

MARCO

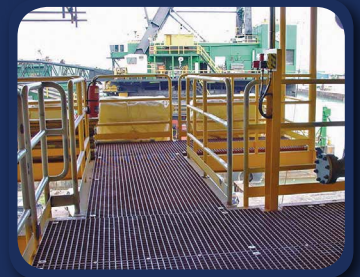
FIBERGLASS

Premium Fiberglass Products



QUALITY | SPEED | RELIABILITY

Molded - Pultruded - Treads - Structural - Ladders - Handrails





45,000 sq. ft. facility on 9+ acres

MARCO

FIBERGLASS

Total solutions provider

For over 20 years, Marco Specialty Steel has been providing fiberglass solutions to a wide range of industries from power generation to offshore. We are one of the only Companies that can offer you the complete line of grating products from Fiberglass to Steel, with huge inventories on hand for immediate shipment, as well as a complete fabrication shop that can provide custom projects ready to install.

*When quality counts...
Make it Marco!*

Applications

- Floor systems
- Walkways
- Work platforms
- Stairs
- Ramps
- Trench covers
- Catwalks

Features

- Corrosion resistant
- Slip-resistant gritted top surface
- Strong yet lightweight
- Low coefficient of expansion and contraction

Benefits

- Reduced maintenance and replacement costs
- Enhanced workplace safety
- Reduced installation costs
- Dimensionally stable in many environments

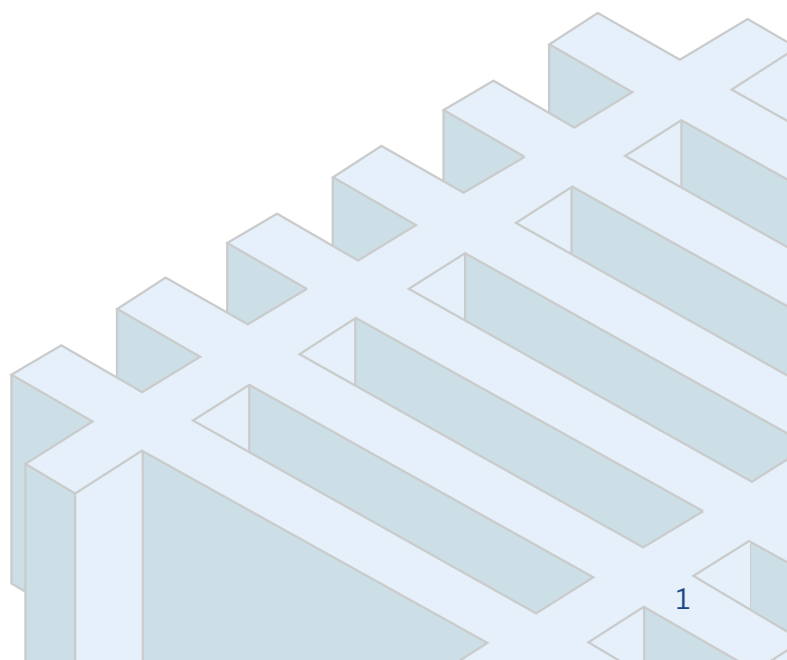




Table of Contents

(Click below to follow the link)

Resin Selection Guide	2
Molded Fiberglass Products	3
Molded Options	3
Molded Surfaces	3
Pultruded Fiberglass Products	8
Pultruded Options	8
Pultruded Sizes	8
Phenolic Grating	17
Stair Treads & Stair Tread Covers	18
Accessories	19
Clip Assemblies	19
Fiberglass Pedestals	19
Rubber Feet for Molded Grating	19
Sealing and Bonding Kits	19
Handrails Systems	20
Ladder Systems	20
Structural Shapes	20
Chemical Resistance Guide	21

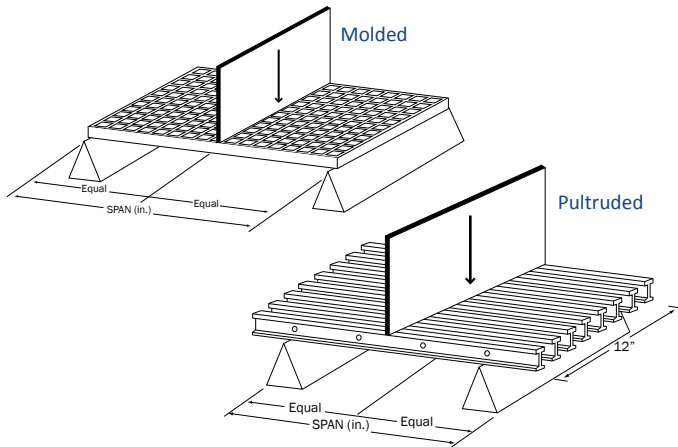




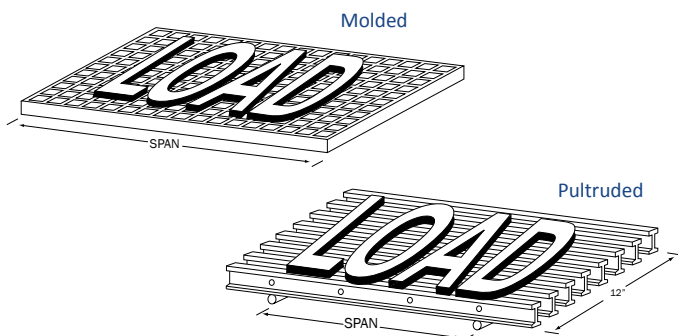
Resin Selection Guide

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

Concentrated Load



Uniform Load



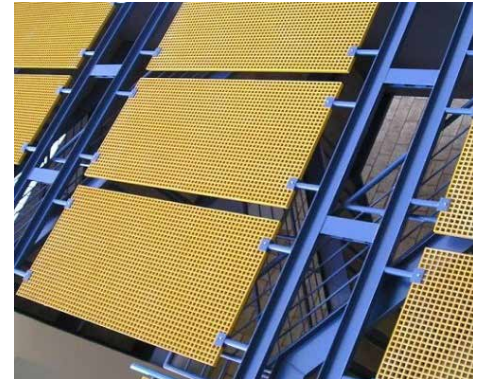
1. These tables were developed in accordance with the test method developed by the Fiberglass Grating Manufacturers Council (FGMC) of the American Composites Manufacturers Association (ACMA) for the Fiberglass Grating Standard.
2. The designer should not exceed **MAXIMUM RECOMMENDED** load at any time. **MAXIMUM LOAD** represents a factor of safety of 4:1 for molded grating and 2:1 for pultruded grating on **ULTIMATE CAPACITY**. **ULTIMATE CAPACITY** represents **MAX LOAD** observed at initial fracture.
3. Walking loads for maintenance traffic are typically a live load of 50 PSF. Deflections for worker comfort are typically limited to 0.375" (3/8") or SPAN divided by 120 under full live load. For a firmer feel under full live load or a line load 250 lbs/ft of width, limit deflections to 0.25" (1/4") or SPAN divided by 200.
4. The loads represented are for **STATIC LOAD CONDITIONS** at ambient temperature. Deflections for impact loads or dynamic loads will **MULTIPLY** the deflections shown by 2. Long term loads will result in added deflection due to creep in the material and will require higher factors of safety to ensure acceptable performance.
5. Deflections are limited to 0.5" (1/2") as recommended by the Fiberglass Grating Manufacturers Council of the American Composites Manufacturers Association.

MOLDED FIBERGLASS PRODUCTS



Marco Fiberglass sets the standard for fiberglass reinforced plastic (FRP) molded products, combining unmatched corrosion resistance with high strength, long life and safety. Marco products are proven to deliver years of reliable service, even in the most demanding corrosive conditions.

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



Molded Options

Phenolic (Type P) – Best choice for applications where fire resistance, low smoke, and low toxic fume emissions are critical. Typical applications include: offshore & onshore oil refineries, tunnels, ships and train decks. The Grating has passed the USCG Test for level 2 Performance.

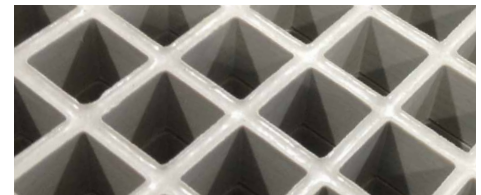
Vinyl Ester (Type V) – Developed to withstand frequent and direct contact in the harshest of chemical environments. Type V is ideal for use in acidic and caustic environments such as chemical plants, waste treatment, and plating applications.

Isophthalic Polyester (Type I) – Industrial grade resin great for environments where fiberglass 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.

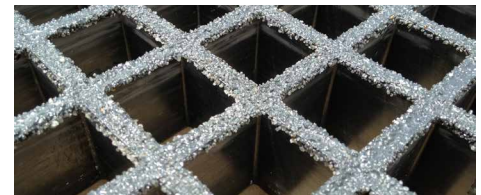
General Purpose Ortho Polyester (Type O) – A good general purpose resin great for environments such as food processing plants, dairies, and walkway applications. This resin is available at a reduced cost compared to the premium vinyl ester or Isophthalic polyester resin.

Molded Surfaces



Meniscus Top:

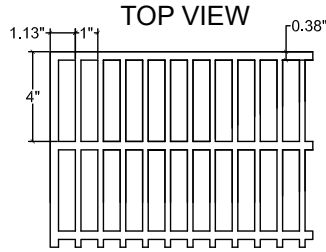
The concave surface of Marco Fiberglass meniscus top grating provides superior slip resistant footing in most environments including wet or oily conditions and is the standard surface for all Marco molded gratings.



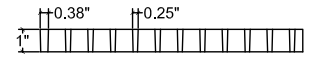
Integrally Applied Grit Top:

The optional grip top of Marco Fiberglass grating has a quartz grit which is integrally applied, cured and sealed onto the surface providing excellent slip resistant footing.

1" x 1" x 4"
Rectangular Grid
 1" Thick
 68% Open



SIDE VIEW



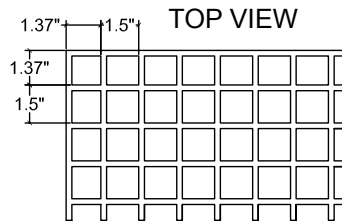
Bearing bars are on 1" centers running in the 4' direction. Panel size is 12' wide x 4' long.

span (inches)	CONCENTRATED LOAD IN lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.004	0.008	0.012	0.016	0.020	0.040	0.079	0.159	1834	0.45
18	0.012	0.024	0.036	0.049	0.061	0.122	0.243	0.486	1419	0.50
24	0.028	0.056	0.083	0.111	0.139	0.278	0.555		961	0.52
30	0.053	0.107	0.160	0.213	0.266	0.533			769	0.53
36	0.090	0.181	0.271	0.362	0.452				641	0.54
42	0.138	0.276	0.413	0.551	0.689				549	0.56
46	0.178	0.355							501	0.57

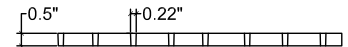
span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.005	0.007	0.010	0.012	0.025	0.050	0.099	3668	0.45
18	0.011	0.023	0.034	0.046	0.057	0.114	0.228	0.456	1892	0.50
24	0.035	0.069	0.104	0.139	0.174	0.347	0.694		961	0.52
30	0.083	0.167	0.250	0.333	0.416				615	0.53
36	0.170	0.339	0.509	0.679					427	0.54
42	0.301	0.603							314	0.56
46	0.430								287	0.57

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 2.69 in ² I = 0.22 in ⁴ S = 0.45 in ³	12	0.25"	1"	2.61

0.5" x 1.5" x 1.5"
Square Grid
 0.5" Thick
 72% Open



SIDE VIEW

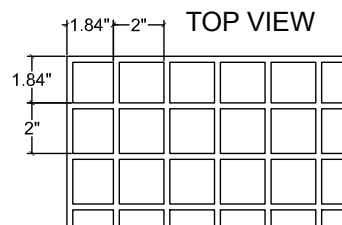


span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.041	0.083	0.124	0.166	0.207	0.415			282	0.043
18	0.128	0.256	0.384	0.512	0.640				188	0.047
24	0.286	0.572							141	0.05

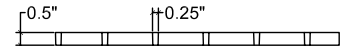
span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.026	0.052	0.078	0.104	0.130	0.259	0.518		361	0.043
18	0.120	0.240	0.360	0.480					160	0.047
24	0.357								90	0.05

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 0.84 in ² I = 0.02 in ⁴ S = 0.07 in ³	8	0.22"(7/32")	1.5"	1.33

