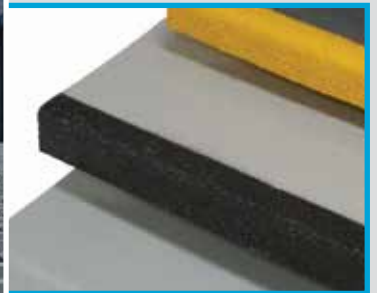
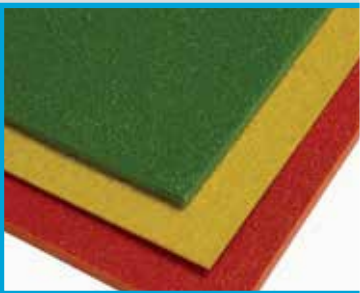


Fiberglass Molded Grating & Products



Building the World to Last®

HIGH PERFORMANCE COMPOSITE SOLUTIONS



Fiberglass Molded Products

Introduction



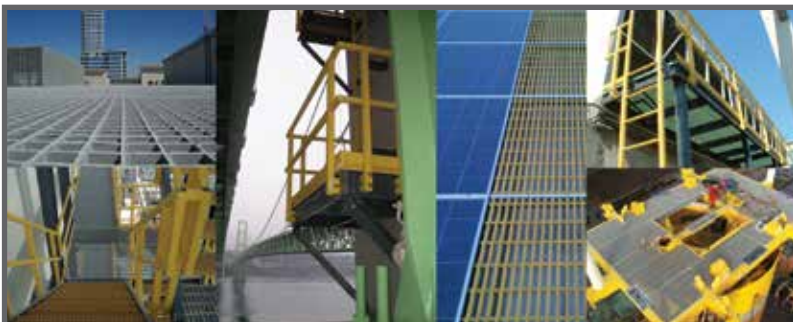
Combining unmatched corrosion resistance with strength, long life and safety, Fibergrate Composite Structures Inc. sets the standard for fiberglass reinforced plastic (FRP) molded products. With more than ten custom resins, Fibergrate products are proven to deliver years of reliable service, even in 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

Molded Grating Selection & Details

Fibergate® Molded Grating

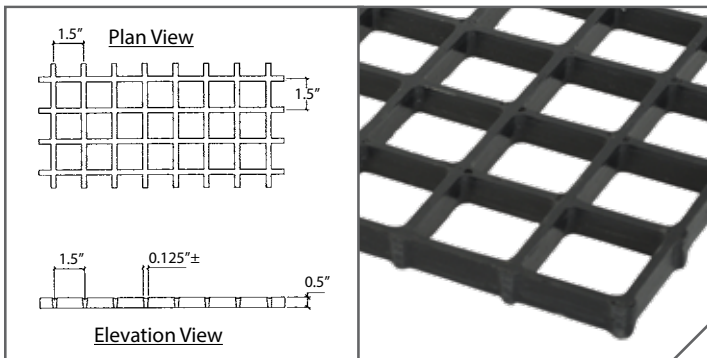
Brand	Depth	Mesh	Standard Panel Sizes	Wt. Per Sq. Ft.	Open Area
Airmesh®	1/2"	1-1/2" x 1-1/2" square	4' x 8' (<i>non-load carrying product</i>)	0.8 lb	87%
Multigrid®	1/2"	2" x 2" square	4' x 12', 4' x 15' (<i>must be fully supported</i>)	1.0 lb	82%
Fibergate®	5/8"	1" x 4" rectangular	12' x 4'	2.0 lb	58%
Fibergate	3/4"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergate	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%
Fibergate	1"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergate	1"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12'	2.5 lb	70%
Fibergate	1"	2" x 2" square	4' x 12'	1.7 lb	76%
Fibergate	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%
Fibergate	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%
Fibergate	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

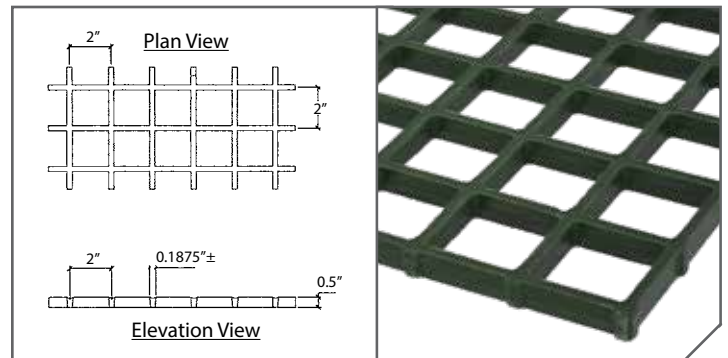
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/8"	87%	1-1/2"	0.8 psf



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



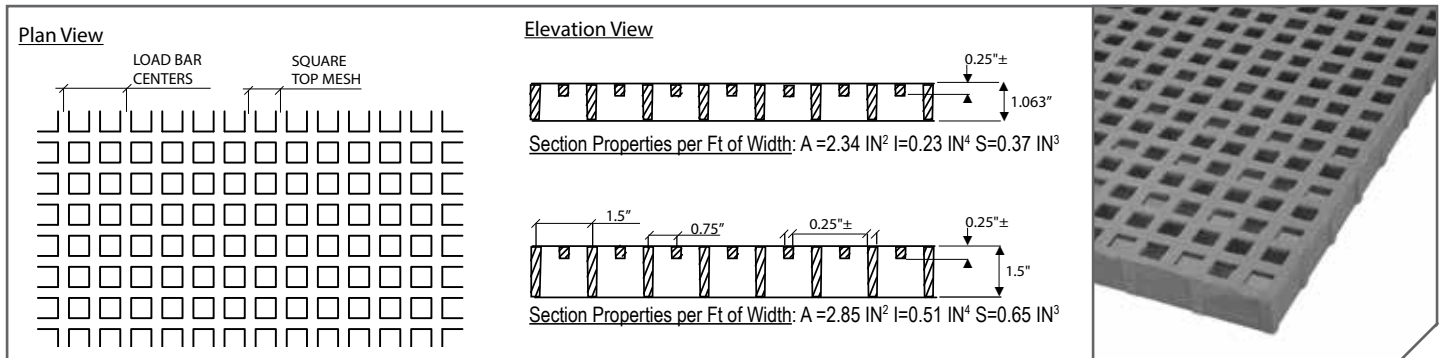
Must be fully supported in walking surface applications

Molded Grating Details

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

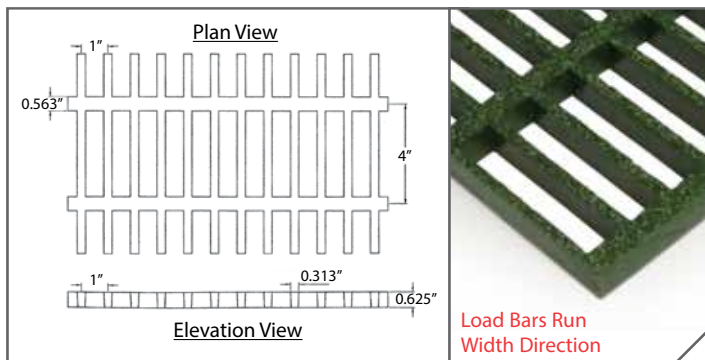


Depth	Square Top Mesh	Panel Size	# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
1"	3/4"	4' x 12'	8	1/4"	44.4%	1-1/2"	2.9 psf
1-1/2"	3/4"	4' x 12'	8	1/4"	44.4%	1-1/2"	4.5 psf



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

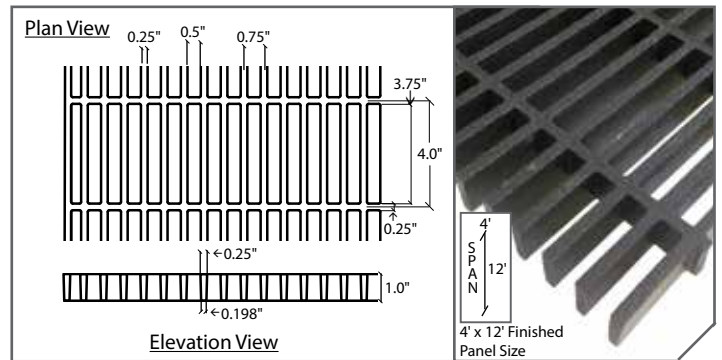


Section Properties per Ft of Width: $A = 2.11 \text{ IN}^2$ $I = 0.07 \text{ IN}^4$ $S = 0.22 \text{ IN}^3$
 *Not available with meniscus top surface (only grit)



1" Deep x 3/4" x 4" Rectangular Mesh

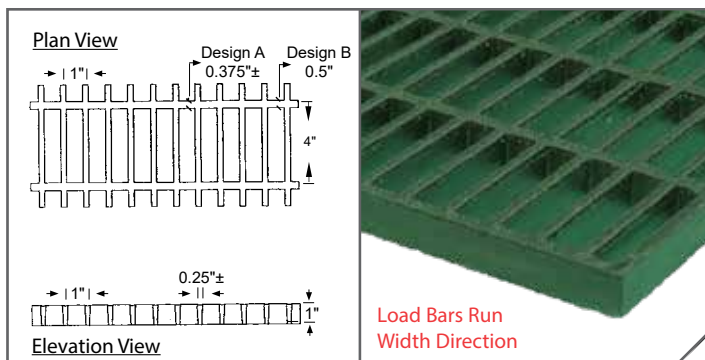
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
16	1/4"	62%	3/4"	3.0 psf



Section Properties per Ft of Width: $A = 3.58 \text{ IN}^2$ $I = 0.298 \text{ IN}^4$ $S = 0.573 \text{ IN}^3$

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

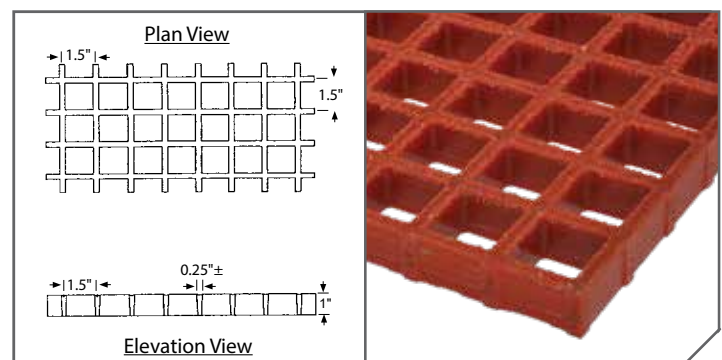
Panel Sizes	# of Bars/ Ft of Width	Load Bar Width	Tie Bar Width	Open Area	Load Bar Centers	Approx. Weight
Design A 10' x 3' 8' x 4'	12	1/4"	3/8"	69%	1"	2.5 psf



