



FIBERGLASS GRATING OVERVIEW

RESIN AND COLOR SELECTION GUIDE

It is important to select a fiberglass grating resin type that corresponds directly to the fiberglass grating project at hand. Each of these six different fiberglass grating resin types have certain protection levels, bases, corrosion resistances, colors, and maximum supporting temperatures. Please contact a sales representative for more information regarding a fiberglass grating resin selection that fits your needs.

Resin Type	Resin Base	Description	Corrosion Resistance	Flame Spread Rating ASTM E84	Product	Standard Colors	Max. Temp.
Type V	Vinyl Ester	Superior Corrosion Resistance and Fire Retardant	Excellent	Class 1, 25 or Less	Molded & Pultruded	Dark Grey	200° F
Type I	Isophthalic Polyester	Industrial Grade Corrosion Resistance and Fire Retardant	Very Good	Class 1, 25 or Less	Molded & Pultruded	Green, Yellow, Light Grey	150° F
Type F	Isophthalic Polyester	Food Grade Corrosion Resistance and Fire Retardant	Very Good	Class 1, 25 or Less	Molded	Light Grey	150° F
Type GPI	General Purpose Isophthalic	Moderate Corrosion Resistance and Fire Retardant	Moderate	Class 1, 25 or Less	Molded	Green, Light Grey	150° F
Type XFR	Isophthalic Polyester	Extra Fire Retardant and Moderate Corrosion Resistance	Moderate	Class 1, 10 or Less	Molded	Reddish-Brown	150° F
Type P	Phenolic	Low Smoke and Superior Fire Resistance	Very Good	Class 1, 5 or Less	Both	Reddish-Brown	300° F

Resin Type

Vinyl Ester (Type V) - Fiberglass grating resin developed to withstand frequent and direct contact in the harshest of chemical environments. Type V is ideal for use in acidic and caustic environments such as chemical plants, waste water treatment, and plating applications.

Isophthalic Polyester (Type I) – Industrial grade resin, great for environments where fiberglass grating may occasionally be in contact with harsh chemicals due to splashes or spills.

Food Grade Isophthalic Polyester (Type F) – Ideal for environments in the food and beverage industry where fiberglass grating may frequently be wet or exposed to harsh cleaning products.

General Purpose Isophthalic Polyester (Type GPI) – A good general purpose resin great for environments such as food processing plants, dairies, and walkway applications, this resin is available at a reduced cost compared to the premium vinyl ester or isophthalic polyester resin.

Extra Fire Retardant Isophthalic Polyester (Type XFR) – XFR offers an added level of fire safety for critical areas of your fiberglass grating such as adjacent to sparking equipment, welding, or anywhere there is an increased fire potential. In accordance to ASTM E84 tests, flame spread is 10 or less.

Phenolic (Type P) - Best choice for fiberglass grating applications where fire resistance, low smoke, and low toxic fume emissions are critical. Typical fiberglass grating applications include: offshore & onshore oil refineries, tunnels, ships, and train decks.

Fiberglass grating COLOR SELECTION

To complement any fiberglass grating design project, we offer a wide selection of colors to choose from.

Standard colors available for fiberglass grating:

- Light Grey
- Dark Grey
- Yellow
- Green
- Reddish Brown



Custom colors may be available upon request.

GRIDWALK™ SQUARE / RECTANGULAR MESH • MOLDED FIBERGLASS GRATING



GRIDWALK™ High Strength Molded Fiberglass Grating is the ultimate in fiberglass grating. American Grating is the only manufacturer to offer this stronger fiberglass grating at the same cost as the standard molded fiberglass grating. GRIDWALK™ Square / Rectangular Mesh fiberglass grating is both versatile and flexible in industrial applications. The square/rectangular fiberglass grating is used for flooring, trench covers, stairs, and walkways. This type of fiberglass grating is also corrosion and impact resistant, lightweight, and non-slip. GRIDWALK™ High Strength Molded Fiberglass Grating is available in many different colors, panel sizes, resin choices, and heights. When selecting fiberglass grating, be certain to review the [“Resin and Color Selection Guide”](#) for your application.