0.5" x 2" x 2"
Square Grid
 0.5" Thick
 78% Open



SIDE VIEW

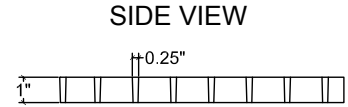
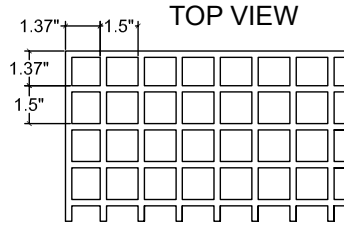
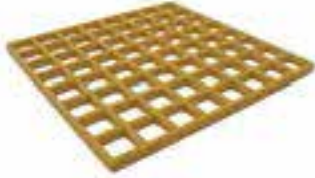


span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.050	0.101	0.151	0.202	0.252	0.505			236	0.036
18	0.151	0.302	0.453	0.604					158	0.04
24	0.329	0.658							118	0.044

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.032	0.063	0.095	0.126	0.158	0.315	0.631		302	0.036
18	0.142	0.283	0.425	0.566					134	0.04
24	0.41								75	0.044

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 0.66 in ² I = 0.014 in ⁴ S = 0.054 in ³	6	0.25"	2"	1.01

1" x 1.5" x 1.5"
Square Grid
1" Thick
69% Open

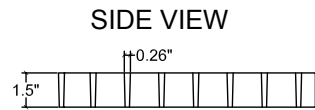
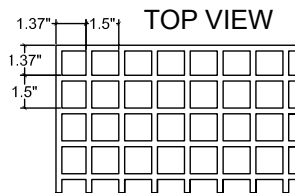


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.006	0.011	0.017	0.023	0.029	0.057	0.114	0.229	1189	0.31
18	0.018	0.035	0.053	0.071	0.089	0.177	0.355		934	0.34
24	0.040	0.080	0.120	0.160	0.199	0.399			668	0.36
30	0.076	0.152	0.228	0.304	0.380				534	0.37
36	0.128	0.256	0.384	0.512	0.640				360	0.38

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.004	0.007	0.011	0.014	0.018	0.036	0.071	0.143	2378	0.31
18	0.017	0.033	0.050	0.066	0.083	0.166	0.332	0.665	1245	0.34
24	0.050	0.100	0.150	0.199	0.249	0.498			668	0.36
30	0.119	0.237	0.356	0.475	0.593				427	0.37
36	0.240	0.480							240	0.38
42	0.431								205	0.39

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 1.79 in ² I = 0.15 in ⁴ S = 0.30 in ³	8	0.25"	1.5"	2.5

1.5" x 1.5" x 1.5"
Square Grid
1.5" Thick
68% Open



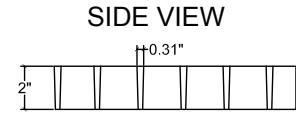
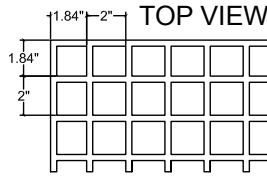
Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.005	0.007	0.009	0.011	0.023	0.045	0.090	2041	0.80
18	0.005	0.011	0.016	0.022	0.027	0.055	0.109	0.219	1360	1.11
24	0.012	0.023	0.035	0.046	0.058	0.115	0.230	0.461	1021	1.25
30	0.021	0.043	0.064	0.086	0.107	0.214	0.428		816	1.31
36	0.036	0.072	0.108	0.144	0.180	0.360			680	1.35
42	0.056	0.113	0.169	0.225	0.282	0.563			583	1.37
48	0.084	0.167	0.251	0.334	0.418				510	1.38
54	0.119	0.238	0.357	0.476	0.594				453	1.38

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.006	0.007	0.014	0.028	0.057	4082	0.80
18	0.005	0.010	0.015	0.021	0.026	0.051	0.103	0.205	1813	1.11
24	0.014	0.029	0.043	0.058	0.072	0.144	0.288	0.576	1021	1.25
30	0.033	0.067	0.100	0.134	0.167	0.334	0.668		653	1.31
36	0.067	0.135	0.202	0.270	0.337	0.674			453	1.35
42	0.123	0.246	0.370	0.493	0.616				333	1.37
48	0.209	0.417	0.626						255	1.38
54	0.334	0.669							201	1.38

Properties Per Foot of Width	of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 2.73 in ² I = 0.49 in ⁴ S = 0.65 in ³	8	0.25"	1.5"	3.94



2" x 2" x 2"
Square Grid
2" Thick
71% Open

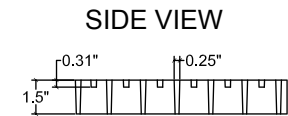
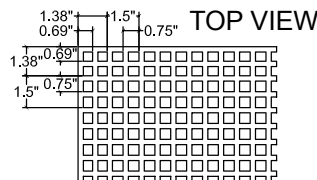
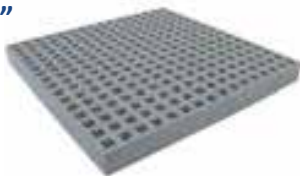


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.040	4632	1.80
18	0.003	0.006	0.009	0.011	0.014	0.029	0.057	0.144	3088	2.13
24	0.006	0.012	0.018	0.024	0.030	0.060	0.120	0.240	2316	2.40
30	0.011	0.023	0.034	0.045	0.056	0.113	0.225	0.450	1853	2.50
36	0.019	0.038	0.057	0.076	0.095	0.191	0.381		1544	2.55
42	0.030	0.059	0.089	0.118	0.148	0.296	0.591		1323	2.61
48	0.043	0.087	0.130	0.174	0.217	0.435			1158	2.65
54	0.061	0.122	0.183	0.244	0.305	0.610			1029	2.69
60	0.083	0.166	0.249	0.332	0.415				926	2.71

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.001	0.002	0.003	0.003	0.006	0.013	0.025	9264	1.80
18	0.003	0.005	0.008	0.011	0.013	0.027	0.053	0.107	4117	2.13
24	0.008	0.015	0.023	0.030	0.038	0.075	0.150	0.300	2316	2.40
30	0.018	0.035	0.053	0.070	0.088	0.176	0.352		1482	2.50
36	0.036	0.071	0.107	0.143	0.179	0.357			1029	2.55
42	0.065	0.129	0.194	0.259	0.323	0.647			756	2.61
48	0.109	0.217	0.326	0.435	0.543				579	2.65
54	0.171	0.343	0.514	0.686					457	2.69
60	0.259	0.519							371	2.71

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 3.12 in ² I = 1.03 in ⁴ S = 1.03 in ³	6	0.31"(5/16")	2"	4.51

1.5" x 0.75" x 0.75"
Square Grid
1.5" Thick
44% Open



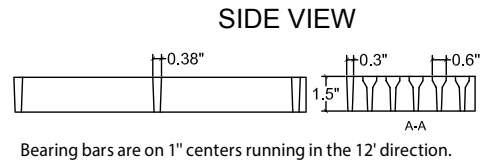
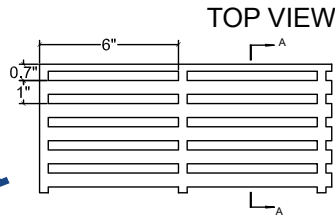
Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.003	0.005	0.006	0.008	0.016	0.032	0.063	3090	1.14
18	0.004	0.009	0.013	0.017	0.021	0.043	0.085	0.170	2060	1.43
24	0.009	0.018	0.026	0.035	0.044	0.088	0.176	0.352	1545	1.64
30	0.016	0.032	0.048	0.064	0.080	0.160	0.321	0.642	1236	1.75
36	0.027	0.053	0.080	0.106	0.133	0.266	0.532		1030	1.83
42	0.041	0.083	0.124	0.165	0.207	0.413			883	1.87
48	0.060	0.121	0.181	0.242	0.302	0.605			773	1.90
54	0.085	0.170	0.255	0.339	0.424				687	1.93
60	0.116	0.232	0.347	0.463	0.579				618	1.94

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.039	6180	1.14
18	0.004	0.008	0.012	0.016	0.020	0.040	0.080	0.159	2747	1.43
24	0.011	0.022	0.033	0.044	0.055	0.110	0.220	0.440	1545	1.64
30	0.025	0.050	0.075	0.100	0.125	0.251	0.502		989	1.75
36	0.050	0.100	0.149	0.199	0.249	0.498			687	1.83
42	0.090	0.181	0.271	0.362	0.452				505	1.87
48	0.151	0.302	0.454	0.605					386	1.90
54	0.239	0.477							305	1.93
60	0.362								247	1.94

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 3.29 in ² I = 0.74 in ⁴ S = 0.90 in ³	8	0.25"	0.75"	4.51



1.5" x 1" x 6"
Rectangular Grid
 1.5" Thick
 38% Open

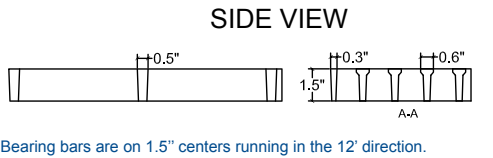
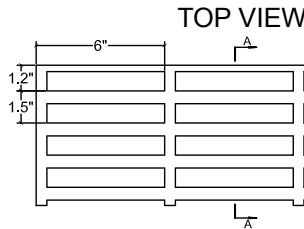


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.005	0.006	0.013	0.025	0.050	4209	1.43
18	0.003	0.007	0.010	0.013	0.017	0.033	0.066	0.133	2810	1.83
24	0.006	0.013	0.019	0.026	0.032	0.065	0.130	0.260	2105	2.22
30	0.012	0.023	0.035	0.047	0.058	0.116	0.233	0.466	1684	2.42
36	0.020	0.039	0.059	0.078	0.098	0.196	0.391		1403	2.48
42	0.030	0.061	0.091	0.121	0.151	0.303	0.605		1203	2.55
48	0.045	0.089	0.134	0.178	0.223	0.446			1052	2.58
54	0.063	0.125	0.188	0.251	0.313	0.627			935	2.62
60	0.085	0.171	0.256	0.342	0.427				842	2.63

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.002	0.002	0.003	0.004	0.008	0.016	0.031	6623	1.43
18	0.003	0.006	0.009	0.012	0.016	0.031	0.062	0.124	3747	1.83
24	0.008	0.016	0.024	0.032	0.041	0.081	0.162	0.325	2105	2.22
30	0.018	0.036	0.055	0.073	0.091	0.182	0.364		1347	2.42
36	0.037	0.073	0.110	0.147	0.183	0.367			935	2.48
42	0.066	0.132	0.199	0.265	0.331	0.662			687	2.55
48	0.111	0.223	0.334	0.446	0.557				526	2.58
54	0.176	0.353	0.529						416	2.62
60	0.267	0.534							337	2.63

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 5.76 in ² I = 1.14 in ⁴ S _T = 1.94 in ³ S _B = 1.24 in ³	12	0.6"	1"	4.71

1.5" x 1.5" x 6"
Rectangular Grid
 1.5" Thick
 55% Open



Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.005	0.006	0.013	0.026	0.051	3601	1.40
18	0.003	0.007	0.010	0.014	0.017	0.035	0.069	0.139	2401	1.75
24	0.007	0.014	0.022	0.029	0.036	0.072	0.144	0.288	1800	2.00
30	0.013	0.025	0.038	0.050	0.063	0.126	0.251	0.502	1440	2.24
36	0.021	0.042	0.062	0.083	0.104	0.208	0.415		1200	2.34
42	0.032	0.065	0.097	0.130	0.162	0.324	0.649		1029	2.38
48	0.048	0.095	0.143	0.190	0.238	0.476			900	2.42
54	0.067	0.134	0.202	0.269	0.336	0.672			800	2.44
60	0.091	0.183	0.274	0.366	0.457				720	2.46

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.002	0.002	0.003	0.004	0.008	0.016	0.032	7202	1.40
18	0.003	0.007	0.010	0.013	0.016	0.033	0.065	0.130	3201	1.75
24	0.009	0.018	0.027	0.036	0.045	0.090	0.180	0.360	1800	2.00
30	0.020	0.039	0.059	0.078	0.098	0.196	0.392		1152	2.24
36	0.039	0.078	0.117	0.156	0.195	0.389			800	2.34
42	0.071	0.142	0.213	0.284	0.355				588	2.38
48	0.119	0.238	0.357	0.476	0.595				450	2.42
54	0.189	0.378	0.567						356	2.44
60	0.286	0.572							288	2.46

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 4.39 in ² I = 0.88 in ⁴ S _T = 1.30 in ³ S _B = 1.06 in ³	8	0.6"	1.5"	4.42

PULTRUDED FIBERGLASS PRODUCTS

Marco Pultruded Fiberglass is manufactured with a high percentage of glass within the laminate, providing durability, extremely high unidirectional strength and stiffness. Due to its exceptional stiffness, it can be used with confidence where wide support spans are required.