Section Properties per Ft of Width: $A = 2.57 \text{ IN}^2$ $I = 0.22 \text{ IN}^4$ $S = 0.43 \text{ IN}^3$

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

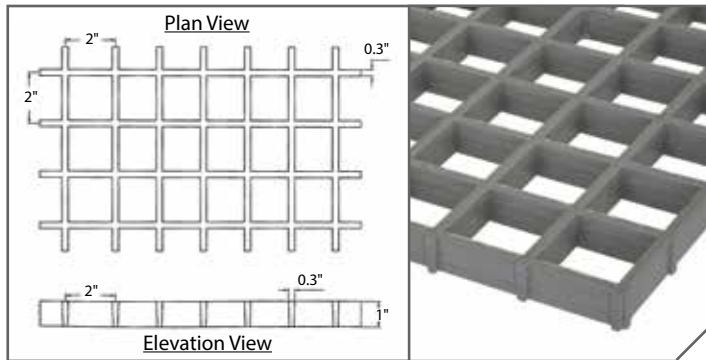


Section Properties per Ft of Width: $A = 1.71 \text{ IN}^2$ $I = 0.14 \text{ IN}^4$ $S = 0.29 \text{ IN}^3$

Molded Grating Details

1" Deep x 2" Square Mesh

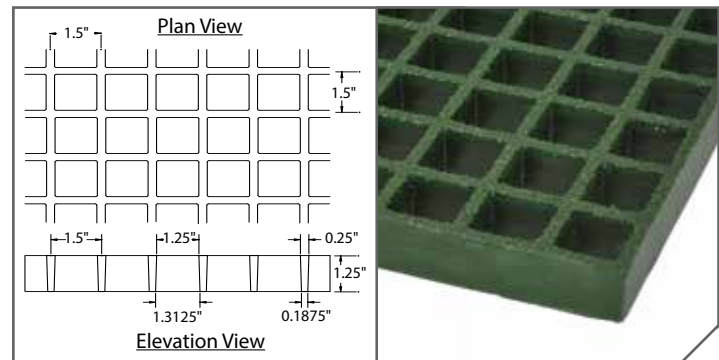
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
6	0.3"	76%	2"	1.7 psf



Section Properties per Ft of Width: $A = 1.27 \text{ IN}^2$ $I = 0.11 \text{ IN}^4$ $S = 0.21 \text{ IN}^3$

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

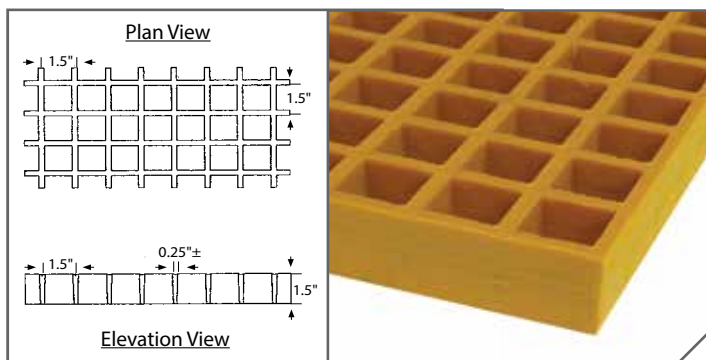


Section Properties per Ft of Width: $A = 2.16 \text{ IN}^2$ $I = 0.32 \text{ IN}^4$ $S = 0.48 \text{ IN}^3$

*Not available with meniscus top surface (only grit)

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

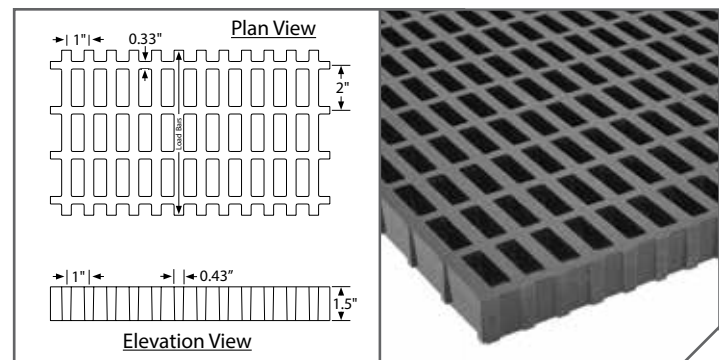
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
8	1/4"	70%	1-1/2"	3.8 psf



Section Properties per Ft of Width: $A = 2.85 \text{ IN}^2$ $I = 0.51 \text{ IN}^4$ $S = 0.65 \text{ IN}^3$

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

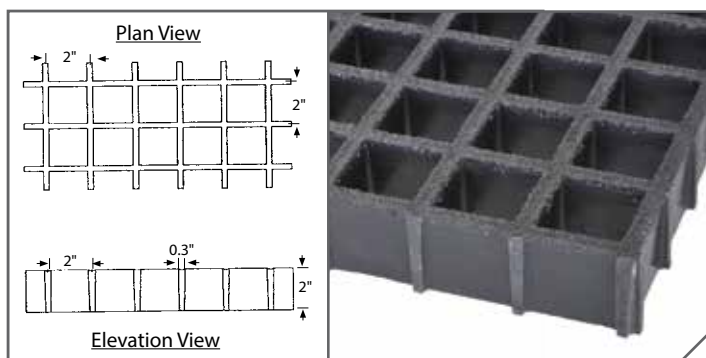
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.43"	48%	1"	6.2 psf



Section Properties per Ft of Width: $A = 7.45 \text{ IN}^2$ $I = 1.39 \text{ IN}^4$ $S = 1.80 \text{ IN}^3$

2" Deep x 2" Square Mesh

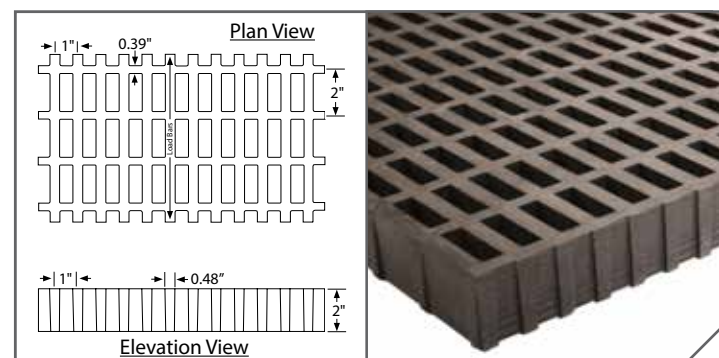
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
6	0.3"	72%	2"	4.0 psf



Section Properties per Ft of Width: $A = 2.88 \text{ IN}^2$ $I = 0.96 \text{ IN}^4$ $S = 0.94 \text{ IN}^3$

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: $A = 10.26 \text{ IN}^2$ $I = 3.4 \text{ IN}^4$ $S = 3.27 \text{ IN}^3$

Molded Grating Surfaces and Options

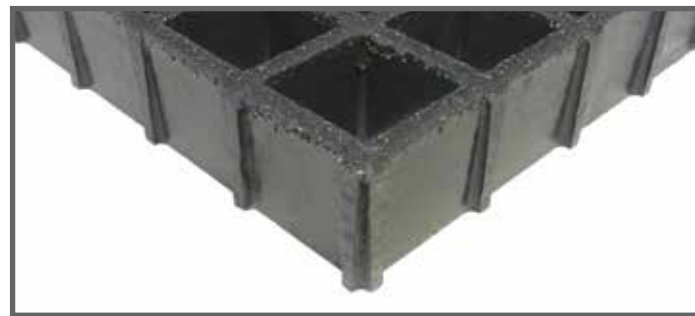
Slip Resistant Surfaces

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 Fibergate developed two slip resistant surfaces for flooring and stair solutions. These surfaces include meniscus and integrally applied grit tops in the Fibergate resins.

Available Surfaces for Molded Grating



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



Integrally Applied Grit Top: The optional grip top of Fibergate® 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: Fibergate® 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. Fibergate recommends a minimum of 4 grounding attachments at the corners of a section of grating.

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

Fibergate HF Molded Grating: Fibergate 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: Fibergate 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

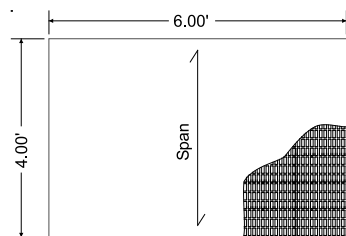
Fibergate has the capability to offer molded grating configurations designed/manufactured to meet your unique application requirements. Fibergate's custom services include special molded grating configurations as well as custom hand-lay-up (HLU) products for industrial and architectural applications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

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.

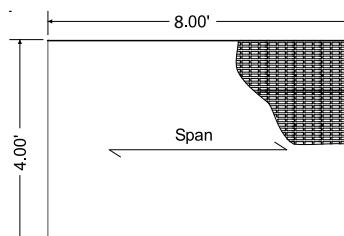
With a 48% open surface area, Fibergrate molded HLC grating is available in a 6' x 4' or 4' x 8' panel size with depths of 1-1/2" and 2". High load capacity molded grating is now available in Fibergrate's Vi-Corr®, Corvex® and FGI-AM® resin systems (see resin details for color options). Surface options 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.

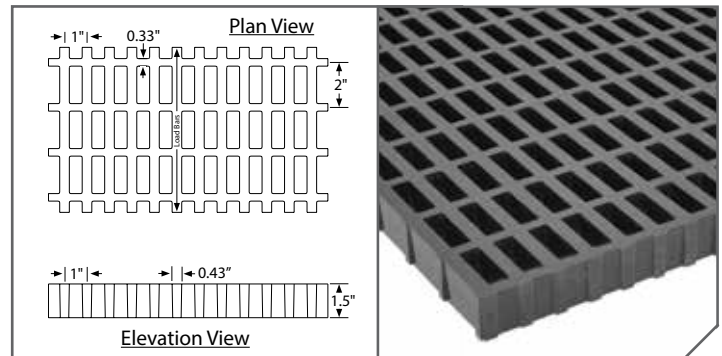
4' x 8' Finished Panel Size



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

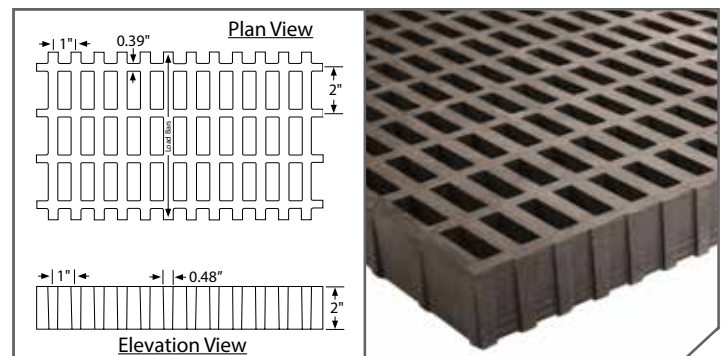
# of Bars/ Ft of Width	Load Bar Width	Open Area	Load Bar Centers	Approximate Weight
12	0.43"	48%	1"	6.2 psf



Section Properties per Ft of Width: $A = 7.45 \text{ IN}^2$ $I = 1.39 \text{ IN}^4$ $S = 1.80 \text{ IN}^3$

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: $A = 10.26 \text{ IN}^2$ $I = 3.4 \text{ IN}^4$ $S = 3.27 \text{ IN}^3$

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:

- Load is carried by the grating load bars immediate under wheel + four additional load bars adjacent to wheel.
- 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.
- 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.
- 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.