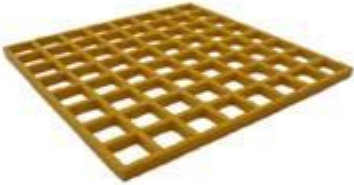
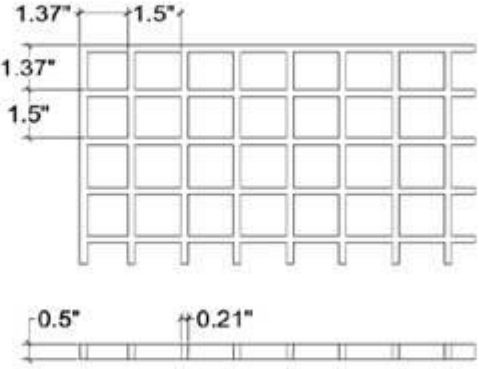
Typical Applications of GRIDWALK™ Square / Rectangular Mesh fiberglass grating:

- Flooring
- Trench Covers
- Stairs
- Walkways


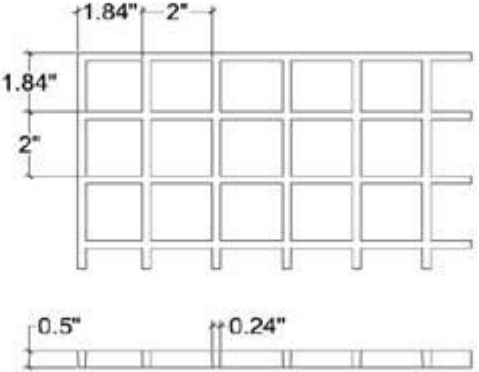
Select Advantages of GRIDWALK™ Square / Rectangular Mesh fiberglass grating:

- Corrosion Resistant
- Impact Resistant
- Lightweight
- Non-Slip


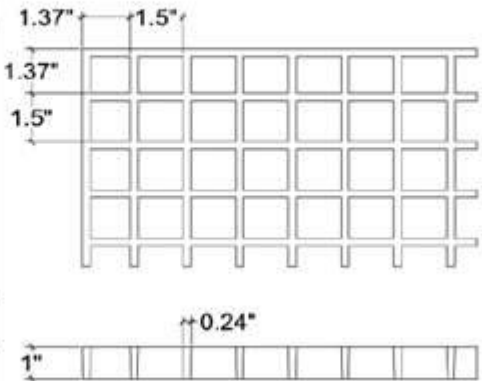
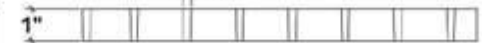
1/2" Deep x 1 1/2" Square Mesh

Engineering Properties Per Foot of Width: $A = 0.84 \text{ in}^2$ $I = 0.02 \text{ in}^4$ $S = 0.07 \text{ in}^3$											
Grid Pattern											
											
Stocked Item	<table border="1"> <tr> <td># of Bars:</td> <td>8</td> </tr> <tr> <td>Load Bar Width:</td> <td>7/32"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1-1/2"</td> </tr> <tr> <td>Open Area:</td> <td>72%</td> </tr> <tr> <td>Approx. Weight:</td> <td>1.33 lbs/ft²</td> </tr> </table>	# of Bars:	8	Load Bar Width:	7/32"	Load Bar Centers:	1-1/2"	Open Area:	72%	Approx. Weight:	1.33 lbs/ft ²
# of Bars:	8										
Load Bar Width:	7/32"										
Load Bar Centers:	1-1/2"										
Open Area:	72%										
Approx. Weight:	1.33 lbs/ft ²										
Panel Sizes Available:	4' x 12'										