Combining corrosion resistance, long life and a low maintenance design, pultruded grating is superior to conventional metallic gratings. This advanced grating is manufactured with a recessed tie bar configuration and is lightweight and easy to fabricate. Savings on labor and equipment often make the total installed cost of grating comparable to that of steel. This advanced pultruded grating is designed for use in a wide range of industrial applications that require strength and corrosion resistance.

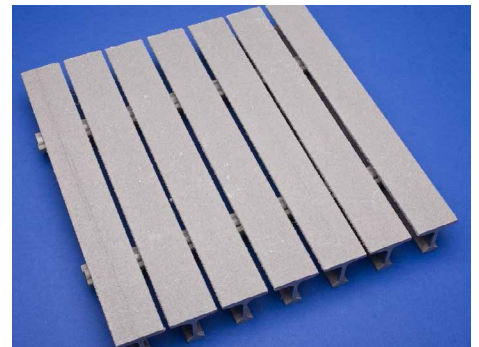


Pultruded Options

Isophthalic Polyester (Type I) – Isophthalic polyester resin formulation with a low flame spread rating of 25 or less designed for applications where there is moderate exposure to corrosive elements. (DNV Type Approval).

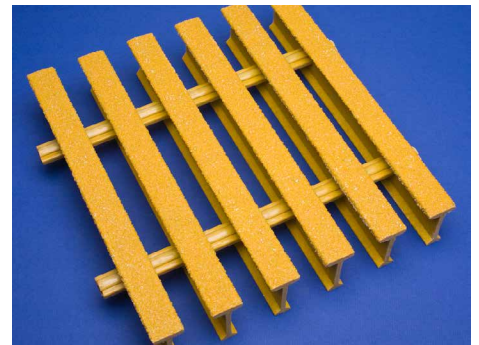
Vinyl Ester (Type V) – Vinyl ester resin system with a flame spread of 25 or less for dependable resistance to both acidic and alkaline environments.

Phenolic (Type P) – A Coast Guard approved flame-resistant phenolic resin with an extremely low flame spread of 5 or less and a smoke index of 45 or less - designed primarily for the offshore industry. (Coast Guard approved for Level 2 performance criteria - DNV Type Approval Certificate ABS Product Type Approval).

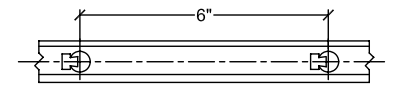
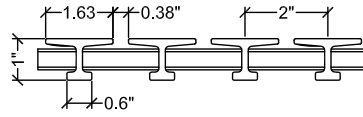


Pultruded Sizes

Pultruded 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.



T 10-18
T Bearing Bar
1" Thick
18% Open

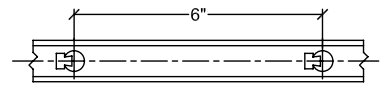
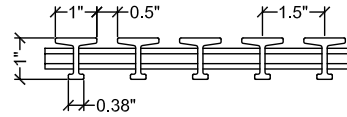


span (inches)	CONCENTRATED LOAD IN lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.004	0.006	0.008	0.009	0.019	0.038	0.075	5112	0.96
18	0.005	0.010	0.015	0.020	0.025	0.050	0.100	0.199	3408	1.22
24	0.011	0.022	0.033	0.044	0.055	0.109	0.218	0.436	2556	1.32
30	0.021	0.041	0.062	0.083	0.103	0.207	0.414		2045	1.36
36	0.035	0.070	0.106	0.141	0.176	0.352			1704	1.38
42	0.055	0.110	0.165	0.221	0.276	0.551			1461	1.40
48	0.081	0.162	0.243	0.325	0.406				1278	1.42

span (inches)	UNIFORM LOAD IN lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.004	0.005	0.006	0.012	0.023	0.047	10418	0.96
18	0.005	0.009	0.014	0.019	0.023	0.047	0.093	0.187	4562	1.22
24	0.014	0.027	0.041	0.055	0.068	0.136	0.273	0.545	2582	1.32
30	0.032	0.065	0.097	0.129	0.162	0.323	0.646		1626	1.36
36	0.066	0.132	0.198	0.264	0.330	0.660			1137	1.38
42	0.121	0.241	0.362	0.482	0.603				835	1.40
48	0.203	0.406	0.608						638	1.42

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.86 in ² I = 0.37 in ⁴ S _T = 1.00 in ³ S _B = 0.59 in ³	6	1"	2"	2.39

T 10-33
T Bearing Bar
1" Thick
33% Open

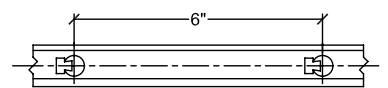
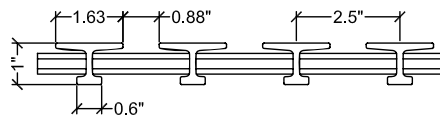


Span (inches)	CONCENTRATED LOAD IN lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.003	0.005	0.008	0.010	0.013	0.026	0.051	0.103	1950	0.70
18	0.007	0.014	0.020	0.027	0.034	0.068	0.135	0.270	1300	0.90
24	0.015	0.029	0.044	0.058	0.073	0.145	0.291	0.582	975	0.99
30	0.028	0.055	0.083	0.110	0.138	0.276	0.551		780	1.02
36	0.047	0.093	0.140	0.187	0.234	0.467			650	1.04
42	0.074	0.147	0.221	0.294	0.368				557	1.05
48	0.109	0.217	0.326	0.435	0.543				488	1.06

Span (inches)	UNIFORM LOAD IN lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.003	0.005	0.006	0.008	0.016	0.032	0.064	7599	0.70
18	0.006	0.013	0.019	0.025	0.032	0.063	0.127	0.253	3314	0.90
24	0.018	0.036	0.055	0.073	0.091	0.182	0.364		1957	0.99
30	0.043	0.086	0.129	0.172	0.215	0.431			1258	1.02
36	0.088	0.175	0.263	0.350	0.438				883	1.04
42	0.161	0.322	0.482	0.643					655	1.05
48	0.272	0.543							502	1.06

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.34 in ² I = 0.27 in ⁴ S _T = 0.78 in ³ S _B = 0.42 in ³	8	1"	1.5"	2.25

T 10-35
T Bearing Bar
1" Thick
35% Open

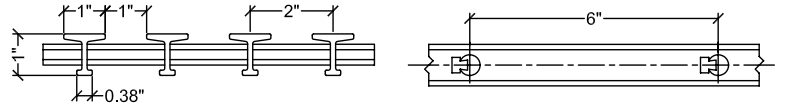


Span (inches)	CONCENTRATED LOAD IN lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.005	0.007	0.010	0.012	0.024	0.049	0.097	3759	0.74
18	0.006	0.013	0.019	0.026	0.032	0.064	0.128	0.256	2506	0.95
24	0.013	0.027	0.040	0.053	0.067	0.133	0.267	0.533	1880	1.08
30	0.025	0.049	0.074	0.099	0.123	0.247	0.493		1504	1.14
36	0.042	0.084	0.126	0.168	0.209	0.419			1253	1.16
42	0.065	0.131	0.196	0.262	0.327	0.654			1074	1.18
48	0.096	0.192	0.288	0.384	0.480				940	1.20

Span (inches)	UNIFORM LOAD IN lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.003	0.004	0.006	0.007	0.015	0.030	0.060	7620	0.74
18	0.006	0.012	0.017	0.023	0.029	0.059	0.119	0.239	3339	0.95
24	0.017	0.033	0.049	0.066	0.083	0.166	0.333	0.666	1898	1.08
30	0.039	0.077	0.115	0.154	0.193	0.385			1204	1.14
36	0.079	0.157	0.235	0.314	0.392				835	1.16
42	0.143	0.286	0.429	0.572					614	1.18
48	0.240	0.480							470	1.20

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.38 in ² I = 0.31 in ⁴ S _T = 0.84 in ³ S _B = 0.49 in ³	5	1"	2.5"	2.00

T 10-50
T Bearing Bar
1" Thick
50% Open

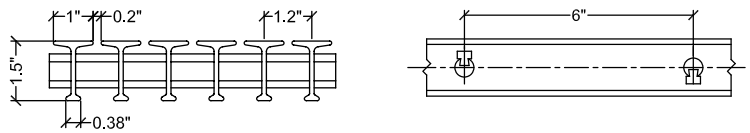


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.003	0.007	0.010	0.014	0.017	0.034	0.068	0.136	1476	0.53
18	0.009	0.018	0.028	0.037	0.046	0.092	0.184	0.368	984	0.66
24	0.019	0.39	0.058	0.078	0.097	0.195	0.389		738	0.74
30	0.036	0.072	0.108	0.144	0.180	0.361			590	0.78
36	0.062	0.123	0.185	0.246	0.308	0.615			492	0.79
42	0.096	0.193	0.289	0.386	0.482				422	0.80
48	0.142	0.284	0.427	0.569					369	0.81

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.004	0.006	0.008	0.011	0.021	0.042	0.085	5735	0.53
18	0.009	0.017	0.026	0.035	0.043	0.086	0.173	0.345	2952	0.66
24	0.024	0.048	0.073	0.097	0.122	0.243	0.486		1473	0.74
30	0.056	0.113	0.169	0.225	0.282	0.563			939	0.78
36	0.115	0.231	0.346	0.461	0.577				661	0.79
42	0.211	0.422	0.633						492	0.80
48	0.356								376	0.81

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 1.76 in ² I = 0.21 in ⁴ S _T = 0.59 in ³ S _B = 0.31 in ³	6	1"	2"	1.81

T 15-17
T Bearing Bar
1.5" Thick
17% Open

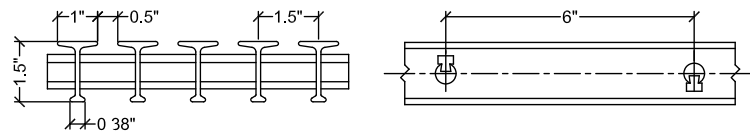


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.010	0.019	0.038	10343	1.89
18	0.002	0.004	0.007	0.009	0.011	0.022	0.045	0.089	6895	2.72
24	0.005	0.009	0.014	0.018	0.023	0.045	0.090	0.180	5172	3.2
30	0.008	0.016	0.024	0.032	0.040	0.080	0.160	0.320	4137	3.52
36	0.0135	0.027	0.0405	0.054	0.0675	0.135	0.27	0.54	3448	3.6
42	0.021	0.043	0.064	0.085	0.107	0.213	0.426		2955	3.62
48	0.032	0.063	0.095	0.127	0.158	0.316	0.633		2586	3.64
54	0.045	0.090	0.134	0.179	0.224	0.448			2298	3.66
60	0.061	0.122	0.183	0.245	0.306	0.611			2069	3.68
66	0.081	0.162	0.243	0.324	0.405				1881	3.7

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.012	0.024	13240	1.89
18	0.002	0.004	0.006	0.008	0.010	0.021	0.042	0.084	5884	2.72
24	0.006	0.011	0.017	0.022	0.028	0.056	0.112	0.225	3310	3.2
30	0.012	0.025	0.037	0.050	0.062	0.125	0.250	0.500	2118	3.52
36	0.025	0.051	0.076	0.101	0.127	0.253	0.506		1471	3.6
42	0.047	0.093	0.140	0.187	0.233	0.466			1081	3.62
48	0.079	0.158	0.237	0.316	0.396				827	3.64
54	0.126	0.252	0.378	0.504	0.630				654	3.66
60	0.191	0.382	0.573						530	3.68
66	0.278	0.556							438	3.7

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.08 in ² I = 0.88 in ⁴ S _T = 1.38 in ³ S _B = 1.02 in ³	10	1.5"	1.2"	3.39

