALL	●	1.79
	3 x 1/8				1.12
	3 x 1/4	●	●	●	2.15
	4 x 1/4	●	●	●	2.93
	4 x 3/8		●	●	4.40
Round Rod	1/4	†			0.04
	3/8	†			0.09
	1/2	†			0.17
	5/8	†			0.27
	3/4	†			0.39
	13/16				0.46
	1	†			0.66
	1-1/4	†			1.08
	1-1/2	†			1.56
Square Rod	1 x 1	●			0.87
	1-1/4 x 1-1/4	●			1.31
	1-1/2 x 1-1/2	●	●		1.98
Flat Sheet	1/8 x 48 x 96	●	●	●	1.14
	3/16 x 48 x 96	●	●	●	1.71
	1/4 x 48 x 96	●	●	●	2.34
	3/8 x 48 x 96	●	●	●	3.54
	1/2 x 48 x 96	●	●	●	4.68
	5/8 x 48 x 96				5.79
	3/4 x 48 x 96				6.94
	1 x 48 x 96		●		7.27
Concrete Embedment Angle	1 x 1-1/2 x 1/4			X	1.00
	1-1/2 x 1-1/2 x 1/4			X	1.10
	2 x 1-1/2 x 1/4			X	1.20
	1 x 1-1/2			X	0.95
	2 x 1-1/2			X	1.00
	3 x 2-1/2			X	
Toe Plate	4 x 1/2 x 1/8		☒		0.49
Threaded Rods and Nuts	3/8 - 16 UNC			◊	0.09
	1/2 - 13 UNC			◊	0.14
	5/8 - 11 UNC			◊	0.23
	3/4 - 10 UNC			◊	0.33
	1 - 8 UNC			◊	0.50

Typical Coupon Properties

Below are the test results for typical coupon properties of Dynaform® structural fiberglass shapes and threaded rods and nuts. Properties are derived per the ASTM test method shown. Synthetic surfacing veil and ultraviolet inhibitors are standard.

Dynaform Shapes

Mechanical Properties	ASTM	Units	Value
Tensile Stress, LW	D - 638	psi	30,000
Tensile Stress, CW	D - 638	psi	7,000
Tensile Modulus, LW	D - 638	10^6psi	2.5
Tensile Modulus, CW	D - 638	10^6psi	0.8
Compressive Stress, LW	D - 695	psi	30,000
Compressive Stress, CW	D - 695	psi	15,000
Compressive Modulus, LW	D - 695	10^6psi	2.5
Compressive Modulus, CW	D - 695	10^6psi	1.0
Flexural Stress, LW	D - 790	psi	30,000
Flexural Stress, CW	D - 790	psi	10,000
Flexural Modulus, LW	D - 790	10^6psi	1.8
Flexural Modulus, CW	D - 790	10^6psi	0.8
Modulus of Elasticity	Full Section	10^6psi	2.8
Shear Modulus	—	10^6psi	0.450
Short Beam Shear	D - 2344	psi	4,500
Punch Shear	D - 732	psi	10,000
Notched Izod Impact, LW	D - 256	ft. - lbs./in.	25
Notched Izod Impact, CW	D - 256	ft. - lbs./in.	4

(1) Excludes Round Rod and Square Bar

Physical Properties	ASTM	Units	Value
Barcoal	D - 495	—	45
24 Hour Water Absorption	D - 570	% max	0.45
Density	D - 792	lbs./in.^{3}	0.062 - 0.070
Coefficient of Thermal Expansion, LW	D - 696	10^{-6}in./in./°C	8

Flammability Properties	ASTM	Units	Value
Tunnel Test*	E - 84	Flame Spread	25 max
Flammability*	D - 635	—	Non-Burning

Electrical Properties	ASTM	Units	Value
Arc Resistance, LW	D - 495	seconds	120
Dielectric Strength, LW	D - 149	kv./in.	35
Dielectric Strength, PF	D - 149	volts/mil	200
Dielectric Constant, PF	D - 150	@60hz	5

LW = Lengthwise, CW = Crosswise, PF = Perpendicular to Laminate Face
**Pertains to ISOFR and VEFR only*