Stair Solutions

Stair Treads

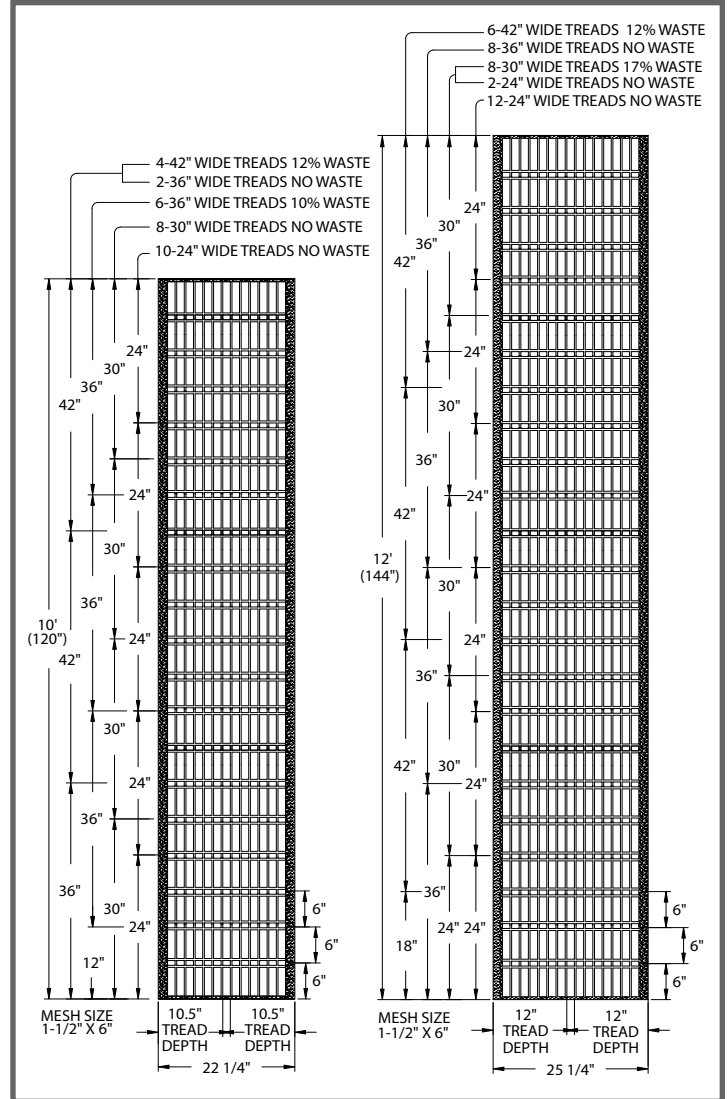


Fibergrate provides several slip and corrosion resistant products for your stairway safety needs. Our complete stair solution line includes panels in a one-piece molded configuration for new or replacement steps; covered stair treads to replace deteriorating concrete steps; or stair tread covers designed 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.

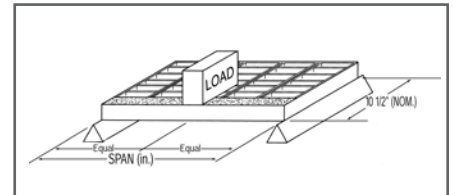
Fibertred® Panels

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 gridded 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:

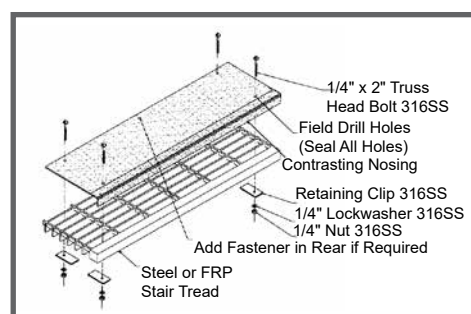
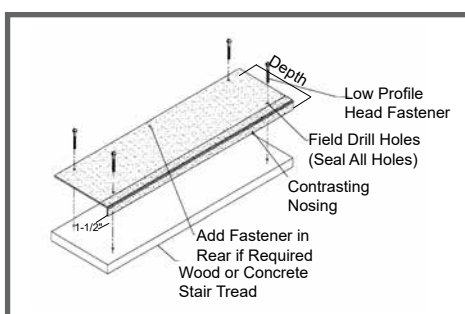
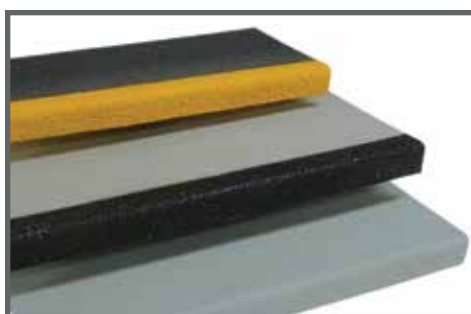
1. It is suggested that stair tread deflections be limited to Span/150. Deflections based on this ratio are at the top of the table.
2. Deflections in the body of the table are for concentrated loads of both 250 and 500 lb. A concentrated load is applied at the center line of the tread, over a width 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 Solutions

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

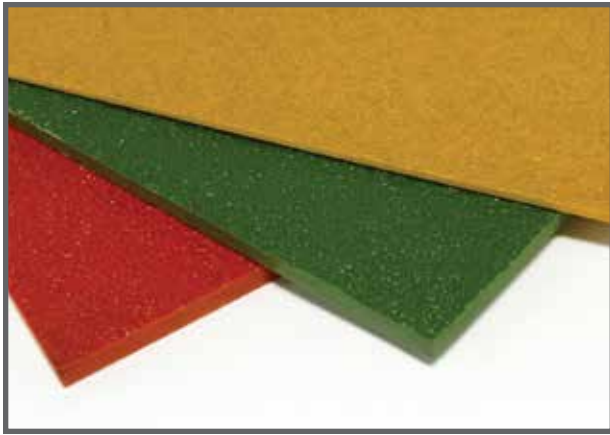
Tread Type (Depth x Width)	Load (lb)	Span (in)	30	36	42	48	54	60
		L/D=150	0.2	0.24	0.28	0.32	0.36	0.4
1-5/8" x 10-5/8"	250		0.08	0.15	0.23	0.35	--	--
	500		0.17	0.29	0.47	--	--	--
1-5/8" x 12-1/4"	250		0.07	0.11	0.18	0.27	0.37	--
	500		0.13	0.23	0.36	--	--	--
2-1/8" x 10-1/4"	250		0.04	0.06	0.09	0.14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

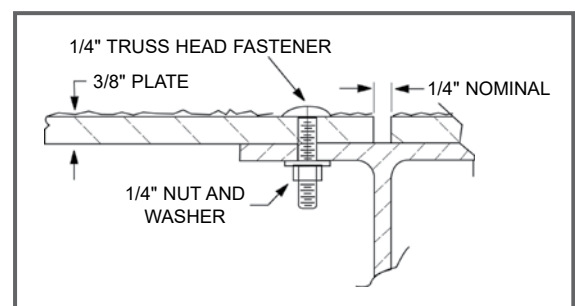
- (1) Normal load is the load which will produce a L/D of 125 or .375" Maximum.
- (2) Firm is the load which will produce a L/D of 200 or .25" Maximum.
- (3) Loads for Short Span Normal and Firm have been limited to allow for shearing effects.
- (4) Clear Span is 2" less than width of grating.

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

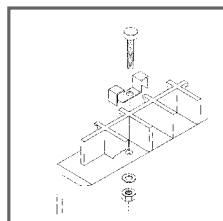
Installation

- 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

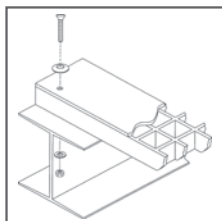


Accessories & Complementary Products

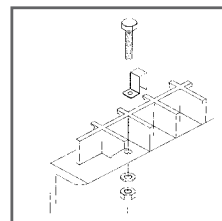
Clip Assemblies For Molded Products



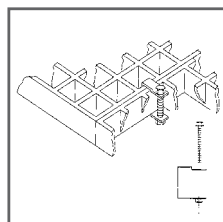
TYPE M HOLD DOWN CLIPS: Secure panels to a support in the same manner as Type J Clips, but designed to use two adjacent grating bars for a more secure fit. Similar in design to metal grating saddle clips.



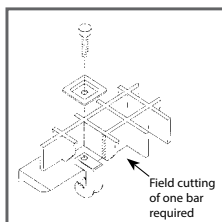
TYPE WLP STRUCTURAL CLIPS: Secure covered grating or plate to a structure. (Also available in 304 SS)



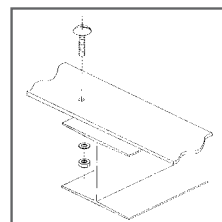
TYPE J HOLD DOWN CLIPS: Secure grating panels to support frames.



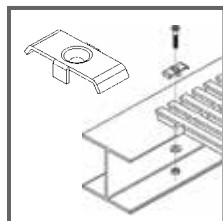
TYPE F END PANEL CLIPS: Provide a simplified method for joining factory edges of adjacent abutting panels.



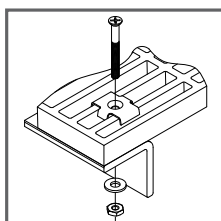
TYPE G HOLD DOWN CLIPS: Attach grating to any structural member flange, 3/4" or smaller in thickness, with no drilling required.



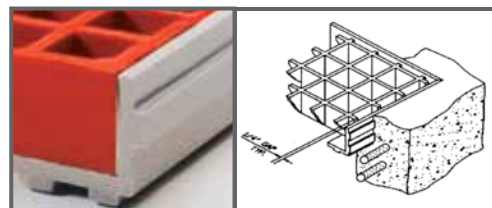
TYPE H (TRUSS HEAD) STRUCTURAL CLIPS: Secure plate to a structure.