T 15-33
T Bearing Bar
1.5" Thick
33% Open

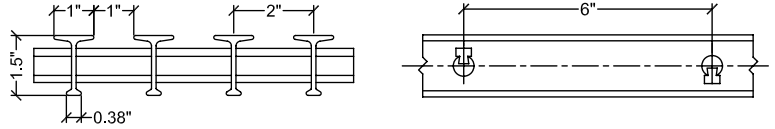


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.011	0.021	0.042	8235	1.71
18	0.003	0.005	0.008	0.011	0.013	0.026	0.053	0.106	5490	2.3
24	0.005	0.011	0.016	0.022	0.027	0.054	0.109	0.217	4118	2.65
30	0.010	0.020	0.031	0.041	0.051	0.102	0.205	0.409	3294	2.75
36	0.017	0.035	0.052	0.070	0.087	0.174	0.348	0.697	2745	2.79
42	0.027	0.055	0.082	0.109	0.136	0.273	0.545		2353	2.83
48	0.040	0.081	0.121	0.161	0.201	0.403			2059	2.86
54	0.057	0.114	0.170	0.227	0.284	0.568			1830	2.89
60	0.077	0.155	0.232	0.309	0.387				1647	2.91
66	0.102	0.204	0.307	0.409	0.511				1497	2.93

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.003	0.003	0.007	0.013	0.026	10541	1.71
18	0.002	0.005	0.007	0.010	0.012	0.025	0.050	0.099	4685	2.3
24	0.007	0.014	0.020	0.027	0.034	0.068	0.136	0.272	2635	2.65
30	0.016	0.032	0.048	0.064	0.080	0.160	0.320	0.639	1687	2.75
36	0.033	0.065	0.098	0.131	0.163	0.327	0.653		1171	2.79
42	0.060	0.119	0.179	0.239	0.298	0.597			861	2.83
48	0.101	0.201	0.302	0.403	0.503				659	2.86
54	0.160	0.319	0.479	0.638					521	2.89
60	0.242	0.483							422	2.91
66	0.351								348	2.93

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.47 in ² I = 0.70 in ⁴ S _T = 1.10 in ³ S _B = 0.82 in ³	8	1.5"	1.5"	2.81

T 15-50
T Bearing Bar
1.5" Thick
50% Open

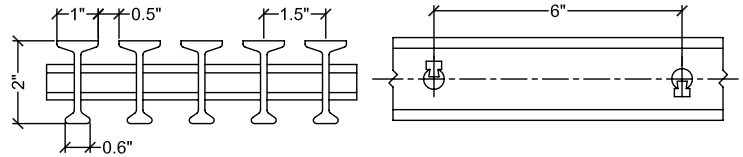


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.005	0.006	0.013	0.026	0.051	5210	1.41
18	0.003	0.007	0.010	0.013	0.017	0.033	0.066	0.132	3473	1.84
24	0.007	0.014	0.021	0.029	0.036	0.072	0.143	0.286	2605	2.01
30	0.013	0.027	0.040	0.054	0.067	0.134	0.268	0.536	2084	2.1
36	0.023	0.045	0.068	0.090	0.113	0.225	0.450		1737	2.16
42	0.035	0.070	0.104	0.139	0.174	0.348	0.695		1489	2.22
48	0.051	0.102	0.153	0.204	0.255	0.510			1303	2.26
54	0.072	0.144	0.216	0.288	0.360				1158	2.28
60	0.098	0.196	0.293	0.391	0.489				1042	2.3
66	0.129	0.258	0.387	0.516	0.645				947	2.32

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.002	0.003	0.004	0.008	0.016	0.032	6669	1.41
18	0.003	0.006	0.009	0.012	0.015	0.031	0.062	0.124	3464	1.84
24	0.009	0.018	0.027	0.036	0.045	0.089	0.179	0.357	1667	2.01
30	0.021	0.042	0.063	0.084	0.105	0.209	0.419		1067	2.1
36	0.042	0.084	0.127	0.169	0.211	0.422			741	2.16
42	0.076	0.152	0.228	0.304	0.380				545	2.22
48	0.127	0.255	0.382	0.510	0.637				417	2.26
54	0.202	0.405	0.607						329	2.28
60	0.306	0.611							267	2.3
66	0.444								220	3.32

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 1.86 in ² I = 0.53 in ⁴ S _T = 0.83 in ³ S _B = 0.61 in ³	6	1.5"	2"	2.23

T 20-33
T Bearing Bar
2" Thick
33% Open

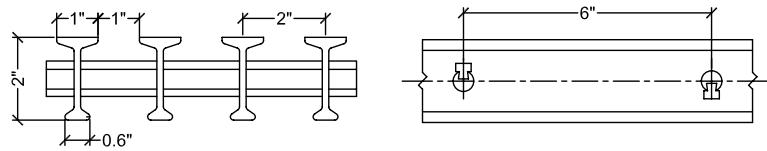


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.005	0.010	0.020	16215	3.60
18	0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.040	10810	6.07
24	0.002	0.004	0.005	0.007	0.009	0.018	0.037	0.073	8108	7.89
30	0.003	0.006	0.009	0.012	0.015	0.030	0.060	0.121	6486	9.32
36	0.005	0.010	0.014	0.019	0.024	0.048	0.096	0.192	5405	10.10
42	0.007	0.015	0.022	0.029	0.036	0.073	0.146	0.291	4633	10.60
48	0.010	0.021	0.031	0.042	0.052	0.104	0.208	0.417	4054	11.06
54	0.015	0.029	0.044	0.058	0.073	0.146	0.291	0.583	3603	11.26
60	0.020	0.040	0.059	0.079	0.099	0.198	0.396		3243	11.36
66	0.026	0.052	0.078	0.105	0.131	0.261	0.523		2948	11.46
72	0.034	0.068	0.101	0.135	0.169	0.338	0.676		2703	11.50

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.001	0.001	0.001	0.002	0.003	0.006	0.012	20269	3.60
18	0.001	0.002	0.003	0.004	0.005	0.009	0.019	0.038	13524	6.07
24	0.002	0.005	0.007	0.009	0.011	0.023	0.046	0.091	7398	7.89
30	0.005	0.009	0.014	0.019	0.024	0.047	0.094	0.189	5437	9.32
36	0.009	0.018	0.027	0.036	0.045	0.090	0.180	0.361	3612	10.10
42	0.016	0.032	0.048	0.064	0.080	0.159	0.319	0.637	2635	10.60
48	0.026	0.052	0.078	0.104	0.130	0.260	0.521		2030	11.06
54	0.041	0.082	0.123	0.164	0.205	0.410			1600	11.26
60	0.062	0.124	0.186	0.248	0.309	0.619			1295	11.36
66	0.090	0.180	0.269	0.359	0.449				1070	11.46
72	0.127	0.254	0.380	0.507	0.634				899	11.50

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 4.34 in ² I = 2.11 in ⁴ S _T = 2.64 in ³ S _B = 1.76 in ³	8	2"	1.5"	4.44

T 20-50
T Bearing Bar
2" Thick
50% Open

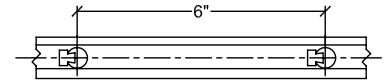
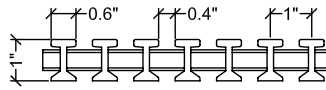


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.040	13302	1.80
18	0.001	0.003	0.004	0.006	0.007	0.015	0.029	0.059	8868	4.15
24	0.002	0.005	0.007	0.009	0.012	0.023	0.047	0.093	6651	6.17
30	0.004	0.008	0.011	0.015	0.019	0.038	0.077	0.153	5321	7.35
36	0.006	0.012	0.018	0.024	0.031	0.061	0.122	0.245	4434	7.95
42	0.009	0.019	0.028	0.037	0.046	0.093	0.186	0.372	3801	8.31
48	0.013	0.027	0.040	0.054	0.067	0.135	0.269	0.539	3326	8.55
54	0.019	0.038	0.057	0.076	0.095	0.190	0.379		2956	8.65
60	0.026	0.051	0.077	0.103	0.129	0.257	0.514		2660	8.75
66	0.034	0.068	0.102	0.136	0.171	0.341	0.682		2419	8.78
72	0.044	0.088	0.133	0.177	0.221	0.442			2217	8.80

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.012	0.025	23936	1.80
18	0.001	0.003	0.004	0.005	0.007	0.014	0.027	0.055	8624	4.15
24	0.003	0.006	0.009	0.012	0.015	0.029	0.058	0.117	6468	6.17
30	0.006	0.012	0.018	0.024	0.030	0.060	0.120	0.239	4242	7.35
36	0.011	0.023	0.034	0.046	0.057	0.115	0.229	0.458	2946	7.95
42	0.020	0.041	0.061	0.081	0.102	0.203	0.407		2153	8.31
48	0.034	0.067	0.101	0.135	0.168	0.337	0.674		1672	8.55
54	0.053	0.107	0.160	0.213	0.267	0.533			1310	8.65
60	0.080	0.161	0.241	0.321	0.402				1062	8.75
66	0.117	0.234	0.352	0.469	0.586				881	8.78
72	0.166	0.331	0.497	0.663					740	8.80

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.23 in ² I = 1.58 in ⁴ S _T = 1.98 in ³ S _B = 1.32 in ³	6	2"	2"	3.43

I 10-40 I Bearing Bar 1" Thick 40% Open

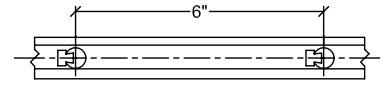
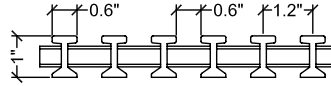
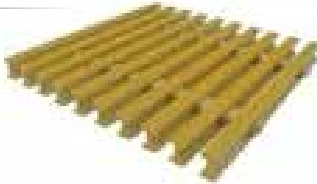


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.011	0.021	0.042	8028	1.80
18	0.003	0.006	0.009	0.012	0.015	0.030	0.060	0.119	5352	2.10
24	0.006	0.013	0.019	0.025	0.032	0.063	0.126	0.253	4014	2.28
30	0.012	0.024	0.036	0.047	0.059	0.119	0.237	0.475	3211	2.37
36	0.020	0.040	0.060	0.080	0.100	0.201	0.402		2676	2.42
42	0.032	0.063	0.095	0.127	0.158	0.316	0.633		2294	2.44
48	0.047	0.094	0.141	0.188	0.235	0.470			2007	2.45
54	0.067	0.134	0.200	0.267	0.334	0.668			1784	2.46
60	0.091	0.182	0.273	0.364	0.455				1606	2.47
66	0.121	0.242	0.362	0.483	0.604				1460	2.48
72	0.156	0.312	0.468	0.625					1338	2.49

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.012	0.025	17605	1.80
18	0.003	0.005	0.008	0.011	0.014	0.027	0.054	0.108	7969	2.10
24	0.008	0.016	0.024	0.032	0.036	0.079	0.158	0.316	3961	2.28
30	0.019	0.037	0.056	0.074	0.089	0.185	0.371		2574	2.37
36	0.038	0.075	0.113	0.151	0.188	0.377			1791	2.42
42	0.069	0.138	0.208	0.277	0.346	0.692			1314	2.44
48	0.118	0.235	0.353	0.470	0.588				1004	2.45
54	0.188	0.376	0.564						792	2.46
60	0.285	0.569							713	2.47

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.66 in ² I = 0.46 in ⁴ S = 0.93 in ³	12	1"	1"	3.47

I 10-50 I Bearing Bar 1" Thick 50% Open

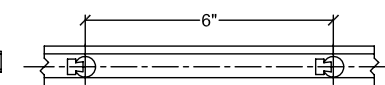
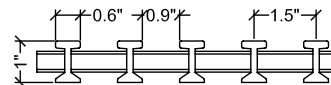


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.005	0.007	0.013	0.026	0.053	7185	1.36
18	0.004	0.007	0.011	0.015	0.018	0.037	0.074	0.147	4790	1.65
24	0.008	0.015	0.023	0.031	0.038	0.077	0.153	0.306	3593	1.88
30	0.014	0.028	0.042	0.057	0.071	0.141	0.283	0.565	2874	1.99
36	0.024	0.048	0.073	0.097	0.121	0.242	0.484		2395	2.01
42	0.038	0.076	0.114	0.152	0.190	0.380			2053	2.03
48	0.056	0.112	0.169	0.225	0.281	0.562			1796	2.05
54	0.080	0.159	0.239	0.318	0.398				1597	2.06
60	0.109	0.217	0.326	0.435	0.543				1437	2.07
66	0.144	0.288	0.432	0.576					1307	2.08
72	0.186	0.372	0.558						1198	2.09