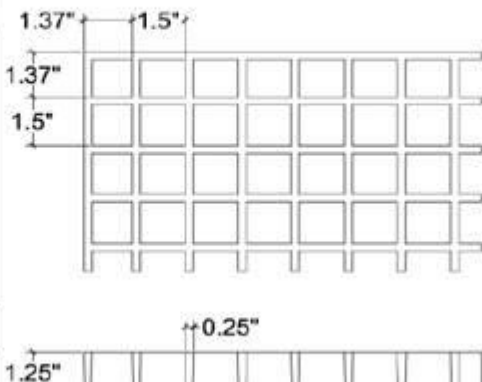

1/2" Deep x 2" Square Mesh

Engineering Properties Per Foot of Width: $A = 0.68 \text{ in}^2$ $I = 0.02 \text{ in}^4$ $S = 0.08 \text{ in}^3$											
Grid Pattern											
											
Stocked Item	<table border="1"> <tr> <td># of Bars:</td> <td>6</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>2"</td> </tr> <tr> <td>Open Area:</td> <td>78%</td> </tr> <tr> <td>Approx. Weight:</td> <td>1.01 lbs/ft²</td> </tr> </table>	# of Bars:	6	Load Bar Width:	1/4"	Load Bar Centers:	2"	Open Area:	78%	Approx. Weight:	1.01 lbs/ft ²
# of Bars:	6										
Load Bar Width:	1/4"										
Load Bar Centers:	2"										
Open Area:	78%										
Approx. Weight:	1.01 lbs/ft ²										
Panel Sizes Available:	4' x 12'										


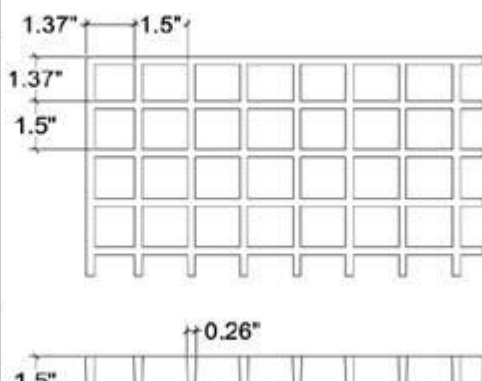

1" Deep x 1 1/2" Square Mesh

Engineering Properties Per Foot of Width: $A = 1.75 \text{ in}^2$ $I = 0.15 \text{ in}^4$ $S = 0.29 \text{ in}^3$											
Grid Pattern											
											
Stocked Item	<table border="1"> <tr> <td># of Bars:</td> <td>8</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1-1/2"</td> </tr> <tr> <td>Open Area:</td> <td>69%</td> </tr> <tr> <td>Approx. Weight:</td> <td>2.50 lbs/ft²</td> </tr> </table>	# of Bars:	8	Load Bar Width:	1/4"	Load Bar Centers:	1-1/2"	Open Area:	69%	Approx. Weight:	2.50 lbs/ft ²
# of Bars:	8										
Load Bar Width:	1/4"										
Load Bar Centers:	1-1/2"										
Open Area:	69%										
Approx. Weight:	2.50 lbs/ft ²										
Panel Sizes Available: (3' x 10'), (4' x 8'), (4' x 12')											


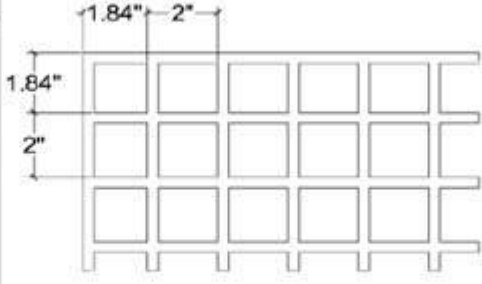
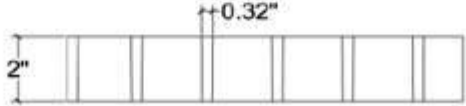
1 1/4" Deep x 1 1/2" Square Mesh

Engineering Properties Per Foot of Width: $A = 2.13 \text{ in}^2$ $I = 0.28 \text{ in}^4$ $S = 0.45 \text{ in}^3$											
Grid Pattern											
											