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

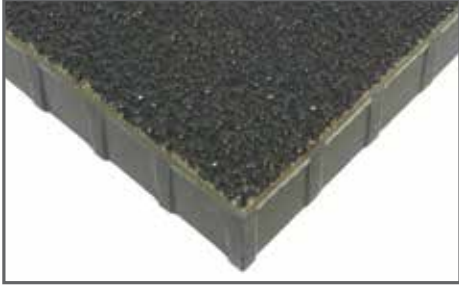
Sealing and Bonding Kits

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.

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.



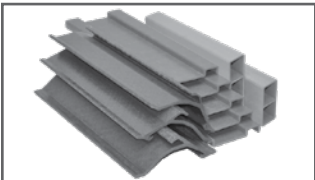
Dynaform® Structural Shapes

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 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.

Fibergrate Composite Structures Inc. believes the information contained here to be true and accurate. Fibergrate makes no warranty, expressed or implied, based on this literature and assumes no responsibility for the consequential or incidental damages in the use of these products and systems described, including any warranty of merchantability or fitness. Information contained here can be for evaluation only. The marks and trade names appearing herein, whether registered or unregistered, are the property of Fibergrate Composite Structures Inc.

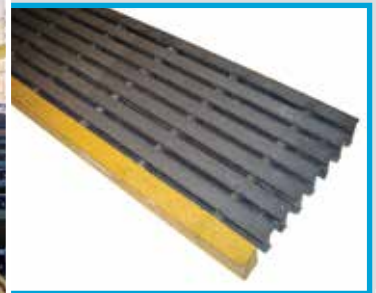


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Printed in the USA

Fiberglass Pultruded Grating



HIGH PERFORMANCE COMPOSITE SOLUTIONS

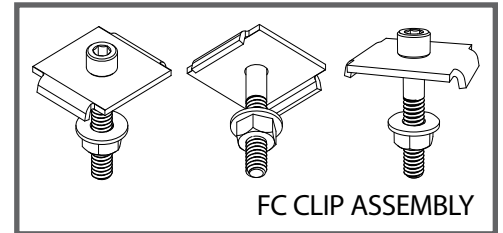


Grating Selection & Accessories

Clip Assemblies

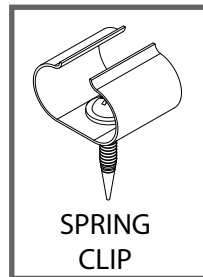
Fibergrate's newly designed FC Hold Down Clip Assembly offers an easy and more cost effective solution for installing pultruded grating. Type FC Hold Down Clips secure grating below the walking surface.

(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)



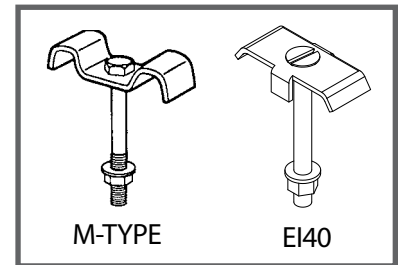
Fibergrate's Type RT and RI Hold Down Clip Assemblies of Type 316 stainless steel are still available for special order.

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)*



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)



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

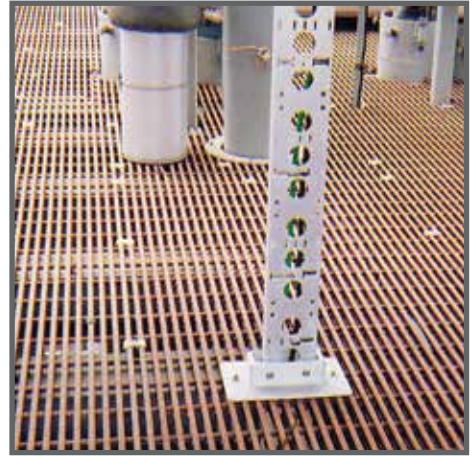
Safe-T-Span® Industrial Grating Details



I4010 & I6010 Grating



Copper Mining Facility



Offshore Oil & Gas Platform

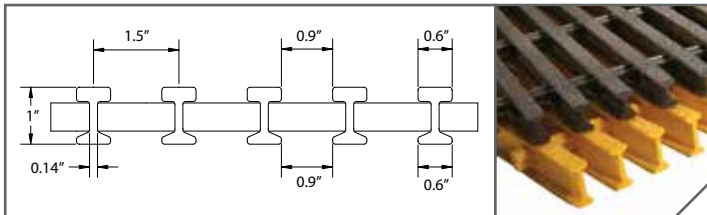
Safe-T-Span industrial grating is available in 1", 1-1/4", and 1-1/2" depths in an I-bar configuration with 40%, 50% and 60% open areas. 2" depth T-bar configuration with 33% or 50% open area is also available for applications which require wider spans or lower deflections. *For details and load charts 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

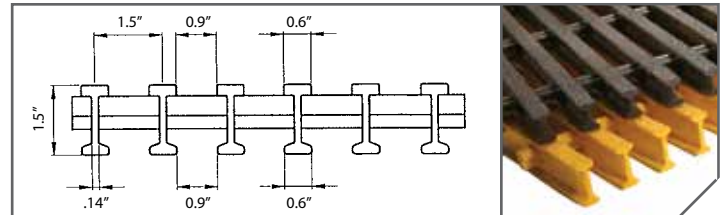
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
8	1"	60%	1-1/2"	2.7 psf



Section Properties per Ft of Width: $A = 2.64 \text{ IN}^2$ $I = 0.33 \text{ IN}^4$ $S = 0.63 \text{ IN}^3$
Average EI = 1,700,000 lb - in² (SPAN ≥ 24")

1-1/2" Deep I6015

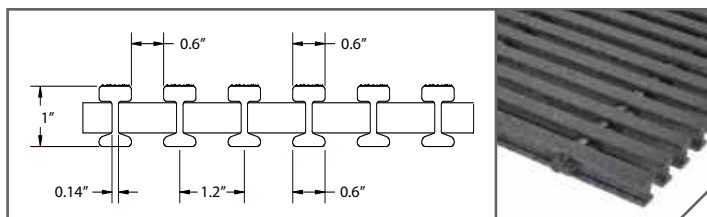
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
8	1-1/2"	60%	1-1/2"	3.2 psf



Section Properties per Ft of Width: $A = 3.2 \text{ IN}^2$ $I = 0.94 \text{ IN}^4$ $S = 1.2 \text{ IN}^3$
Average EI = 4,600,000 lb - in² (SPAN ≥ 24")

1" Deep I5010

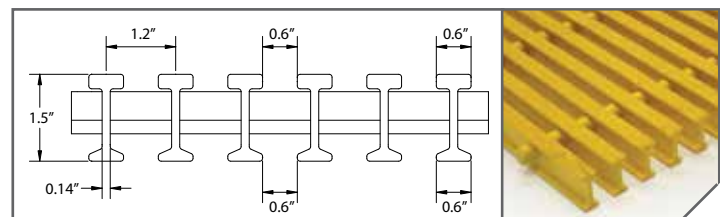
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
10	1"	50%	1.2"	3.3 psf



Section Properties per Ft of Width: $A = 3.3 \text{ IN}^2$ $I = 0.41 \text{ IN}^4$ $S = 0.79 \text{ IN}^3$
Average EI = 2,100,000 lb - in² (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

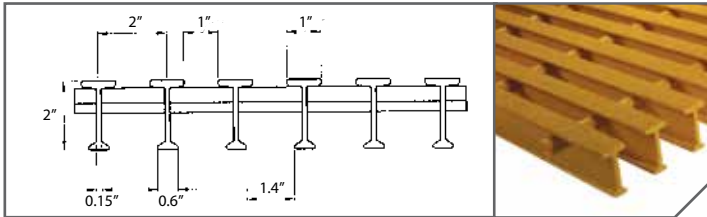


Section Properties per Ft of Width: $A = 4 \text{ IN}^2$ $I = 1.17 \text{ IN}^4$ $S = 1.65 \text{ IN}^3$
Average EI = 5,700,000 lb - in² (SPAN ≥ 24")

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

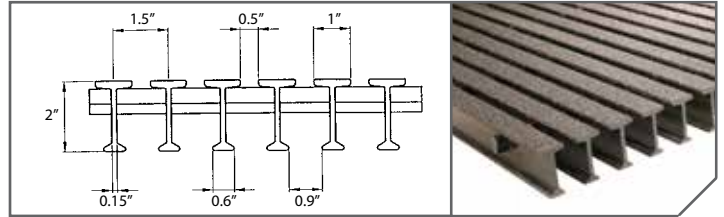


Section Properties per Ft of Width: $A=3.2 \text{ IN}^2$ $I=1.68 \text{ IN}^4$ $S_t=1.96 \text{ IN}^3$ $S_b=1.47 \text{ IN}^3$
Average EI = 7,600,000 lb - in² (SPAN ≥ 24")

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

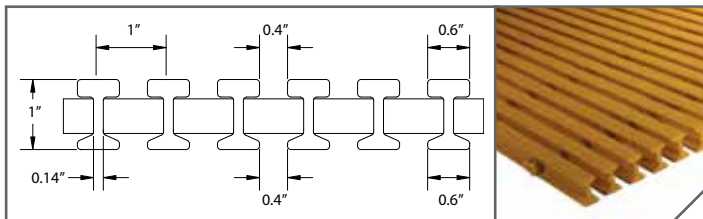


Section Properties per Ft of Width: $A=4.28 \text{ IN}^2$ $I=2.24 \text{ IN}^4$ $S_t=2.61 \text{ IN}^3$ $S_b=1.96 \text{ IN}^3$
Average EI = 9,200,000 lb - in² (SPAN ≥ 24")

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

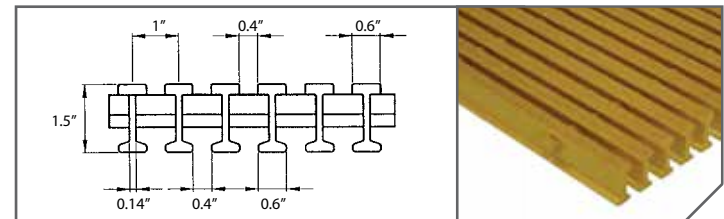


Section Properties per Ft of Width: $A=3.96 \text{ IN}^2$ $I=0.5 \text{ IN}^4$ $S=0.95 \text{ IN}^3$
Average EI = 2,500,000 lb - in² (SPAN ≥ 24")

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: $A=4.8 \text{ IN}^2$ $I=1.41 \text{ IN}^4$ $S=1.8 \text{ IN}^3$
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}				
		Parallel to Axle (1)	Perpendicular to Axle	HI3710	HI3715	HI3720	HI3725	HI3730	Parallel to Axle (1)	Perpendicular to Axle	HI4710	HI4715	HI4720	HI4725	HI4730
 AASHTO H-25 Truck⁴ 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"
 AASHTO H-20 Truck⁴ 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"
 AASHTO H-15 Truck⁴ 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"
 AASHTO H-10 Truck⁴ 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"
 AASHTO H-5 Truck⁴ 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"
 Passenger Vehicles⁵ 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"
 5 Ton Capacity Forklift⁵ 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"
 3 Ton Capacity Forklift⁵ 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"
 1 Ton Capacity Forklift⁵ 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"

NOTES:

- Load is carried by the grating load bars immediately under wheel + two additional load bars, one on each side of wheel.
- 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 criteria.
- 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.
- 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.
- 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



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.