Dynaform Threaded Rods and Nuts

Diameter - Threads Per Inch	ASTM	Units	3/8 - 16 UNC	1/2 - 13 UNC	5/8 - 11 UNC	3/4 - 10 UNC	1 - 8 UNC
Ultimate thread shear using standard fiberglass nut	—	lbs.	1,200	2,400	3,600	4,000	7,000
Ultimate transverse shear-double shear	B - 565	lbs.	4,200	7,400	11,600	17,200	27,400
Max design transverse shear-double shear	—	lbs.	2,100	3,300	4,500	7,500	13,500
Ultimate compressive strength-longitudinal	D - 695	psi	47,000	50,000	50,000	50,000	65,000
Ultimate flexural strength	D - 790	psi	66,000	66,000	66,000	66,000	66,000
Flexural Modulus	D - 790	psi	2.0	2.0	2.0	2.5	2.75
Ultimate torque strength using fiberglass nut lubricated with SAE 10W-30 motor oil	—	ft./lbs.	12	18	30	75	100
Dielectric Strength	D - 149	kv/in.	80	80	80	80	80
Water Absorption, 24 hour immersion-threaded	D - 570	% max	0.3	0.3	0.3	0.3	0.3
Coefficient of thermal expansion-longitudinal	—	in./in./°F	6 x 10^{-6}	6 x 10^{-6}	6 x 10^{-6}	6 x 10^{-6}	6 x 10^{-6}
Max recommended operating temp. based on 50% retention of ultimate thread shear strength	—	°F	212	212	212	212	212
Stud weight	—	ft./lbs.	0.087	0.143	0.227	0.333	0.500
Flammability	D - 635	—	Self-extinguishing for all				
Color	—	—	Gray	Gray	Gray	Gray	Gray

Appropriate safety factor must be applied to all ultimate values.
Dynaform threaded rods and nuts are Class 1 flame retardant vinyl ester. Standard length of threaded rod is 48".

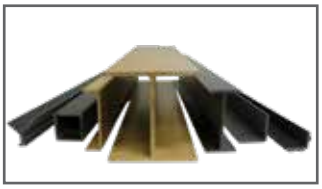
Fibergrate Products & Services

Fibergrate® Molded Grating

Fibergrate® molded gratings are designed to provide the ultimate in reliable performance, even in the most demanding conditions. Fibergrate offers the widest selection in the market with multiple resins and more than twenty grating configurations available in many panel sizes and surfaces.

Safe-T-Span® Pultruded Industrial & Pedestrian Gratings

Combining corrosion resistance, long-life and low maintenance, Safe-T-Span® provides unidirectional strength for industrial and pedestrian pultruded grating applications.



Dynaform® Structural Shapes

Fibergrate offers a wide range of standard Dynaform® pultruded structural profiles for industrial and commercial use, including I-beams, wide flange beams, round and square tubes, bars, rods, channels, leg angles and plate.

Dynarail® Guardrail, Handrail & Ladder Systems

Easily assembled from durable components or engineered and prefabricated to your specifications, Dynarail® guardrail, handrail and safety ladder systems meet or exceed OSHA and strict building code requirements for safety and design.

Custom Composite Solutions

Combining Fibergrate's design, manufacturing and fabrication services allows Fibergrate to offer custom composite solutions to meet our client's specific requirements. Either through unique pultruded profiles or custom open molding, Fibergrate can help bring your vision to reality.

Design & Fabrication Services

Combining engineering expertise with an understanding of fiberglass applications, Fibergrate provides turnkey design and fabrication of fiberglass structures, including platforms, catwalks, stairways, railings and equipment support structures.

Worldwide Sales & Distribution Network

Whether a customer requires a platform in a mine in South Africa to grating on an oil rig in the North Sea, or walkways in a Wisconsin cheese plant to railings at a water treatment facility in Brazil; Fibergrate has sales and service locations throughout the world to meet the needs and exceed the expectations of any customer.

Heavy Metal SAFE

QUALITY CERTIFIED ISO 9001-2008 FACILITIES

Fibergrate Composite Structures

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