Non-Stocked Item (Custom Order)	<table border="1"> <tr> <td># of Bars:</td> <td>8</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1-1/2"</td> </tr> <tr> <td>Open Area:</td> <td>69%</td> </tr> <tr> <td>Approx. Weight:</td> <td>3.08 lbs/ft²</td> </tr> </table>	# of Bars:	8	Load Bar Width:	1/4"	Load Bar Centers:	1-1/2"	Open Area:	69%	Approx. Weight:	3.08 lbs/ft ²
# of Bars:	8										
Load Bar Width:	1/4"										
Load Bar Centers:	1-1/2"										
Open Area:	69%										
Approx. Weight:	3.08 lbs/ft ²										
Panel Sizes Available: Please Call											


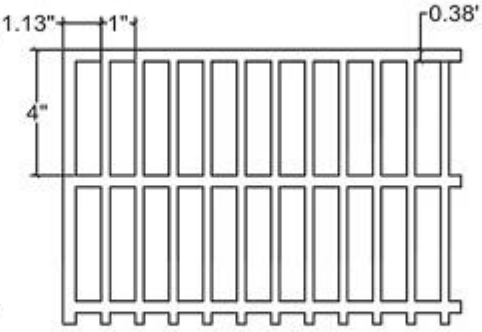
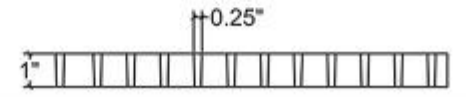
1 1/2" Deep x 1 1/2" Square Mesh

Engineering Properties Per Foot of Width: $A = 2.73 \text{ in}^2$ $I = 0.49 \text{ in}^4$ $S = 0.65 \text{ in}^3$											
Grid Pattern											
											
Stocked Item	<table border="1"> <tr> <td># of Bars:</td> <td>8</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1-1/2"</td> </tr> <tr> <td>Open Area:</td> <td>68%</td> </tr> <tr> <td>Approx. Weight:</td> <td>3.94 lbs/ft²</td> </tr> </table>	# of Bars:	8	Load Bar Width:	1/4"	Load Bar Centers:	1-1/2"	Open Area:	68%	Approx. Weight:	3.94 lbs/ft ²
# of Bars:	8										
Load Bar Width:	1/4"										
Load Bar Centers:	1-1/2"										
Open Area:	68%										
Approx. Weight:	3.94 lbs/ft ²										
Panel Sizes Available: (3'x10'), (5'x10'), (4'x8'), (4'x12')											

2" Deep x 2" Square Mesh

Engineering Properties Per Foot of Width: $A = 3.12 \text{ in}^2$ $I = 1.03 \text{ in}^4$ $S = 1.03 \text{ in}^3$											
Grid Pattern											
Stocked Item											
Panel Sizes Available:											
	<table border="1"> <tr> <td># of Bars:</td> <td>6</td> </tr> <tr> <td>Load Bar Width:</td> <td>5/16"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>2"</td> </tr> <tr> <td>Open Area:</td> <td>71%</td> </tr> <tr> <td>Approx. Weight:</td> <td>4.51 lbs/ft²</td> </tr> </table>	# of Bars:	6	Load Bar Width:	5/16"	Load Bar Centers:	2"	Open Area:	71%	Approx. Weight:	4.51 lbs/ft ²
# of Bars:	6										
Load Bar Width:	5/16"										
Load Bar Centers:	2"										
Open Area:	71%										
Approx. Weight:	4.51 lbs/ft ²										
											

1" Deep x 1" x 4" Rectangular Mesh

Engineering Properties Per Foot of Width: $A = 2.69 \text{ in}^2$ $I = 0.22 \text{ in}^4$ $S = 0.45 \text{ in}^3$											
Grid Pattern											
Stocked Item											
Panel Sizes Available:											
	<table border="1"> <tr> <td># of Bars:</td> <td>12</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1"</td> </tr> <tr> <td>Open Area:</td> <td>68%</td> </tr> <tr> <td>Approx. Weight:</td> <td>2.61 lbs/ft²</td> </tr> </table>	# of Bars:	12	Load Bar Width:	1/4"	Load Bar Centers:	1"	Open Area:	68%	Approx. Weight:	2.61 lbs/ft ²
# of Bars:	12										
Load Bar Width:	1/4"										
Load Bar Centers:	1"										
Open Area:	68%										
Approx. Weight:	2.61 lbs/ft ²										
											