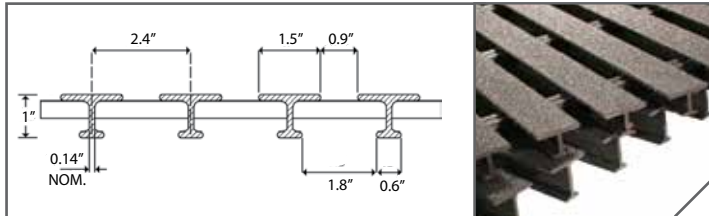
Pontoon Boardwalk in Portland, Oregon

Grating Details

Refer to chart on page 4 for Grating Selection.

1" Deep T3810

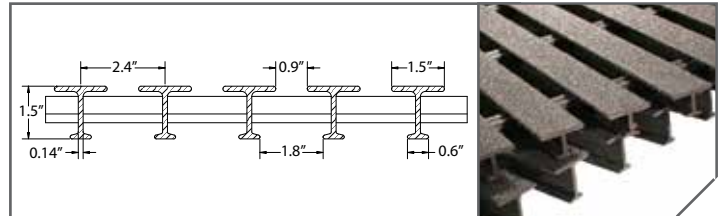
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
5	1"	38%	2.4"	1.9 psf



Section Properties per Ft of Width: $A=1.76 \text{ IN}^2$ $I=0.23 \text{ IN}^4$ $St=0.65 \text{ IN}^3$ $Sb=0.35 \text{ IN}^3$
Average EI = 1,120,000 lb - in² (SPAN ≥ 24")

1-1/2" Deep T3815

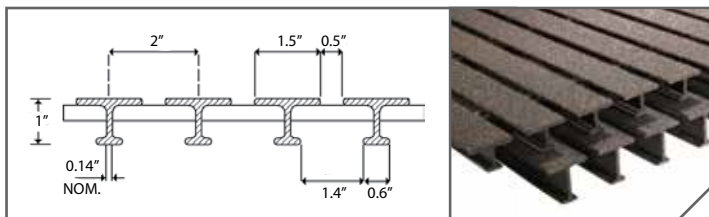
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
5	1-1/2"	38%	2.4"	2.7 psf



Section Properties per Ft of Width: $A=2.28 \text{ IN}^2$ $I=0.66 \text{ IN}^4$ $St=1.23 \text{ IN}^3$ $Sb=0.69 \text{ IN}^3$
Average EI = 3,440,000 lb - in² (SPAN ≥ 24")

1" Deep T2510 (ADA Compliant)

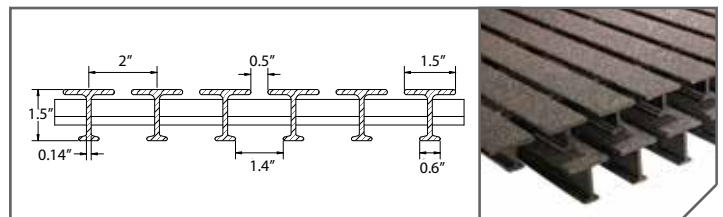
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
6	1"	25%	2"	2.5 psf



Section Properties per Ft of Width: $A=2.11 \text{ IN}^2$ $I=0.27 \text{ IN}^4$ $St=0.79 \text{ IN}^3$ $Sb=0.42 \text{ IN}^3$
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: $A=2.73 \text{ IN}^2$ $I=0.8 \text{ IN}^4$ $St=1.47 \text{ IN}^3$ $Sb=0.83 \text{ IN}^3$
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.



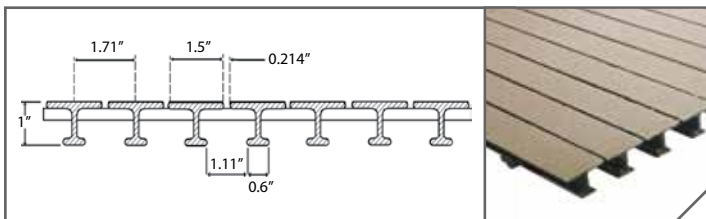
Corinthian Yacht Club Harbor in San Francisco, California.

Grating Details

Refer to chart on page 4 for Grating Selection.

1" Deep T1210 (ADA Compliant)

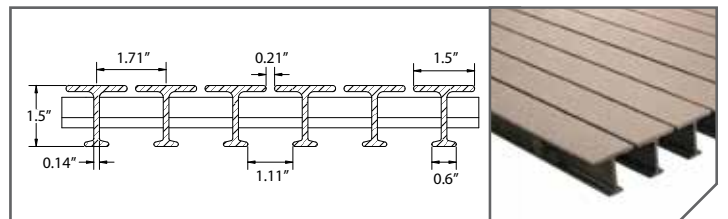
# of Bars/ Ft of Width	Load Bar Depth	Open Area	Load Bar Centers	Approximate Weight
7	1"	12%	1.714"	2.7 psf



Section Properties per Ft of Width: $A=2.46 \text{ IN}^2$ $I=0.32 \text{ IN}^4$ $St=0.94 \text{ IN}^3$ $Sb=0.49 \text{ IN}^3$
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: $A=3.19 \text{ IN}^2$ $I=0.93 \text{ IN}^4$ $St=1.72 \text{ IN}^3$ $Sb=0.97 \text{ IN}^3$
Average EI = 4,827,000 lb - in² (SPAN ≥ 24")

Custom Pultruded Gratings

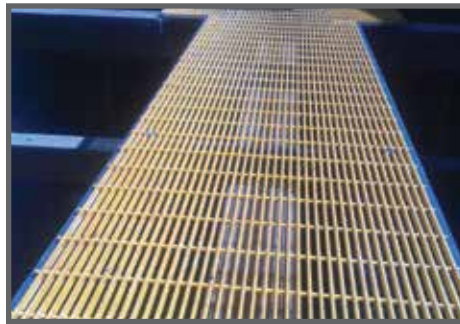
Fibergrate Composite Structures has developed a number of specialty pultruded gratings to meet specific requirements brought to us by our customers. These grating solutions were developed in partnerships with our customers, capitalizing on Fibergrate's 20+ years of pultruded experience and the customers' 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



Industrial Stair Tread

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.



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:

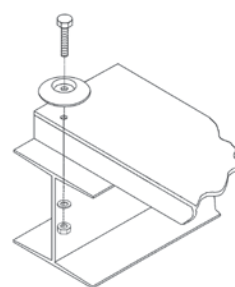
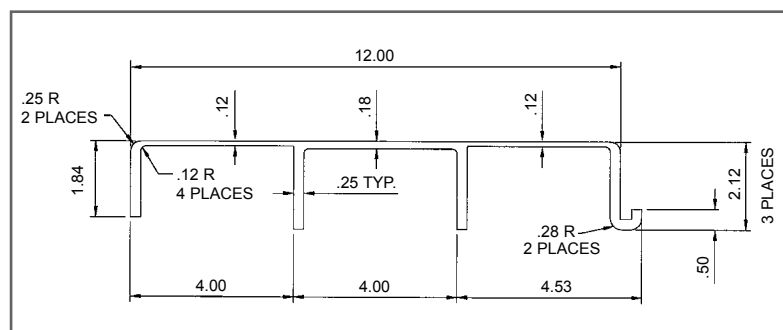
1. It is suggested that stair tread deflection be limited to SPAN/150. Deflections based on this ratio are provided at the top of the table.
2. Deflection in the body of the table are for concentrated loads of both 250 lbs. and 500 lbs. A concentrated load is applied at the center of the tread, over 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

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.



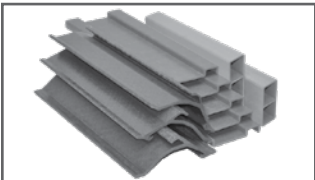
Dynaform® Structural Shapes

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.

Fibergrate Composite Structures Inc. believes the information contained here to be true and accurate. Fibergrate makes no warranty, expressed or implied, based on this literature and assumes no responsibility for the consequential or incidental damages in the use of these products and systems described, including any warranty of merchantability or fitness. Information contained here can be for evaluation only. The marks and trade names appearing herein, whether registered or unregistered, are the property of Fibergrate Composite Structures Inc.



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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.

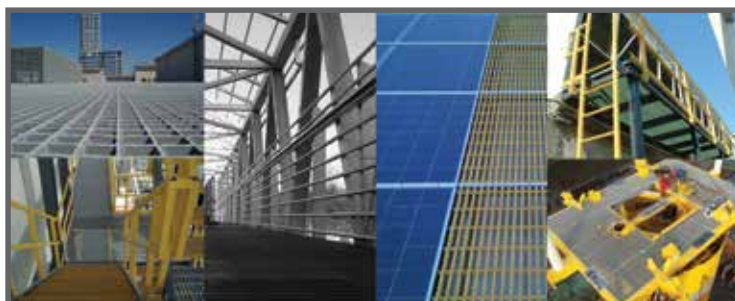
DYNARAIL® LADDERS

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.