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.002	0.003	0.004	0.008	0.017	0.033	11887	1.36
18	0.003	0.007	0.010	0.014	0.017	0.035	0.069	0.138	6299	1.65
24	0.010	0.019	0.029	0.038	0.048	0.096	0.191	0.383	3621	1.88
30	0.022	0.044	0.066	0.088	0.110	0.221	0.442		2308	1.99
36	0.045	0.091	0.136	0.181	0.227	0.453			1591	2.01
42	0.083	0.166	0.249	0.333	0.416				1175	2.03
48	0.140	0.281	0.421	0.562					898	2.05
54	0.224	0.448	0.672						709	2.06
60	0.340	0.679							638	2.07

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.05 in ² I = 0.39 in ⁴ S = 0.77 in ³	10	1"	1.2"	2.97

I 10-60 I Bearing Bar 1" Thick 60% Open

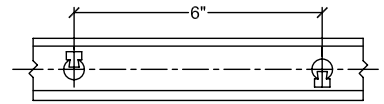
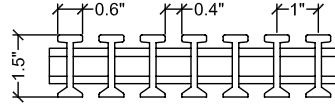


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.003	0.005	0.007	0.008	0.016	0.033	0.065	5755	1.10
18	0.004	0.009	0.013	0.018	0.022	0.044	0.088	0.176	3850	1.38
24	0.009	0.019	0.028	0.037	0.047	0.094	0.187	0.374	2888	1.54
30	0.017	0.035	0.052	0.069	0.086	0.173	0.345	0.690	2310	1.63
36	0.029	0.059	0.088	0.117	0.146	0.293	0.586		1925	1.66
42	0.046	0.092	0.138	0.184	0.230	0.459			1650	1.68
48	0.068	0.136	0.203	0.271	0.339	0.678			1444	1.70
54	0.095	0.191	0.286	0.381	0.477				1283	1.72
60	0.129	0.259	0.388	0.517	0.647				1155	1.74
66	0.171	0.342	0.513	0.685					1050	1.75
72	0.221	0.442	0.663						962	1.76

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.041	7944	1.10
18	0.004	0.008	0.012	0.017	0.021	0.041	0.083	0.165	5296	1.38
24	0.012	0.023	0.035	0.047	0.058	0.117	0.234	0.468	2935	1.54
30	0.027	0.054	0.081	0.108	0.135	0.270	0.539		1845	1.63
36	0.055	0.110	0.165	0.220	0.274	0.549			1281	1.66
42	0.100	0.201	0.301	0.402	0.502				943	1.68
48	0.169	0.339	0.508	0.678					721	1.70
54	0.268	0.536							571	1.72
60	0.404								514	1.74

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.44 in ² I = 0.31 in ⁴ S = 0.62 in ³	8	1"	1.5"	2.47

I 15-40 I Bearing Bar 1.5" Thick 40% Open

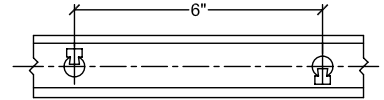
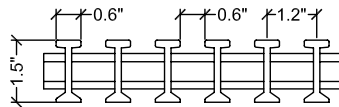


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.012	0.024	14034	3.00
18	0.001	0.002	0.004	0.005	0.006	0.012	0.025	0.050	9356	4.88
24	0.002	0.005	0.007	0.010	0.012	0.024	0.049	0.098	7017	5.90
30	0.004	0.009	0.013	0.018	0.022	0.044	0.088	0.176	5614	6.40
36	0.007	0.015	0.022	0.029	0.036	0.073	0.146	0.292	4678	6.66
42	0.011	0.023	0.034	0.046	0.057	0.114	0.229	0.457	4010	6.75
48	0.017	0.034	0.051	0.068	0.085	0.169	0.338	0.677	3509	6.81
54	0.024	0.048	0.072	0.096	0.120	0.240	0.480		3119	6.83
60	0.033	0.066	0.099	0.131	0.164	0.328	0.657		2807	6.85
66	0.044	0.087	0.131	0.174	0.218	0.436			2552	6.87
72	0.057	0.113	0.170	0.226	0.283	0.565			2339	6.88

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.001	0.001	0.001	0.002	0.004	0.007	0.015	21051	3.00
18	0.001	0.002	0.004	0.005	0.006	0.012	0.023	0.047	14559	4.88
24	0.003	0.006	0.009	0.012	0.015	0.031	0.061	0.122	7136	5.90
30	0.007	0.014	0.021	0.027	0.034	0.069	0.137	0.275	4405	6.40
36	0.014	0.027	0.041	0.055	0.068	0.137	0.274	0.547	3161	6.66
42	0.025	0.050	0.075	0.100	0.125	0.250	0.500		2292	6.75
48	0.042	0.085	0.127	0.169	0.211	0.423			1746	6.81
54	0.068	0.135	0.203	0.270	0.338	0.675			1387	6.83
60	0.103	0.205	0.308	0.411	0.513				1124	6.85
66	0.150	0.300	0.450	0.599					928	6.87
72	0.212	0.424	0.636						779	6.88

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 4.66 in ² I = 1.32 in ⁴ S = 1.76 in ³	12	1.5"	1"	4.22

I 15-50 I Bearing Bar 1.5" Thick 50% Open

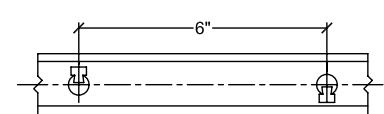
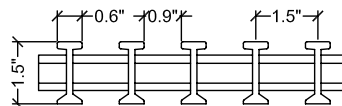


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.003	0.004	0.007	0.015	0.029	11055	2.46
18	0.002	0.003	0.005	0.006	0.008	0.015	0.030	0.061	7370	4.00
24	0.003	0.006	0.009	0.012	0.015	0.030	0.060	0.119	5528	4.84
30	0.005	0.011	0.016	0.021	0.027	0.054	0.107	0.214	4422	5.25
36	0.009	0.018	0.027	0.036	0.045	0.089	0.178	0.356	3685	5.46
42	0.014	0.028	0.042	0.056	0.070	0.139	0.279	0.558	3159	5.53
48	0.021	0.041	0.062	0.083	0.103	0.206	0.413		2764	5.58
54	0.029	0.059	0.088	0.117	0.146	0.293	0.586		2457	5.60
60	0.040	0.080	0.120	0.160	0.200	0.401			2211	5.61
66	0.053	0.106	0.160	0.213	0.266	0.532			2010	5.63
72	0.069	0.138	0.207	0.276	0.345	0.689			1843	5.64

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.001	0.001	0.002	0.002	0.005	0.009	0.018	13992	2.46
18	0.001	0.003	0.004	0.006	0.007	0.014	0.028	0.057	9328	4.00
24	0.004	0.007	0.011	0.015	0.019	0.037	0.074	0.149	5878	4.84
30	0.008	0.017	0.025	0.034	0.042	0.084	0.168	0.335	3486	5.25
36	0.017	0.033	0.050	0.067	0.083	0.167	0.334	0.668	2485	5.46
42	0.031	0.061	0.092	0.122	0.153	0.305	0.610		1806	5.53
48	0.052	0.103	0.155	0.206	0.258	0.516			1384	5.58
54	0.082	0.165	0.247	0.330	0.412				1091	5.60
60	0.125	0.250	0.376	0.501	0.626				886	5.61
66	0.183	0.366	0.548						730	5.63
72	0.259	0.517							614	5.64

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.89 in ² I = 1.11 in ⁴ S = 1.47 in ³	10	1.5"	1.2"	3.60

I 15-60 I Bearing Bar 1.5" Thick 60% Open

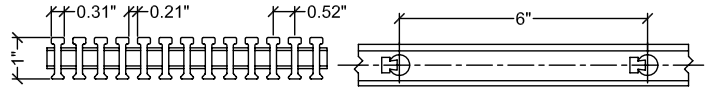


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.009	0.018	0.036	8958	1.99
18	0.002	0.004	0.006	0.008	0.009	0.019	0.038	0.075	5972	3.23
24	0.004	0.007	0.011	0.015	0.018	0.037	0.074	0.147	4479	3.91
30	0.007	0.013	0.020	0.027	0.033	0.066	0.133	0.265	3853	4.24
36	0.011	0.022	0.033	0.044	0.055	0.110	0.220	0.441	2986	4.41
42	0.017	0.035	0.052	0.069	0.086	0.173	0.345	0.691	2559	4.47
48	0.026	0.051	0.077	0.102	0.128	0.255	0.511		2240	4.51
54	0.036	0.073	0.109	0.145	0.181	0.363			1991	4.52
60	0.050	0.099	0.149	0.198	0.248	0.496			1792	4.54
66	0.066	0.132	0.197	0.263	0.329	0.658			1629	4.55
72	0.085	0.171	0.256	0.341	0.427				1493	4.56

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.011	0.023	10524	1.99
18	0.002	0.004	0.005	0.007	0.009	0.018	0.035	0.070	7016	3.23
24	0.005	0.009	0.014	0.018	0.023	0.46	0.092	0.184	4585	3.91
30	0.010	0.021	0.031	0.041	0.052	0.104	0.207	0.415	2831	4.24
36	0.021	0.041	0.062	0.083	0.103	0.207	0.413		2006	4.41
42	0.038	0.076	0.113	0.151	0.189	0.378			1454	4.47
48	0.064	0.128	0.192	0.255	0.319	0.639			1117	4.51
54	0.102	0.204	0.306	0.408	0.510				885	4.52
60	0.155	0.310	0.465	0.620					717	4.54
66	0.226	0.453	0.679						592	4.55
72	0.320	0.640							498	4.56

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
A = 3.11 in ² I = 0.88 in ⁴ S = 1.17 in ³	8	1.5"	1.5"	2.97

I 10-40-ADA
I Bearing Bar
1" Thick
40% Open

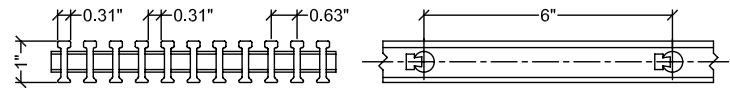


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.009	0.018	0.036	9005	1.99
18	0.003	0.006	0.009	0.011	0.014	0.029	0.057	0.115	6003	2.12
24	0.006	0.013	0.019	0.026	0.032	0.064	0.129	0.257	4503	2.24
30	0.012	0.024	0.036	0.048	0.060	0.120	0.239	0.479	3602	2.35
36	0.020	0.040	0.060	0.080	0.100	0.201	0.402		3002	2.42
42	0.032	0.063	0.095	0.126	0.158	0.315			2573	2.45
48	0.047	0.093	0.140	0.187	0.233	0.466			2251	2.47
54	0.066	0.132	0.198	0.265	0.331	0.661			2001	2.48
60	0.090	0.181	0.271	0.361	0.452				1800	2.49
66	0.120	0.240	0.359	0.479	0.599				1637	2.50
72	0.155	0.310	0.465	0.620					1500	2.51

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.011	0.023	11526	1.99
18	0.003	0.005	0.008	0.011	0.013	0.027	0.054	0.107	5123	2.12
24	0.008	0.016	0.024	0.032	0.040	0.080	0.161	0.321	2882	2.24
30	0.019	0.037	0.056	0.075	0.094	0.187	0.374		1844	2.35
36	0.038	0.075	0.113	0.151	0.188	0.377			1281	2.42
42	0.069	0.138	0.207	0.276	0.345				941	2.45
48	0.117	0.233	0.350	0.466					720	2.47
54	0.186	0.372	0.558						569	2.48
60	0.282	0.565							461	2.49
66	0.412								381	2.5
72	0.581								320	2.51

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 4.44 in ² I = 0.49 in ⁴ S = 0.98 in ³	23	1"	.52"	4.08

I 10-50-ADA
I Bearing Bar
1" Thick
50% Open

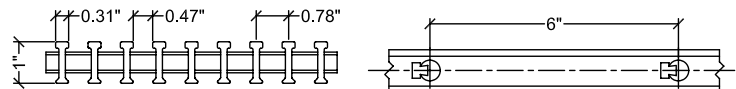


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.006	0.007	0.014	0.028	0.056	7495	1.29
18	0.003	0.007	0.010	0.014	0.017	0.035	0.069	0.139	4997	1.75
24	0.007	0.015	0.022	0.030	0.037	0.074	0.148	0.295	3748	1.95
30	0.014	0.028	0.042	0.055	0.069	0.139	0.277		2998	2.03
36	0.024	0.048	0.071	0.095	0.119	0.238	0.476		2498	2.04
42	0.037	0.075	0.112	0.150	0.187	0.375			2141	2.06
48	0.056	0.111	0.167	0.223	0.278				1874	2.07
54	0.079	0.158	0.237	0.315	0.394				1666	2.08
60	0.108	0.215	0.323	0.431	0.538				1499	2.09
66	0.143	0.285	0.428	0.570					1363	2.10
72	0.184	0.369	0.553						1250	2.11