**Load Bars Run 3' or 4' Direction											

GRIDWALK™ MINI-MESH • MOLDED FIBERGLASS GRATING



GRIDWALK™ Mini Mesh fiberglass grating is an ADA compliant mesh size. This small mesh also prevents small tools and other objects from falling through the fiberglass grating, protecting personnel or equipment below the fiberglass grating structure. The ½" mesh size openings meet the 15mm ball test requirement and also allow for greater foot coverage, eliminating foot fatigue. The mini mesh fiberglass grating is also appropriate for high heel shoe traffic and provides a smoother rolling surface for wheelchairs, carts, and hand trucks. You will also find that all of these fiberglass gratings are ADA compliant (designated in the fiberglass grating charts by symbol).

Typical Applications of GRIDWALK™ Mini Mesh fiberglass grating:

- Containment Area Flooring
- Stairs
- Walkways

Select Advantages of GRIDWALK™ Mini Mesh fiberglass grating:

- ADA Compliant
- Corrosion Resistant
- Non-Slip

1 1/2" Deep x 3/4" Mini Mesh

Engineering Properties Per Foot of Width: $A = 3.29 \text{ in}^2$ $I = 0.74 \text{ in}^4$ $S = 0.9 \text{ in}^3$											
Grid Pattern											
	<table border="1"> <tr> <td># of Bars:</td> <td>8</td> </tr> <tr> <td>Load Bar Width:</td> <td>1/4"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>3/4"</td> </tr> <tr> <td>Open Area:</td> <td>44%</td> </tr> <tr> <td>Approx. Weight:</td> <td>4.75 lbs/ft²</td> </tr> </table>	# of Bars:	8	Load Bar Width:	1/4"	Load Bar Centers:	3/4"	Open Area:	44%	Approx. Weight:	4.75 lbs/ft ²
# of Bars:	8										
Load Bar Width:	1/4"										
Load Bar Centers:	3/4"										
Open Area:	44%										
Approx. Weight:	4.75 lbs/ft ²										
Stocked Item											
Panel Sizes Available:	4' x 12'										

GRIDWALK™ SUPERSPAN • MOLDED FIBERGLASS GRATING



GRIDWALK™ SuperSpan molded fiberglass grating is designed specifically to provide a solution to expand the range of applications of molded fiberglass grating into applications where larger spans are required or desired. SuperSpan engineered fiberglass grating design maintains the high resin-to-glass ratio, yet is approximately 90% stiffer than standard 1-1/2" deep molded fiberglass gratings. This translates into 48" spans with 100 psf loading, producing less than 1/4" deflection of the fiberglass grating. SuperSpan fiberglass grating is generally used for bridges, platforms, and trench covers. This type of molded fiberglass grating is corrosion and impact resistant and also provides superior fiberglass grating strength. You will also find that one of these fiberglass gratings are ADA compliant (designated in the fiberglass grating charts by the symbol).

Typical Applications of GRIDWALK™ SUPERSPAN fiberglass grating:


- Bridges
- Platforms
- Trench Covers

Select Advantages of GRIDWALK™ SUPERSPAN fiberglass grating:

- Superior Strength
- Impact Resistance
- Corrosion Resistant


1 1/2" Deep x 1" x 6" SuperSpan ADA

Engineering Properties Per Foot of Width: $A = 5.76 \text{ in}^2$ $I = 1.14 \text{ in}^4$ $S_T = 1.94 \text{ in}^3$ $S_B = 1.24 \text{ in}^3$