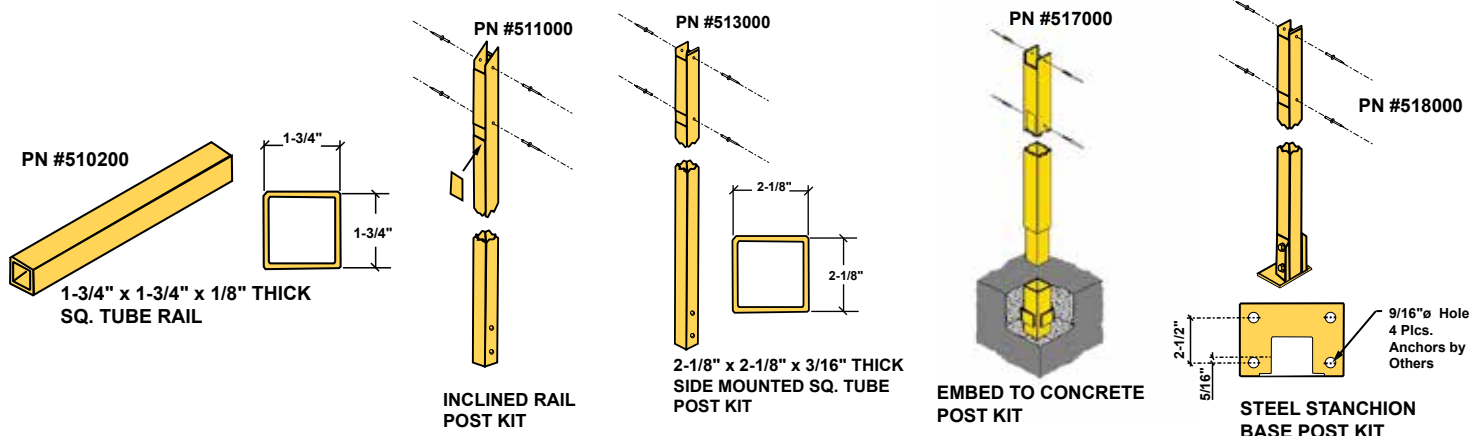
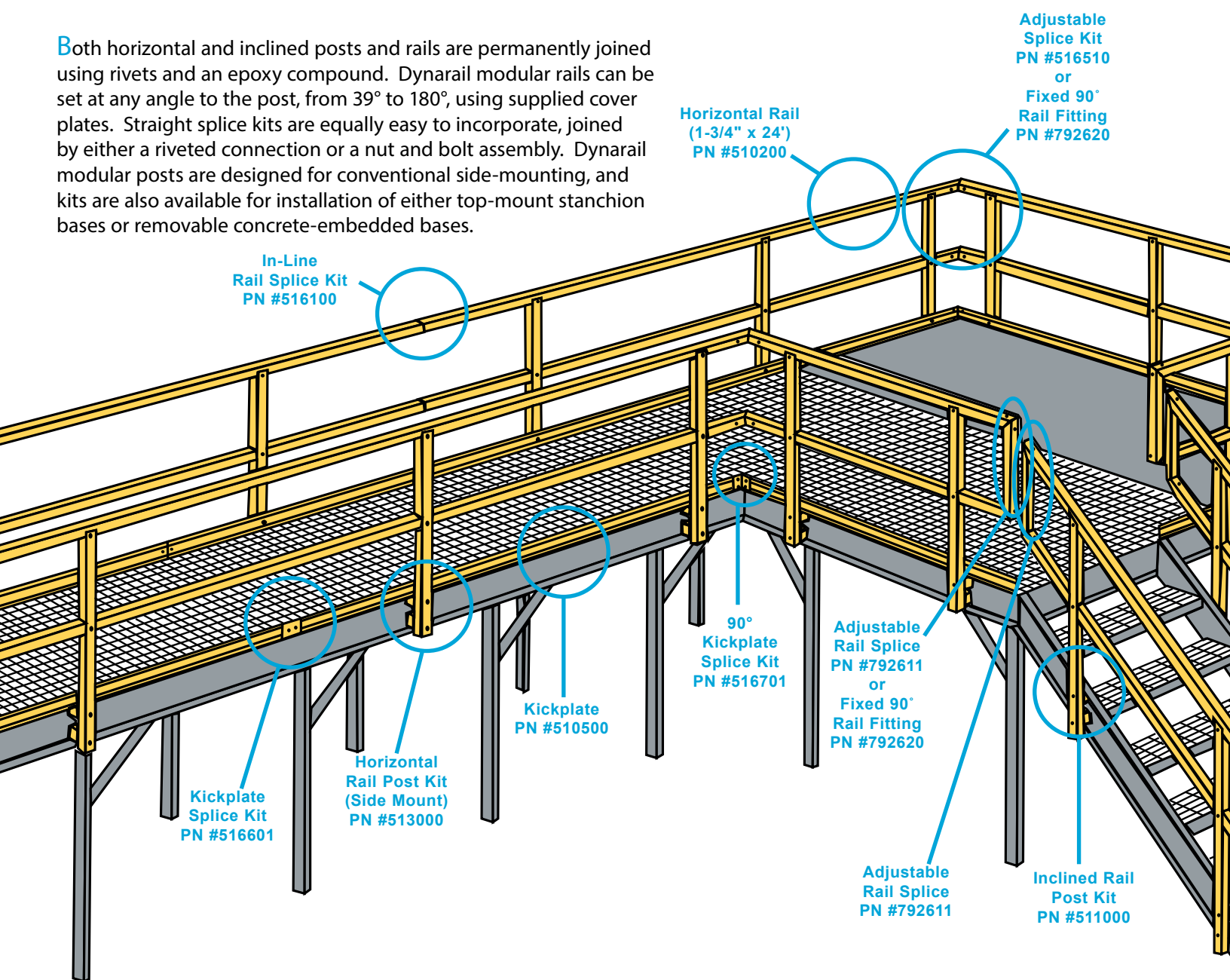
FIBERGRATE MARKETS

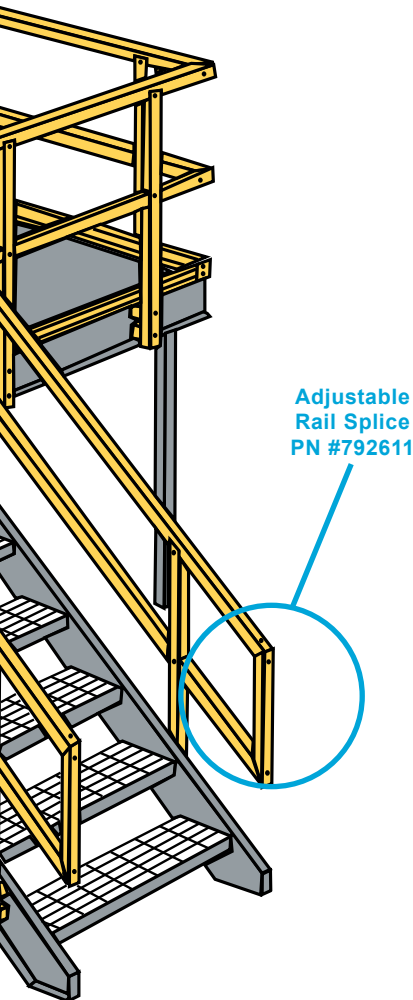


- Architectural/Commercial
- Bridge & Highway
- Chemical
- Food & Beverage
- Manufacturing
- Metals & Mining
- Oil & Gas
- Power/Utilities
- Recreation
- Telecommunications
- Transportation
- Water & Wastewater

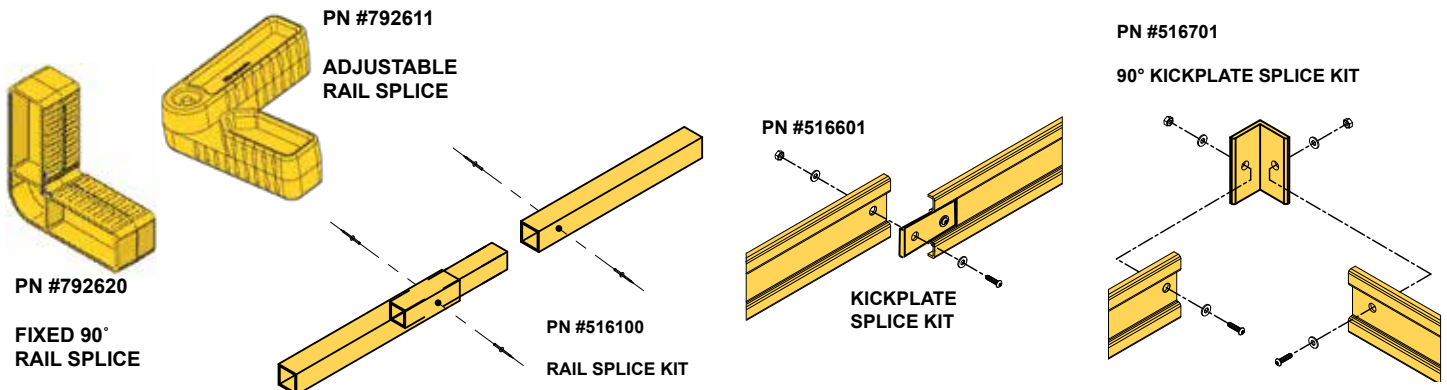
Dynarail® Modular Guardrail System

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.



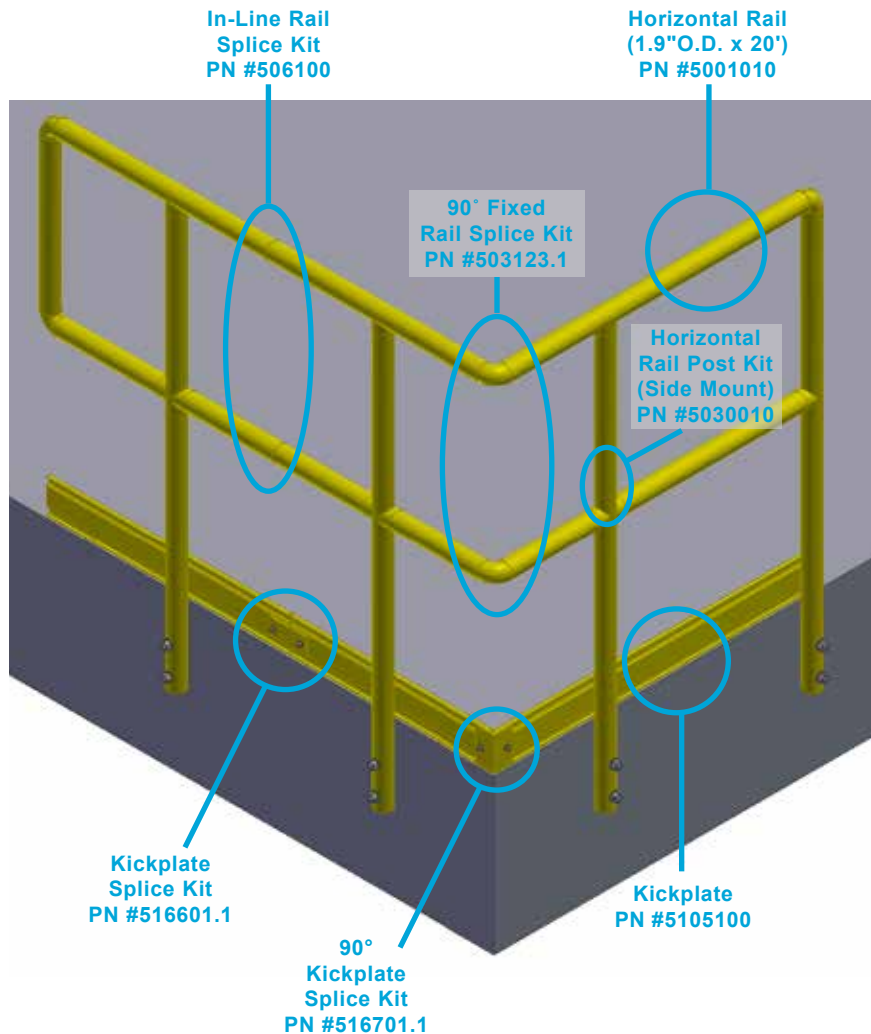


PART #	DESCRIPTION	
NOTE: All part numbers listed are ISOFR and are NON-UV coated items unless otherwise noted.		
511000	Post Kit (Inclined Rail)	1 ea. Post 2-1/8" x 3/16" x 45" High Sq. Tube
		4 ea. Cover Plates 2-1/8" x 3-1/4"
		4 ea. Rivets 18-8 SS
513000	Post Kit (Horizontal Rail) Side Mount	1 ea. 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		