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.003	0.004	0.017	0.017	0.035	9594	1.29
18	0.003	0.007	0.010	0.013	0.016	0.065	0.065	0.130	4264	1.75
24	0.009	0.018	0.028	0.037	0.046	0.185	0.185	0.369	2398	1.95
30	0.022	0.043	0.065	0.087	0.108	0.433	0.433		1535	2.03
36	0.045	0.089	0.134	0.179	0.223				1066	2.04
42	0.082	0.164	0.246	0.328	0.410				783	2.06
48	0.139	0.278	0.417						600	2.07
54	0.222	0.444	0.665						474	2.08
60	0.336	0.673							383	2.09
66	0.490								317	2.1
72	0.691								267	2.11

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 3.67 in ² I = 0.40 in ⁴ S = 0.80 in ³	19	1"	0.63"	3.50

I 10-60-ADA
I Bearing Bar
1" Thick
60% Open

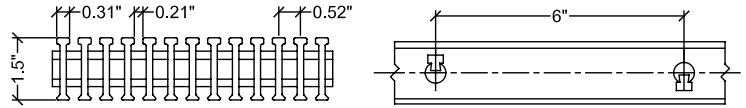


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.002	0.003	0.005	0.006	0.008	0.015	0.030	0.060	6181	1.20
18	0.004	0.008	0.012	0.016	0.021	0.041	0.082	0.164	4121	1.48
24	0.009	0.017	0.026	0.035	0.044	0.087	0.175	0.349	3091	1.65
30	0.016	0.033	0.049	0.065	0.082	0.164	0.327		2472	1.72
36	0.028	0.055	0.083	0.110	0.138	0.276			2060	1.76
42	0.043	0.086	0.129	0.172	0.214	0.429			1766	1.80
48	0.063	0.127	0.190	0.253	0.316				1545	1.82
54	0.089	0.178	0.267	0.357	0.446				1374	1.84
60	0.121	0.242	0.363	0.484	0.605				1237	1.86
66	0.160	0.320	0.480	0.641					1124	1.87
72	0.207	0.414	0.620						1030	1.88

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.009	0.019	0.038	7912	1.20
18	0.004	0.008	0.012	0.015	0.019	0.038	0.077	0.154	3516	1.48
24	0.011	0.022	0.033	0.044	0.055	0.109	0.218	0.436	1978	1.65
30	0.026	0.051	0.077	0.102	0.128	0.255			1266	1.72
36	0.052	0.104	0.155	0.207	0.259				879	1.76
42	0.094	0.188	0.281	0.375					646	1.80
48	0.158	0.316	0.475	0.633					494	1.82
54	0.251	0.501							391	1.84
60	0.378								316	1.86
66	0.551								261	1.87
72	0.776								220	1.88

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 2.90 in ² I = 0.32 in ⁴ S = 0.64 in ³	15	1"	0.78"	2.92

I 15-40-ADA
I Bearing Bar
1.5" Thick
40% Open

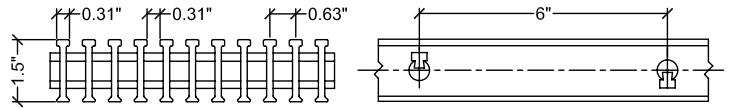


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.005	0.011	0.021	15057	3.40
18	0.001	0.002	0.003	0.004	0.006	0.011	0.022	0.045	10038	5.42
24	0.002	0.005	0.007	0.009	0.012	0.023	0.047	0.094	7528	6.16
30	0.004	0.008	0.013	0.017	0.021	0.042	0.085	0.170	6023	6.63
36	0.007	0.014	0.022	0.029	0.036	0.072	0.143	0.287	5019	6.78
42	0.011	0.022	0.034	0.045	0.056	0.112	0.224	0.447	4302	6.90
48	0.016	0.033	0.049	0.065	0.082	0.163	0.327		3764	7.05
54	0.023	0.046	0.069	0.092	0.115	0.229	0.459		3346	7.15
60	0.031	0.063	0.094	0.125	0.157	0.313			3011	7.18
66	0.042	0.083	0.125	0.166	0.208	0.416			2738	7.20
72	0.054	0.108	0.162	0.215	0.269	0.539			2509	7.22

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.000	0.001	0.001	0.001	0.002	0.003	0.007	0.013	19273	3.40
18	0.001	0.002	0.003	0.004	0.005	0.011	0.021	0.042	8566	5.42
24	0.003	0.006	0.009	0.012	0.015	0.029	0.058	0.117	4818	6.46
30	0.007	0.013	0.020	0.027	0.033	0.066	0.133	0.265	3084	6.63
36	0.013	0.027	0.040	0.054	0.067	0.134	0.269		2141	6.78
42	0.024	0.049	0.073	0.098	0.122	0.245			1573	6.9
48	0.041	0.082	0.123	0.163	0.204				1205	7.05
54	0.065	0.129	0.194	0.258	0.323				952	7.15
60	0.098	0.196	0.294	0.392	0.490				771	7.18
66	0.143	0.286	0.429						637	7.2
72	0.202	0.404							535	7.22

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 6.24 in ² I = 1.38 in ⁴ S = 1.84 in ³	23	1.5"	0.52"	5.32

I 15-50-ADA
I Bearing Bar
1.5" Thick
50% Open

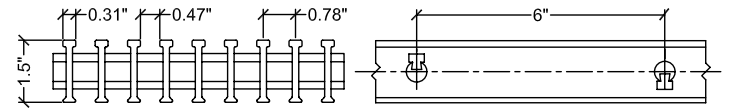


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.011	0.022	12052	3.26
18	0.001	0.003	0.004	0.006	0.007	0.014	0.028	0.056	8035	4.32
24	0.003	0.006	0.009	0.012	0.015	0.029	0.058	0.116	6026	4.96
30	0.005	0.010	0.016	0.021	0.026	0.052	0.104	0.208	4821	5.42
36	0.009	0.017	0.026	0.035	0.043	0.086	0.173	0.346	4017	5.62
42	0.013	0.027	0.040	0.054	0.067	0.134	0.269		3444	5.74
48	0.020	0.040	0.060	0.079	0.099	0.199	0.397		3013	5.80
54	0.028	0.056	0.085	0.113	0.141	0.282			2678	5.82
60	0.039	0.077	0.116	0.154	0.193	0.385			2410	5.84
66	0.051	0.102	0.153	0.204	0.256	0.511			2191	5.86
72	0.066	0.132	0.198	0.264	0.331				2009	5.88

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.000	0.001	0.001	0.001	0.002	0.003	0.007	0.014	15427	3.26
18	0.001	0.003	0.004	0.005	0.007	0.013	0.026	0.053	6856	4.32
24	0.004	0.007	0.011	0.015	0.018	0.036	0.073	0.145	3857	4.96
30	0.008	0.016	0.024	0.032	0.041	0.081	0.162	0.324	2468	5.42
36	0.016	0.032	0.049	0.065	0.081	0.162	0.324		1714	5.62
42	0.029	0.059	0.088	0.118	0.147	0.294			1259	5.74
48	0.050	0.099	0.149	0.199	0.248				964	5.8
54	0.079	0.159	0.238	0.317	0.396				762	5.82
60	0.120	0.241	0.361	0.482					617	5.84
66	0.176	0.351							510	5.86
72	0.248	0.496							429	5.88

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 5.15 in ² I = 1.14 in ⁴ S = 1.52 in ³	19	1.5"	0.63"	4.64

I 15-60-ADA
I Bearing Bar
1.5" Thick
60% Open

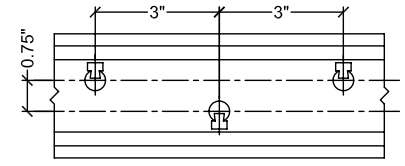
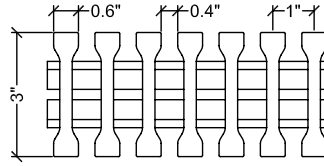


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.003	0.003	0.006	0.013	0.026	10046	2.80
18	0.002	0.003	0.005	0.007	0.008	0.017	0.034	0.068	6697	3.60
24	0.003	0.007	0.010	0.014	0.017	0.035	0.069	0.139	5023	4.15
30	0.006	0.013	0.019	0.025	0.032	0.063	0.126	0.253	4018	4.45
36	0.011	0.021	0.032	0.042	0.053	0.106	0.212	0.424	3349	4.58
42	0.017	0.033	0.050	0.067	0.083	0.166	0.333		2870	4.64
48	0.025	0.049	0.074	0.099	0.124	0.247	0.494		2511	4.66
54	0.035	0.070	0.105	0.140	0.174	0.349			2232	4.70
60	0.048	0.095	0.143	0.191	0.238	0.477			2009	4.72
66	0.063	0.126	0.190	0.253	0.316				1826	4.74
72	0.082	0.163	0.245	0.327	0.408				1674	4.76

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.000	0.001	0.001	0.002	0.002	0.004	0.008	0.016	12858	2.80
18	0.002	0.003	0.005	0.006	0.008	0.016	0.032	0.063	5715	3.60
24	0.004	0.009	0.013	0.017	0.022	0.043	0.087	0.173	3215	4.15
30	0.010	0.020	0.030	0.040	0.049	0.099	0.198	0.395	2057	4.45
36	0.020	0.040	0.060	0.080	0.099	0.199	0.398		1429	4.58
42	0.036	0.073	0.109	0.146	0.182	0.364			1050	4.64
48	0.062	0.124	0.185	0.247	0.309				804	4.66
54	0.098	0.196	0.294	0.393	0.491				635	4.7
60	0.149	0.298	0.447						514	4.72
66	0.217	0.434							425	4.74
72	0.306	0.612							357	4.76

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 4.07 in ² I = 0.90 in ⁴ S = 1.20 in ³	15	1.5"	0.78"	3.74

I 30-40-ADA I Bearing Bar 3" Thick 40% Open

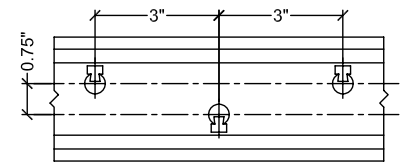
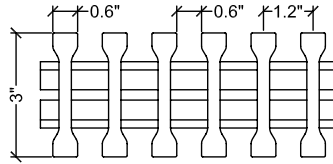


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.003	0.006	59580	12.45
18	<0.001	<0.001	<0.001	0.001	0.002	0.003	0.006	0.012	39720	19.96
24	<0.001	0.001	0.002	0.002	0.003	0.005	0.011	0.021	29790	26.81
30	<0.001	0.002	0.003	0.003	0.004	0.009	0.017	0.034	23832	32.86
36	0.001	0.003	0.004	0.005	0.006	0.013	0.026	0.051	19860	37.90
42	0.002	0.004	0.006	0.007	0.009	0.018	0.037	0.073	17023	42.09
48	0.003	0.005	0.008	0.010	0.013	0.025	0.051	0.101	14895	45.51
54	0.003	0.007	0.010	0.014	0.017	0.034	0.068	0.136	13240	48.27
60	0.004	0.009	0.013	0.018	0.022	0.045	0.090	0.179	11916	50.22
66	0.006	0.012	0.017	0.023	0.029	0.058	0.116	0.232	10833	51.62
72	0.007	0.015	0.022	0.030	0.037	0.074	0.148	0.296	9930	52.62

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.004	76262	12.45
18	<0.001	<0.001	<0.001	0.001	0.001	0.003	0.006	0.011	33894	19.96
24	<0.001	0.001	0.002	0.003	0.003	0.007	0.013	0.027	19066	26.81
30	0.001	0.003	0.004	0.004	0.005	0.007	0.013	0.027	12202	32.86
36	0.002	0.005	0.007	0.010	0.012	0.024	0.048	0.096	8474	37.9
42	0.004	0.008	0.012	0.016	0.020	0.040	0.080	0.160	6226	42.09
48	0.006	0.013	0.019	0.025	0.032	0.063	0.127	0.253	4766	45.51
54	0.010	0.019	0.029	0.038	0.048	0.096	0.191	0.382	3766	48.27
60	0.014	0.028	0.042	0.056	0.070	0.140	0.280	0.560	3050	50.22
66	0.020	0.040	0.060	0.080	0.100	0.199	0.399		2521	51.62
72	0.028	0.055	0.083	0.111	0.139	0.277	0.554		2118	52.62