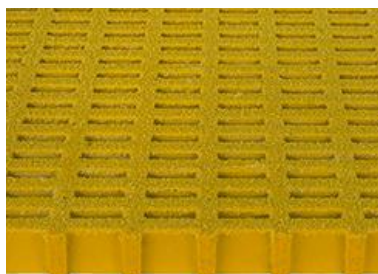
Grid Pattern		# of Bars:	12
		Load Bar Width:	0.6"
Stocked Item		Load Bar Centers:	1"
Panel Sizes Available: 4' x 12'		Open Area:	38%
**Load Bars Run 12'-0" Direction		Approx. Weight:	4.71 lbs/ft ²

1 1/2" Deep x 1 1/2" x 6" SuperSpan

Engineering Properties Per Foot of Width: $A = 4.39 \text{ in}^2$ $I = 0.88 \text{ in}^4$ $S_T = 1.3 \text{ in}^3$ $S_B = 1.06 \text{ in}^3$

Grid Pattern		# of Bars:	8
		Load Bar Width:	0.6"
Non-Stocked Item (Custom Order)		Load Bar Centers:	1-1/2"
Panel Sizes Available: Please Call		Open Area:	55%
		Approx. Weight:	4.42 lbs/ft ²

GRIDWALK™ HEAVY DUTY RECTANGULAR MESH • FIBERGLASS GRATING



GRIDWALK™ Heavy Duty Molded Fiberglass Grating is ideal for vehicular traffic, and is also engineered for applications where high loads at very long spans are required. GRIDWALK™ Heavy Duty Molded fiberglass grating is corrosion and impact resistant, lightweight, and non-slip. This molded construction offers excellent bi-direction strength under loadings up to standard truck (H-20).


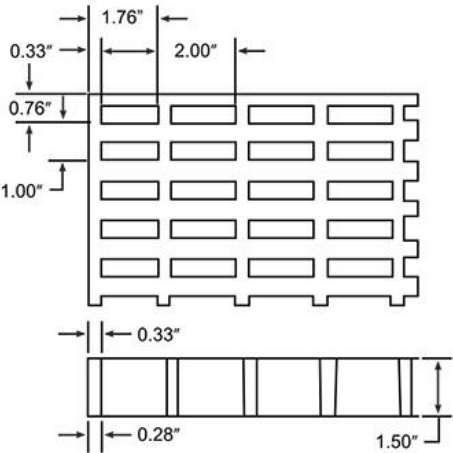
TYPICAL APPLICATIONS OF GRIDWALK™ HEAVY DUTY FIBERGLASS GRATING:

- Loading Docks
- Trenches at Overhead Doors
- Drainage Channels

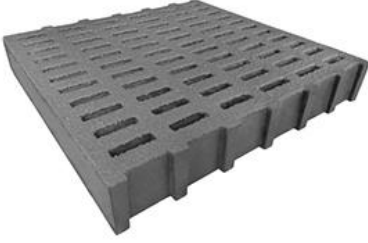
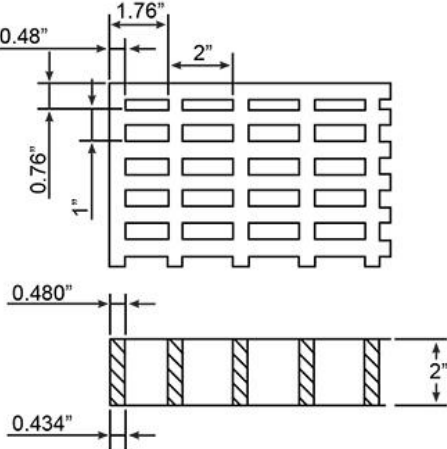
SELECT ADVANTAGES OF GRIDWALK™ HEAVY DUTY FIBERGLASS GRATING:

- Long Span Ability
- High Load Capacity
- Corrosion Resistant
- Non-slip
- Bi-directional strength