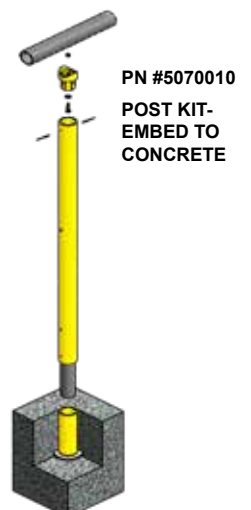
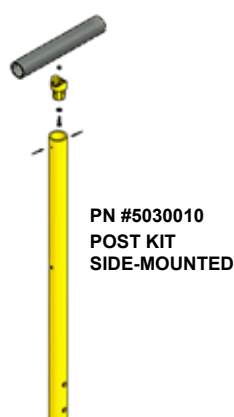
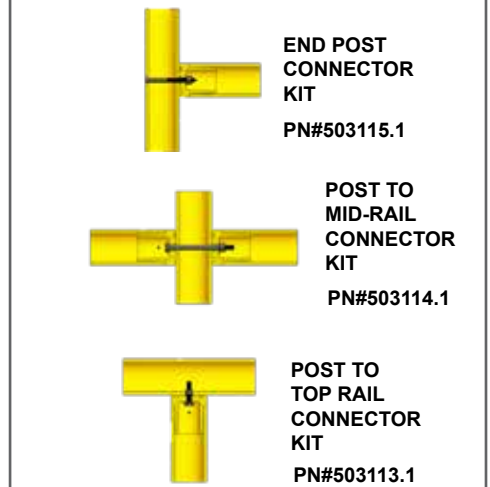


DynaRound™ Modular Guardrail System

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.*

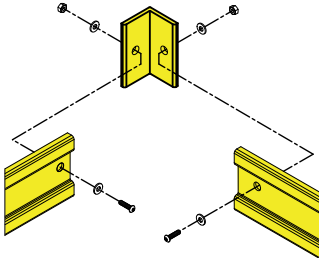


Cross Sections of Rail to Post Connections

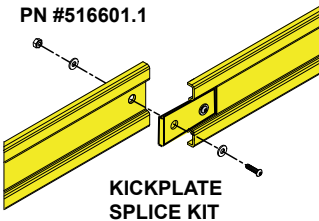


PN #516701.1

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



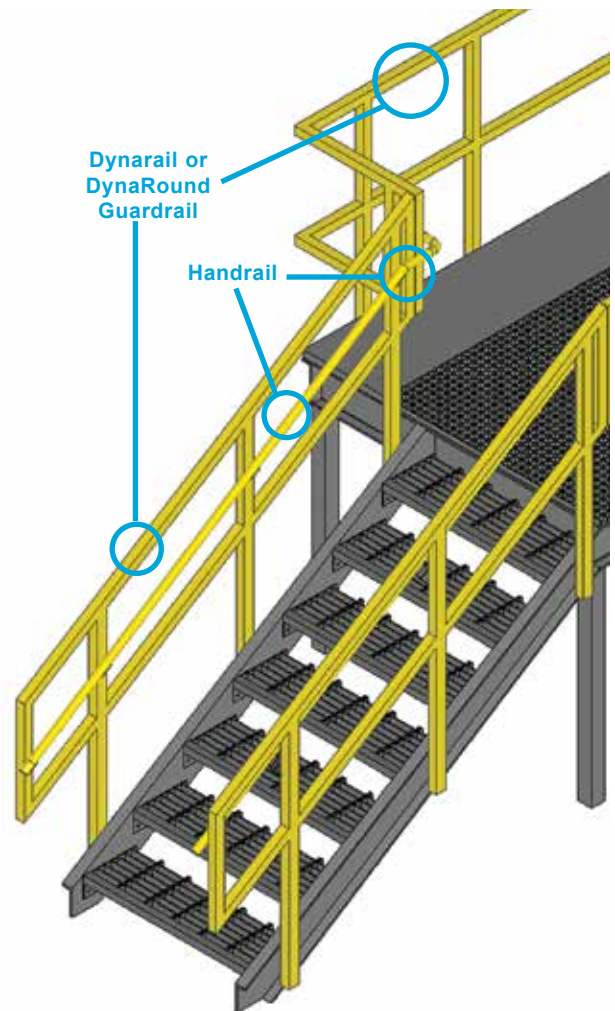
**PN#794509
(BRACKET ONLY)**

**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
5105100*	Kickplate	1/4"-20 Rivnut 18-8 SS; 2 ea. Rivets 18-8 SS
		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 Bolt, 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 PN's are the UV coated VEFR counterparts to the PN's 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	

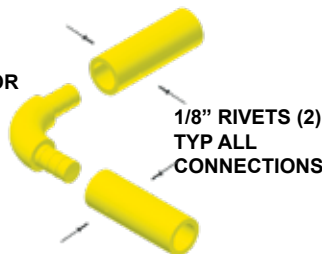
FIXED 90° HANDRAIL CONNECTOR
PN#792650



ADJUSTABLE HANDRAIL CONNECTOR
PN#792640

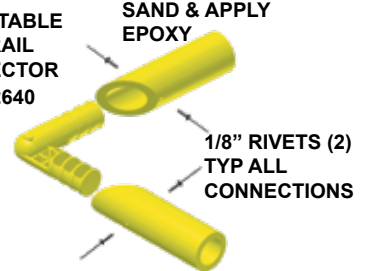


FIXED HANDRAIL CONNECTOR
PN#792650



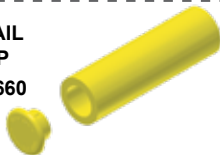
ROUND TUBE USED AS HANDRAIL

ADJUSTABLE HANDRAIL CONNECTOR
PN#792640

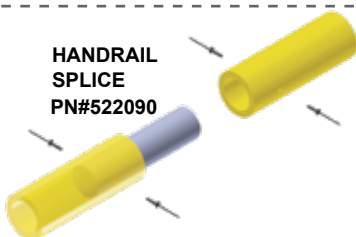


ROUND TUBE USED AS HANDRAIL

HANDRAIL END CAP
PN#792660

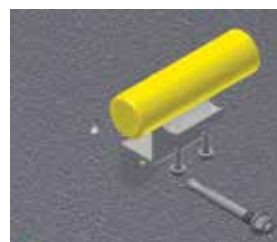


HANDRAIL SPLICE
PN#522090



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



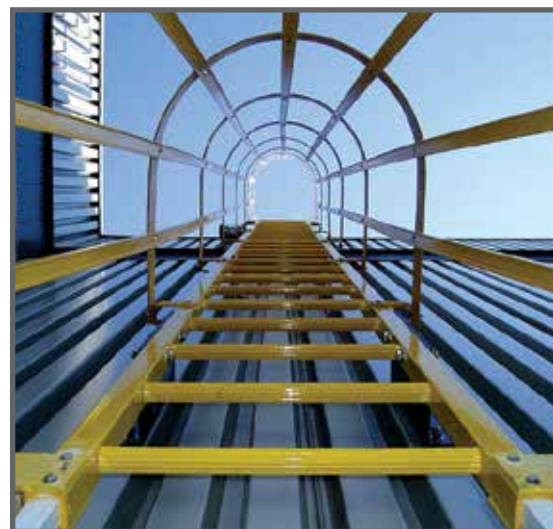
FOR ATTACHMENT TO AN FRP POST:
PN#794510 & PN#794511 REQUIRE 3/8" DIA. HEX HEAD BOLT & SS BACKER PLATE (PN#794515) ON OPPOSITE SIDE OF POST TO PREVENT POST FROM BEING CRUSHED BY BOLT

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.

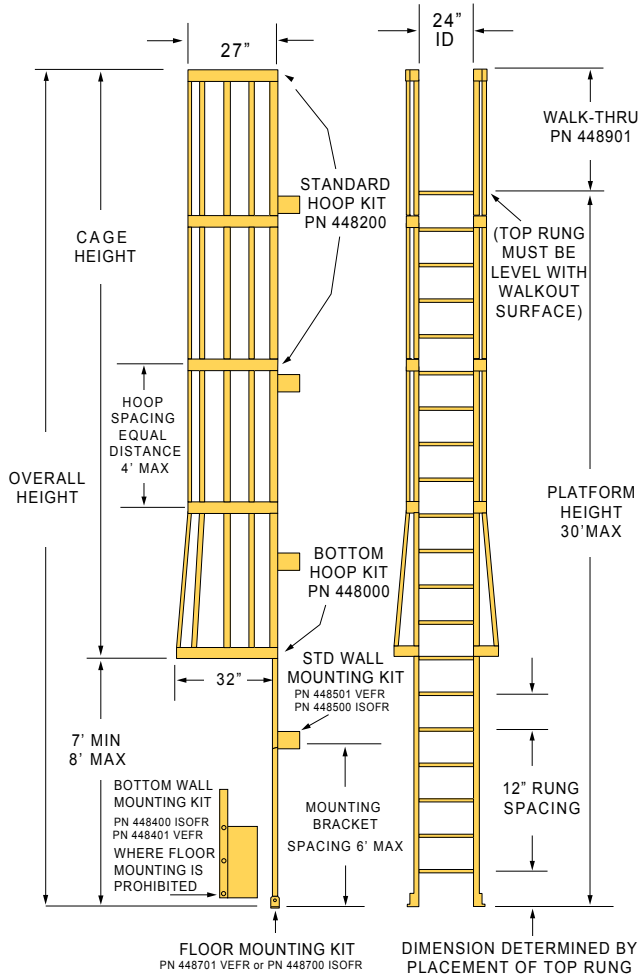
CAGE:

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 layout Predrilled holes <i>(with necessary bolt assemblies)</i>
Bottom Hoop Kit (PN 448000)	31" from center line of ladder rung to inside of hoop 3" wide x 1/4" thick hand layout Predrilled holes <i>(with necessary bolt assemblies)</i>
Hoop Brackets (Included with hoop kits)	1/4" thick, "U" shaped hand layout Predrilled holes <i>(with necessary bolt assemblies)</i>
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) <i>Required when ladder cannot be floor mounted</i>	2-3/16" x 8" x 3/8" angle, 18" long Two per set <i>(with necessary bolt assemblies)</i>
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 <i>(with necessary bolt assemblies)</i>
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 <i>(with necessary bolt assemblies)</i>