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 14.44 in ² I = 13.76 in ⁴ S = 9.18 in ³	12	3"	1"	12.28

I 30-50 I Bearing Bar 3" Thick 50% Open

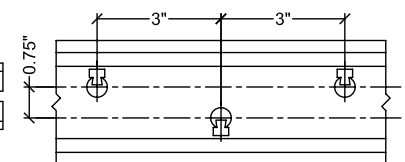
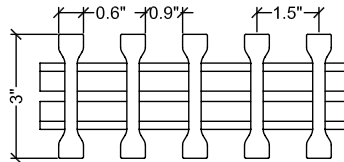


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.004	0.008	46720	8.56
18	<0.001	<0.001	0.001	0.002	0.002	0.004	0.008	0.016	31147	15.02
24	<0.001	0.001	0.002	0.003	0.003	0.007	0.014	0.027	23360	21.12
30	0.001	0.002	0.003	0.004	0.005	0.010	0.021	0.042	18688	26.84
36	0.002	0.003	0.005	0.006	0.008	0.015	0.030	0.060	15573	32.25
42	0.002	0.004	0.006	0.008	0.011	0.021	0.042	0.084	13349	36.75
48	0.003	0.006	0.009	0.011	0.014	0.029	0.057	0.115	11680	40.14
54	0.004	0.008	0.011	0.015	0.019	0.038	0.076	0.153	10382	43.00
60	0.005	0.010	0.015	0.020	0.025	0.050	0.100	0.201	9344	44.86
66	0.007	0.013	0.020	0.026	0.033	0.065	0.130	0.260	8495	46.00
72	0.008	0.017	0.025	0.033	0.041	0.083	0.165	0.331	7787	47.00

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.003	0.005	59802	8.56
18	<0.001	<0.001	0.001	0.002	0.002	0.004	0.008	0.015	26578	15.02
24	<0.001	0.002	0.003	0.003	0.004	0.009	0.017	0.034	14950	21.12
30	0.002	0.003	0.005	0.005	0.007	0.008	0.016	0.033	9568	26.84
36	0.003	0.006	0.008	0.011	0.014	0.028	0.057	0.113	6645	32.25
42	0.005	0.009	0.014	0.018	0.023	0.046	0.092	0.184	4882	36.75
48	0.007	0.014	0.022	0.029	0.036	0.072	0.143	0.287	3738	40.14
54	0.011	0.021	0.032	0.043	0.054	0.107	0.215	0.429	2953	43.00
60	0.016	0.031	0.047	0.063	0.078	0.157	0.313	0.627	2392	44.86
66	0.022	0.045	0.067	0.090	0.112	0.224	0.448		1977	46.00
72	0.031	0.062	0.093	0.124	0.155	0.310	0.620		1661	47.00

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 12.04 in ² I = 11.47 in ⁴ S = 7.65 in ³	10	3"	1.2"	10.34

I 30-60 I Bearing Bar 3" Thick 60% Open

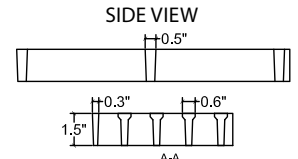
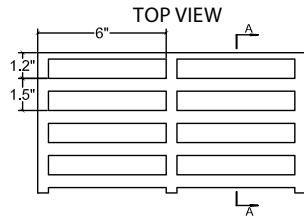


Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	0.001	0.001	0.003	0.005	0.011	34635	6.85
18	<0.001	0.001	0.002	0.002	0.003	0.005	0.010	0.021	23090	11.68
24	<0.001	0.002	0.003	0.003	0.004	0.009	0.017	0.035	17318	16.68
30	0.001	0.003	0.004	0.005	0.007	0.014	0.027	0.054	13854	20.78
36	0.002	0.004	0.006	0.008	0.010	0.019	0.039	0.077	11545	25.24
42	0.003	0.005	0.008	0.010	0.013	0.026	0.052	0.105	9896	29.42
48	0.004	0.007	0.011	0.014	0.018	0.035	0.070	0.141	8659	32.70
54	0.005	0.009	0.014	0.019	0.023	0.047	0.094	0.187	7697	35.00
60	0.006	0.012	0.019	0.025	0.031	0.062	0.124	0.248	6927	36.30
66	0.008	0.016	0.024	0.032	0.040	0.080	0.160	0.320	6297	37.40
72	0.010	0.020	0.030	0.041	0.051	0.102	0.203	0.406	5773	38.30

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent EI x 10 ⁶ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.003	0.007	44333	6.85
18	<0.001	0.001	0.001	0.002	0.002	0.005	0.010	0.020	19703	11.68
24	0.001	0.002	0.003	0.004	0.005	0.011	0.022	0.043	11083	16.68
30	0.002	0.004	0.006	0.008	0.011	0.021	0.042	0.085	7093	20.78
36	0.004	0.007	0.011	0.014	0.018	0.036	0.072	0.144	4926	25.24
42	0.006	0.011	0.017	0.023	0.029	0.057	0.115	0.230	3619	29.42
48	0.009	0.018	0.026	0.035	0.044	0.088	0.176	0.352	2771	32.70
54	0.013	0.026	0.040	0.053	0.066	0.132	0.264	0.527	2189	35.00
60	0.019	0.039	0.058	0.077	0.097	0.194	0.387		1773	36.30
66	0.028	0.055	0.083	0.110	0.138	0.275	0.551		1466	37.40
72	0.038	0.076	0.114	0.152	0.190	0.381			1231	38.30

Properties Per Foot of Width	# of Bars	Load Bar Depth	Bar Centers	Weight/sq ft
A = 9.63 in ² I = 9.18 in ⁴ S = 6.12 in ³	8	3"	1.5"	8.40

Molded Phenolic Grating
USCG Approved
1.5" x 1.5" x 6" PH
Rectangular Grid
1.5" Thick / 55% Open



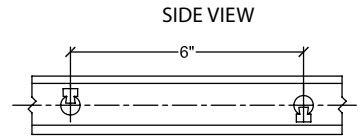
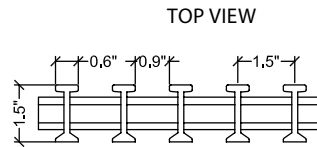
Bearing bars are on 1.5" centers running in the 12' direction.

Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent $EI \times 10^{16}$ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.003	0.004	0.005	0.006	0.013	0.026	0.052	3780	1.39
18	0.003	0.006	0.010	0.013	0.016	0.032	0.065	0.130	2520	1.87
24	0.007	0.014	0.020	0.027	0.034	0.068	0.135	0.270	1890	2.13
30	0.013	0.025	0.038	0.050	0.063	0.126	0.251	0.502	1512	2.24
36	0.021	0.043	0.064	0.085	0.107	0.213	0.427		1260	2.28
42	0.033	0.066	0.100	0.133	0.166	0.332	0.664		1180	2.32
44	0.038	0.076	0.114	0.152	0.189	0.379			1031	2.34
48	0.049	0.098	0.146	0.195	0.244	0.488			945	2.36
54	0.069	0.137	0.206	0.275	0.343	0.687			840	2.39

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent $EI \times 10^{16}$ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	<0.001	0.002	0.002	0.003	0.004	0.008	0.016	0.032	7560	1.39
18	0.003	0.006	0.009	0.012	0.015	0.030	0.061	0.122	3360	1.87
24	0.008	0.017	0.025	0.034	0.042	0.085	0.169	0.338	1890	2.13
30	0.020	0.039	0.059	0.078	0.098	0.196	0.392		1210	2.24
36	0.040	0.080	0.120	0.160	0.200	0.400			840	2.28
42	0.073	0.145	0.218	0.291	0.363				617	2.32
44	0.087	0.174	0.260	0.347	0.434				562	2.34
48	0.122	0.244	0.366	0.488	0.610				473	2.36
54	0.193	0.386	0.579						373	2.39

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
$A = 4.39 \text{ in}^2$ $I = 0.88 \text{ in}^4$ $S_t = 1.30 \text{ in}^3$ $S_b = 1.06 \text{ in}^3$	8	0.6"	1.5"	3.90

Pultruded Phenolic Grating
USCG Approved
I 15-60 PH
I Bearing Bar
1.5" Thick / 60% Open



Span (inches)	CONCENTRATED LOAD in lbs/ft of width								Max Load	Apparent $EI \times 10^{16}$ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.002	0.003	0.004	0.005	0.010	0.020	0.040	6222	1.8
18	0.002	0.005	0.007	0.009	0.012	0.023	0.047	0.093	4148	2.6
24	0.005	0.009	0.014	0.018	0.023	0.045	0.090	0.180	3111	3.2
30	0.008	0.015	0.023	0.031	0.038	0.077	0.154	0.307	2489	3.66
36	0.012	0.024	0.036	0.048	0.060	0.121	0.242	0.484	2074	4.02
42	0.018	0.036	0.054	0.072	0.090	0.180	0.361		1778	4.28
44	0.020	0.040	0.060	0.080	0.099	0.199	0.398		1697	4.46
48	0.026	0.051	0.077	0.102	0.128	0.256	0.512		1556	4.5
54	0.036	0.073	0.109	0.145	0.181	0.363			1383	4.52

Span (inches)	UNIFORM LOAD in lbs/ft ²								Max Load	Apparent $EI \times 10^{16}$ (lb-in ²)
	50	100	150	200	250	500	1000	2000		
12	0.001	0.001	0.002	0.002	0.003	0.006	0.012	0.025	15555	1.8
18	0.003	0.004	0.007	0.009	0.011	0.022	0.044	0.088	6057	2.6
24	0.006	0.011	0.017	0.022	0.028	0.056	0.112	0.225	3182	3.2
30	0.012	0.024	0.036	0.048	0.060	0.120	0.240	0.480	1992	3.66
36	0.023	0.045	0.068	0.091	0.113	0.227	0.453		1393	4.02
42	0.039	0.079	0.118	0.158	0.197	0.394			1014	4.28
44	0.046	0.091	0.137	0.182	0.228	0.456			927	4.46
48	0.064	0.128	0.192	0.256	0.320	0.640			778	4.5
54	0.102	0.204	0.306	0.408	0.510				615	4.52

Properties Per Foot of Width	# of Bars	Load Bar Width	Bar Centers	Weight/sq ft
$A = 3.11 \text{ in}^2$ $I = 0.88 \text{ in}^4$ $S = 1.17 \text{ in}^3$	8	0.6"	1.5"	3.06

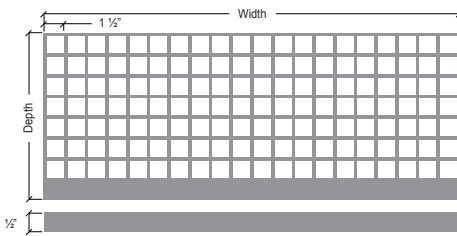


STAIR TREADS & STAIR TREAD COVERS



Molded Industrial Stair Tread

Marco Fiberglass 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.

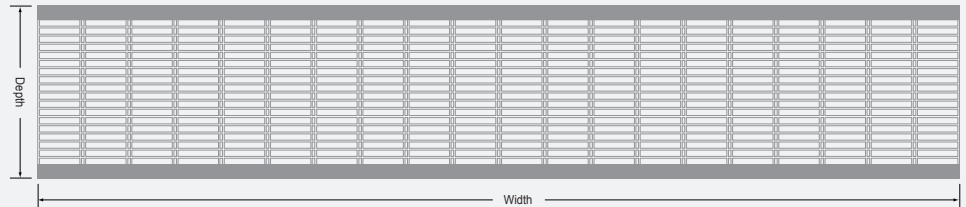


Rhinotred Panels

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

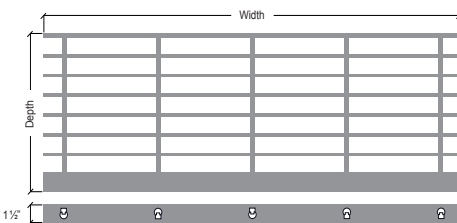


Cut your own stair tread from stair tread panels



Pultruded Industrial Stair Treads

Marco Fiberglass 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.



ACCESSORIES

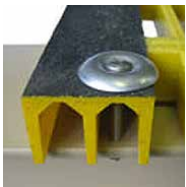
Clip Assemblies



Type M Hold Down Clips: Clamps two load bars to the support under the grating panel which provides excellent holding capability. Similar in design to metal grating saddle clips.