Heavy Duty 1-1/2" Deep x 1" x 2" Rectangular Mesh

Engineering Properties Per Foot of Width: $A = 7.45 \text{ in}^2$ $I = 1.4 \text{ in}^4$ $S = 1.8 \text{ in}^3$											
Grid Pattern											
Non-Stocked Item (Custom Order)											
Panel Sizes Available: Please Call	 <table border="1" data-bbox="1144 787 1396 1171"> <tr> <td># of Bars:</td> <td>12</td> </tr> <tr> <td>Load Bar Width:</td> <td>0.43"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1"</td> </tr> <tr> <td>Open Area:</td> <td>48%</td> </tr> <tr> <td>Approx. Weight:</td> <td>9.5 lbs/ft²</td> </tr> </table>	# of Bars:	12	Load Bar Width:	0.43"	Load Bar Centers:	1"	Open Area:	48%	Approx. Weight:	9.5 lbs/ft ²
# of Bars:	12										
Load Bar Width:	0.43"										
Load Bar Centers:	1"										
Open Area:	48%										
Approx. Weight:	9.5 lbs/ft ²										

Heavy Duty 2" Deep x 1" x 2" Rectangular Mesh

Engineering Properties Per Foot of Width: $A = 10.26 \text{ in}^2$ $I = 3.4 \text{ in}^4$ $S = 3.27 \text{ in}^3$											
Grid Pattern											
Non-Stocked Item (Custom Order)											
Panel Sizes Available: Please Call	 <table border="1" data-bbox="1149 1428 1404 1812"> <tr> <td># of Bars:</td> <td>12</td> </tr> <tr> <td>Load Bar Width:</td> <td>0.48"</td> </tr> <tr> <td>Load Bar Centers:</td> <td>1"</td> </tr> <tr> <td>Open Area:</td> <td>48%</td> </tr> <tr> <td>Approx. Weight:</td> <td>12.6 lbs/ft²</td> </tr> </table>	# of Bars:	12	Load Bar Width:	0.48"	Load Bar Centers:	1"	Open Area:	48%	Approx. Weight:	12.6 lbs/ft ²
# of Bars:	12										
Load Bar Width:	0.48"										
Load Bar Centers:	1"										
Open Area:	48%										
Approx. Weight:	12.6 lbs/ft ²										

FIBERGLASS GRATING LEGS



Molded fiberglass grating, with its inherent bi-directional strength, can be economically supported on strategically placed fiberglass grating legs. American Grating's fiberglass grating leg systems are a cost effective way to support elevated fiberglass grating in trenches, containment pits and other similar applications, and are generally less expensive than FRP beams and structures. Fiberglass grating legs can be fixed in height or adjustable for sloping floors, yet sturdy enough to support loads up to 200 psf. Fiberglass grating leg floor heights are available up to 5 feet.

Features:

- Versatile
- Easy Installation
- Cost Effective
- Lightweight
- Corrosion Resistant
- Nonconductive

Fiberglass Grating Leg Configurations Available:

- A. Fixed height, single head legs – used internally in panels or at edge panels
- B. Fixed height, double head legs – placed at panel intersections to support 2 panels
- C. Adjustable height, single head legs – offer adjustability of +/- 2"
- D. Adjustable height, double head legs – offer adjustability of +/- 2"
- E. Adjustable height, quad head legs – offer adjustability of +/- 2"
- F. Adjustable Micro single head legs – for floor heights less than 9" to top of grating

** Note: Should you require a minimal amount of elevation for drainage, we can supply modified single head fiberglass grating plugs a 1/2" clearer height.*

Selection Procedure:

1. Begin by selecting the required fiberglass grating and leg layout (see the following pages) based on the fiberglass grating depth, load and deflection requirements, and the most efficient layout for your project. Choose the fiberglass grating leg configuration from above (Fixed or Adjustable). Sketch the locations of the fiberglass grating legs for your layout. Develop your Bill of Materials for each type of leg in your plan.