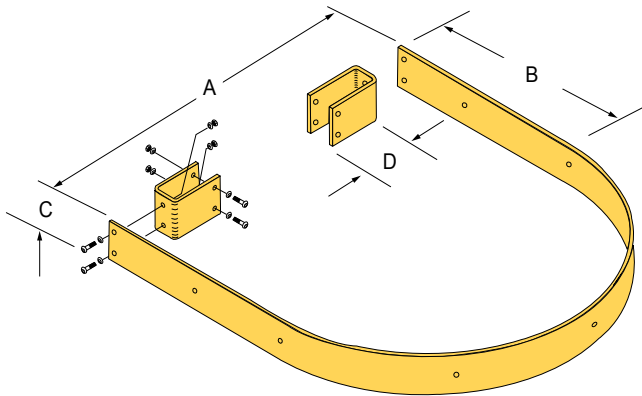
***NOTE:** Wall mount brackets and floor mount clips are predrilled with 9/16" diameter holes for 1/2" diameter anchor bolts only. **Anchor bolts not included.**

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

Cage Height	Hoops Required		Vertical I-Bars Required	
	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

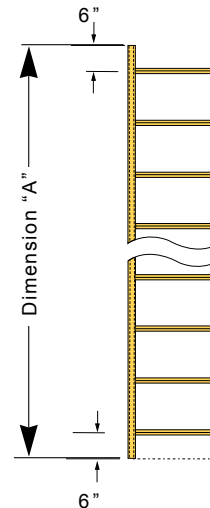
Ladder Mounting Accessories

Ladder Height	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

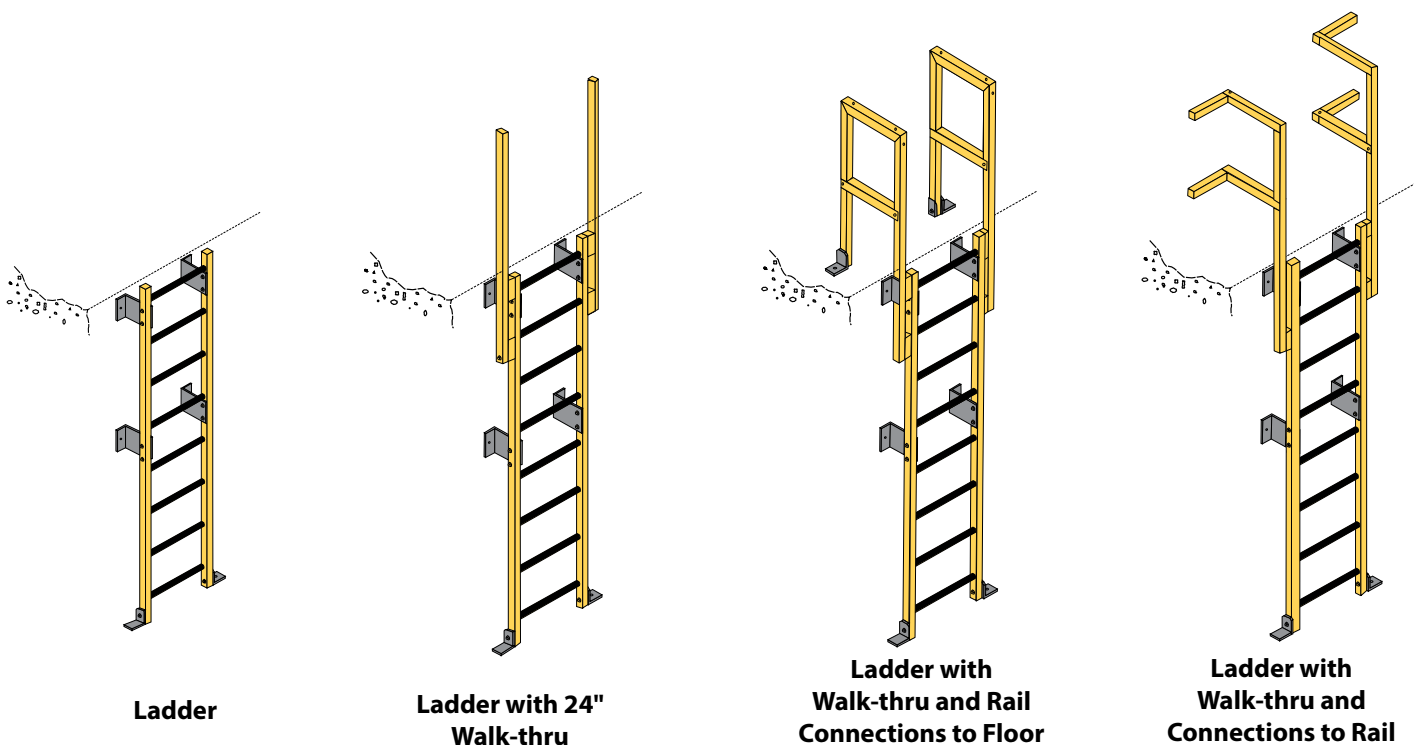
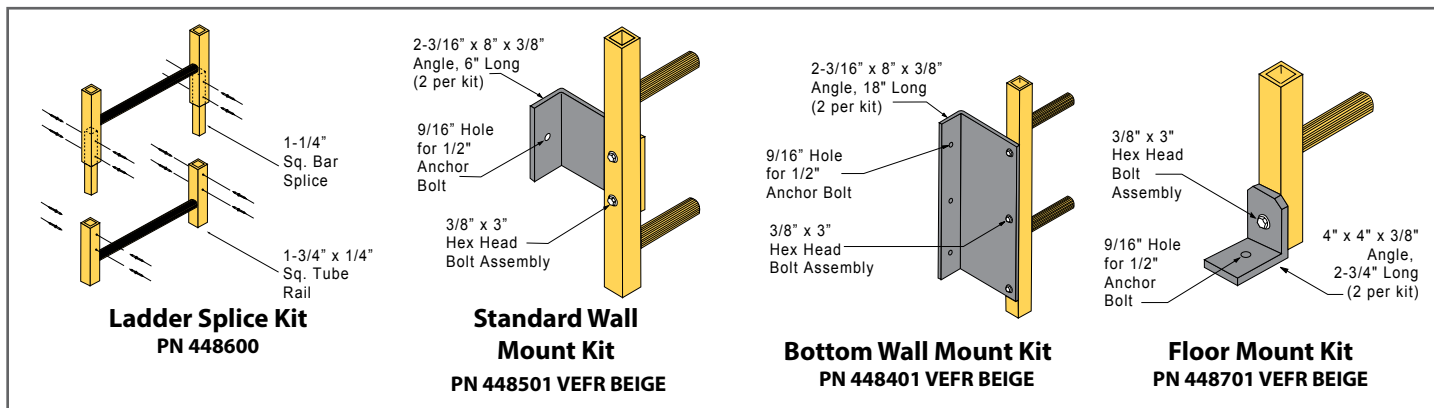
*Field Cut to size



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

Dynarail® FRP Safety Ladders

Assembly & Mounting Details



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.



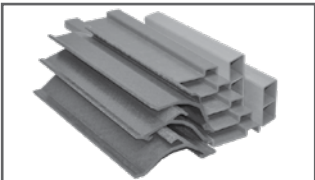
Dynaform® Structural Shapes

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.

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Dynaform® Structural Shapes

Products Brochure



Building the World to Last®

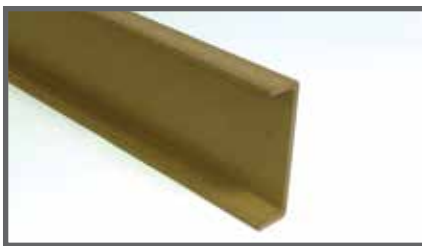
High Performance Composite Solutions



Dynaform® Structural Shapes



Square Tube



Channel



Angle



Wide Flange Beam



Concrete Embedment Angles



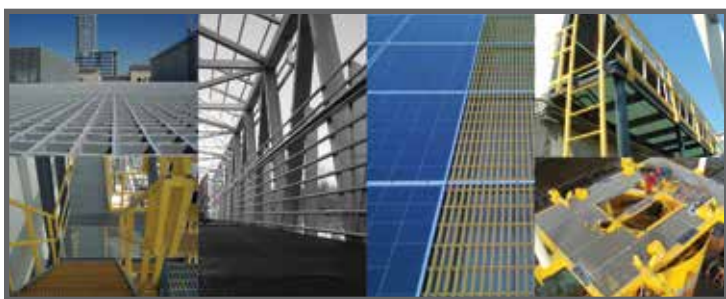
Custom Pultruded Shapes

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® Quality and Versatility

A Commitment To Quality



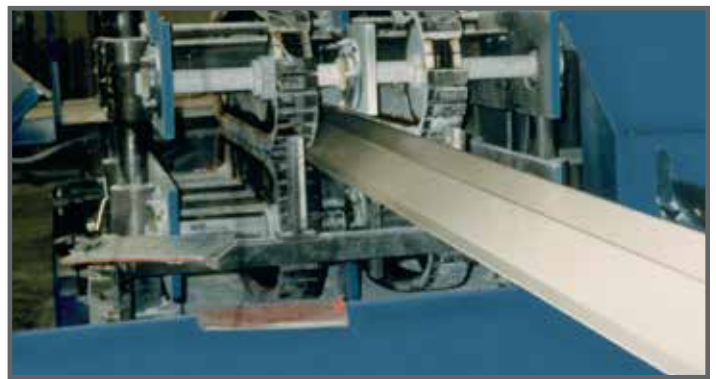
With 50 years of experience, Fibergrate offers customers unparalleled expertise in the design and manufacture of quality fiberglass products. All phases involved in the development of Dynaform® products are housed in the company's modern manufacturing facility of more than 105,000 covered square feet 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.

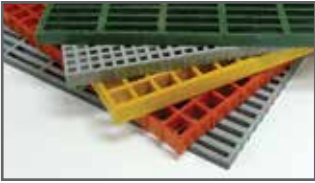


Dynaform support structure and square tube railing provide a high level of corrosion resistance for this offshore platform.

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



Fibergrate Products & Services



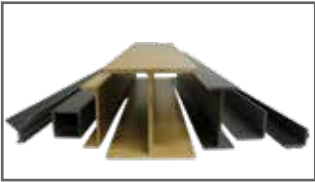
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Dynarail® Guardrail, Handrail & Ladder Systems

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