Type C End Panel Clips: Provide a simplified method for joining factory edges of adjacent abutting panels.



Type W Structural Clips: 1 1/2" diameter fastener used to hold down fiberglass grating plates and covered fiberglass gratings.



Type G Hold Down Clips: Attach grating to any structural member flange, 3/4" or smaller in thickness, with no drilling required.



Type L Hold Down Clips: Lighter duty clip should be specified to hold one fiberglass grating load bar to the support.



Type T Hold Down Clips: Offer the solution for below the pultruded fiberglass grating surface and should be specified in pairs as shown.



EZ Angle® Embedment Angle: EZ Angle® embedment angle is precision designed for solid seating of 1", 1-1/2", and 2" deep gratings. EZ Angle embedment angle is stocked in 20' lengths for immediate shipment.

Fiberglass Pedestals



Made with the same adherence to quality as all Marco Fiberglass 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 Marco grating.

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.

Sealing and Bonding Kits



To maintain corrosion resistance and structural integrity, Marco Fiberglass offers standard resin sealing in 1/2 pint and gallon kits for protecting the exposed ends of cut panels and other components. One 1/2 pint kit coats approximately 20-40 lineal feet. Sealing and bonding kits come in a natural, unpigmented color.



Handrails Systems

Handrails systems are offered in one of three system designs by Marco Fiberglass: Heavy Duty Handrail System, our Standard Duty Handrail System and our Light Duty Handrail System. All systems exceed OSHA requirements for handrail systems. While some provide much stronger resistance to loading conditions, all of Marco's handrail systems offer corrosion resistant and maintenance free service at a competitive price. Choose from one of these Marco handrail systems, depending upon the severity of the service environment.

All Marco Fiberglass Ladders are designed for ease of fabrication and installation, while offering the maximum in corrosion resistance. All systems exceed OSHA requirements for handrail systems.



Ladder Systems

Marco Fiberglass has engineered and offers two basic ladder systems. Our Standard Fiberglass Ladder offers the necessary rigidity and safety when structural stand-off supports are capable of being provided at regular and close intervals. However, in some cases, stand-off supports cannot be provided at regular intervals, thus requiring the ladder to span much longer distances. In order to comply with OSHA standards for ladder safety and design, Marco offers our Stiffened Ladder to meet these needs. All Ladders are designed for ease of fabrication and installation, while offering the maximum in corrosion resistance. Of course, all ladder systems are equipped with safety cages when required.



Structural Shapes

Marco Fiberglass offers a wide range of fiberglass structural shapes. These fiberglass shapes are offered in isophthalic polyester resins and vinyl ester resins, but can also be provided in acrylics and phenolics. Wide flanged beams, I-beams, angles, channels, square and round tubes, solid shapes, custom shapes, threaded rod, nuts, and other FRP products are provided as a complete and comprehensive alternative to conventional steel, wood and aluminum construction. Because Fiberglass structures are lightweight, electrically and thermally non-conductive, and corrosion resistant, they are fast becoming the construction material of choice in many applications.

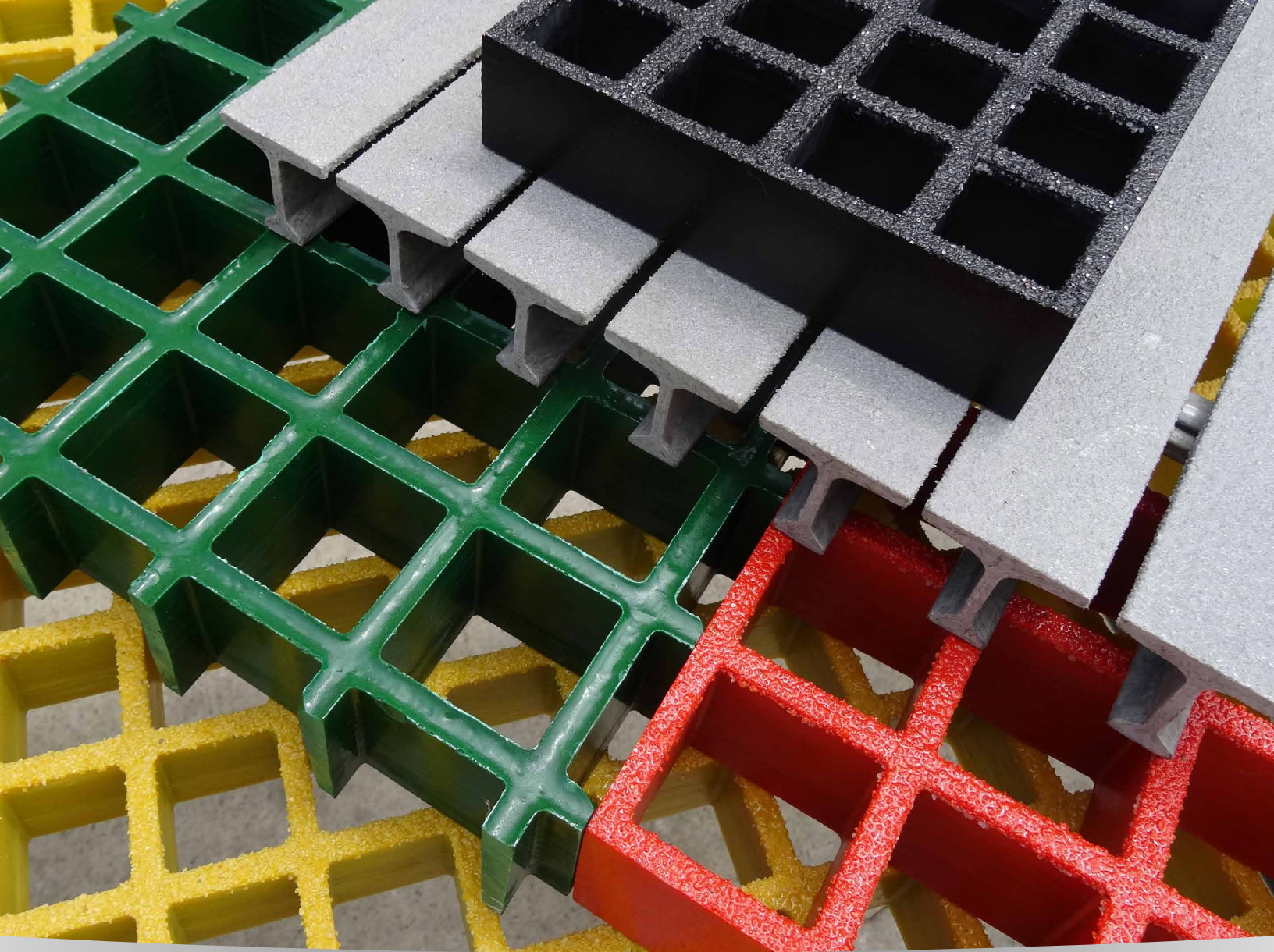


Chemical Resistance Guide

Chemical Environment	% Concentration	Temp °F	Molded Grating			Pultruded Grating	
			VFR	IFR	GP	VFR	IFR
Acetic Acid	25	MAX	C	C	S	C	C
Acetic Acid	50	MAX	C	C	S	C	C
Aluminum Hydroxide	ALL	MAX	C	C	C	C	C
Ammonium Chloride	ALL	120	C	C	C	C	C
Ammonium Bicarbonate	15	120	C	C	S	C	S
Ammonium Bicarbonate	50	120	C	C	S	S	I
Ammonium Hydroxide	20	80	S	N	N	I	N
Ammonium Sulfate	ALL	120	C	C	C	C	S
Benzene	100	150	I	I	N	I	N
Benzoic Acid (SAT)	SAT	MAX	C	C	S	C	C
Borax (SAT)	SAT	MAX	C	C	S	C	S
Calcium Carbonate	ALL	MAX	C	C	S	C	C
Calcium Nitrate	ALL	MAX	C	C	C	C	C
Carbon Tetrachloride	100	80	I	N	N	I	N
Chlorine, Dry Gas*	ALL	MAX	C	C	S	C	S
Chlorine Water (SAT)	SAT	120	C	I	N	I	N
Chromic Acid	50	150	I	N	N	I	N
Citric Acid	ALL	MAX	C	C	C	C	C
Copper Chloride	ALL	MAX	C	C	C	C	C
Copper Cyanide	ALL	140	C	S	I	S	I
Copper Nitrate	ALL	MAX	C	C	C	C	C
Ethanol	10	120	C	S	S	C	S
Ethanol	50	120	C	I	I	C	I
Ethylene Glycol	ALL	ISO	C	C	S	C	S
Ferric Chloride	100	MAX	C	C	C	C	C
Ferrous Chloride	ALL	MAX	C	C	C	C	C
Formaldehyde 0-50%	50	120	S	I	I	S	I
Gasoline	ALL	120	C	C	S	C	S
Glucose	ALL	120	C	C	C	C	C
Glycerin	100	MAX	C	C	S	C	S
Hydrobromic Acid	50	MAX	S	S	I	I	N
Hydrochloric Acid	10	MAX	C	S	S	S	S
Hydrochloric Acid	37	MAX	I	S	I	I	I
Hydrogen Peroxide	30	80	C	N	N	S	N
Lactic Acid	100	MAX	C	C	C	C	C
Lithium Chloride (SAT)	SAT	MAX	N	N	N	N	N
Magnesium Chloride	ALL	MAX	C	C	C	C	C
Magnesium Nitrate	ALL	MAX	C	C	C	C	C

Chemical Environment	% Concentration	Temp °F	Molded Grating			Pultruded Grating	
			VFR	IFR	GP	VFR	IFR
Magnesium Sulfate	ALL	MAX	C	C	C	C	C
Mercuric Chloride	ALL	MAX	C	C	C	C	C
Mercurous Chloride	ALL	MAX	C	C	S	C	S
Nickel Chloride	ALL	MAX	C	C	C	C	C
Nickel Sulfate	ALL	MAX	C	C	C	C	C
Nitric Acid	20	120	S	S	I	I	I
Oxalic Acid	ALL	150	C	C	S	C	S
Perchloric Acid	30	90	S	I	I	I	I
Phosphoric Acid	80	MAX	C	C	C	C	S
Potassium Chloride	ALL	MAX	C	C	C	C	C
Potassium Dichromate	ALL	MAX	C	C	C	C	C
Potassium Nitrate	ALL	MAX	C	C	C	C	C
Potassium Sulfate	ALL	MAX	C	C	C	C	C
Propylene Glycol	ALL	MAX	C	C	S	C	S
Sodium Acetate	ALL	MAX	C	C	C	C	C
Sodium Bisulfate	ALL	80	S	S	I	C	I
Sodium Bromide	ALL	80	C	C	C	C	C
Sodium Cyanide	ALL	80	C	I	I	S	I
Sodium Hydroxide	10	MAX	C	I	N	I	N
Sodium Hydroxide	50	MAX	S	N	N	N	N
Sodium Nitrate	ALL	MAX	C	C	C	C	C
Sodium Sulfate	ALL	MAX	C	C	C	C	C
Sulfuric Acid	10	MAX	C	S	S	C	S
Sulfuric Acid	25	MAX	C	S	S	S	I
Sulfuric Acid	75	100	C	I	I	I	N
Tartaric Acid	ALL	MAX	C	C	S	C	S
Vinegar	ALL	MAX	C	C	S	C	S
Water, Distilled	ALL	MAX	C	C	C	C	C
Zinc Nitrate	100	MAX	C	C	C	C	C
Zinc Sulfate	100	MAX	C	C	C	C	C

- C** = Continuous exposure of the grating to the chemical environment listed at the temperature listed.
- S** = Frequent exposure of the grating to splashes and spills from the chemical environment listed with that environment at the temperature listed.
- I** = Infrequent exposure of the grating to splashes and spills from the chemical environment listed with that environment at the temperature listed and the spill immediately cleaned up or washed from the grating.
- N** = Not recommended for the concentrations and temperatures listed.
- T** = Test MAX temperature is 185°F for molded VFR and pultruded VFR grating, 160°F for molded IFR and pultruded IFR grating, 150°F for molded GP grating.



MARCO

FIBERGLASS



Address

9140 Tavenor Lane
Houston, Texas 77075



Mailing

P.O. Box 750518
Houston, Texas 77275



Phone

713-649-5310
800-200-3047



Fax

713-649-5305



Website

www.marcofiberglass.com