PULTRUDED FIBERGLASS GRATING MANUFACTURING PROCESS:

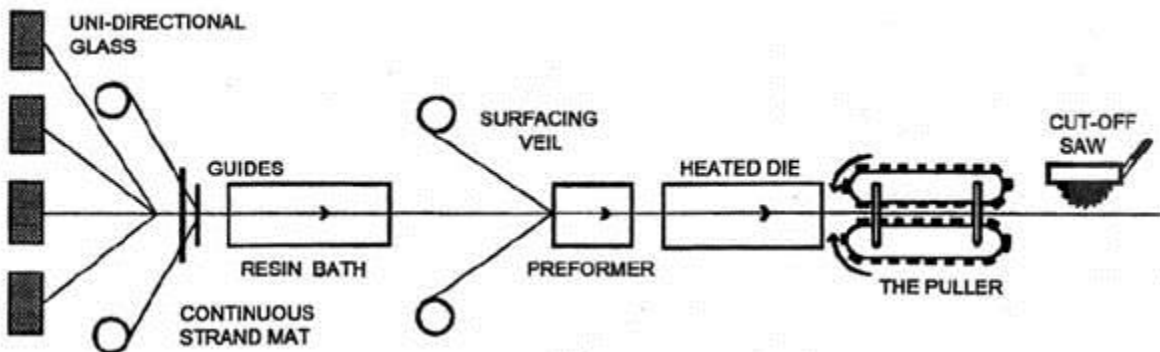
The pultrusion process utilized in the manufacturing of pultruded fiberglass grating and structural shapes is a continuous and automated process where continuous fiberglass rovings and mat are pulled through guides, a resin bath and pre-formers, then wrapped with a synthetic veil before being pulled through a heated die. The individual components of pultruded fiberglass grating – load bars and each piece of the two piece tie-bar are pultruded separately.



Load bars are then cut to specified lengths as they exit the machine. They are drilled at 6" or 12" centers for tie-bar insertion. Once the bars have been drilled they are spaced proportionately for the width of the panel at 3 ft, 4 ft or 5 ft. The two piece locking tie bar assemblies are then inserted creating multiple bonded intersections of load bars and tie bars, thus providing the security of both a mechanically locked and bonded connection. The final step in the process is to seal the cross bars and holes with corrosion resistant epoxy resin.



Pultruded fiberglass grating is uni-directional in strength and provides increased load capacity and very good levels of corrosion resistance. The components (bearing bars and cross bars) which are pulled by machine, provide a higher glass to resin ratio content (65% glass to 35% resin) which gives it superior load capacity, yet reduces the corrosion resistance when compared to molded fiberglass grating.



Assembled from components, pultruded fiberglass grating can offer a wide variety of panel sizes and substantially reduce "scrap loss" not always possible from molded fiberglass grating panels. In addition, since the pultrusion process is automated, it produces a consistent, high quality finished product.

Advantages of Pultruded Fiberglass Grating:

- High Strength
- Exceptionally High Strength to Weight Ratio
- Lighter Weight
- Accommodates Higher Loads at Greater Spans

PHENOLIC FIBERGLASS GRATING PRODUCT DETAILS

1 1/2" Deep Phenolic Molded (PHM 15R)

Engineering Properties Per Foot of Width: $A = 4.39 \text{ in}^2$ $I = 0.88 \text{ in}^4$ $S_T = 1.3 \text{ in}^3$ $S_B = 1.06 \text{ in}^3$			
Grid Pattern			# of Bars: 8
			Load Bar Width: 0.6"
Non-Stocked Item (Custom Order)			Load Bar Centers: 1-1/2"
Panel Sizes Available: Please Call			Open Area: 55%
			Approx. Weight: 4.00 lbs/ft ²

1 1/2" Deep 60% Open Phenolic Pultruded (PHI 15-60)

Engineering Properties Per Foot of Width: $A = 3.11 \text{ in}^2$ $I = 0.88 \text{ in}^4$ $S = 1.17 \text{ in}^3$			
			# of Bars: 8
			Bar Depth: 1.5"
Non-Stocked Item (Custom Order)			Open Area: 60%
Panel Sizes Available: Please Call			Max Width: 5'
			Load Bar Centers: 1.5"
			Approx. Weight: 3.06 lbs/ft ²
			Cross Bar Spacing: 6"



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