






# Safe-T-Span® High Load Capacity Grating

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



H20 loads in all five depths. With a 47% and 58% open surface area, Safe-T-Span HI pultruded grating is available in 1", 1-1/2", 2", 2-1/2" and 3" depths. Standard panels consist of a fire retardant vinyl ester resin system, are dark gray in color, and have an aluminum oxide grit top surface. High Load Capacity pultruded grating has a flame spread rating of 25 or less (when tested in accordance with ASTM E-84) and a Class 1 Fire Rating. Each HI grating is specially engineered to meet specific requirements. Contact the Fibergate engineering team to determine which grating offers the best solution for your high load needs. (Applications with traffic perpendicular to trench or with turning wheel loads, contact Fibergate engineering for design assistance.)

## Allowable Spans for Vehicular Loads

	Wheel Load (lb) (1/2 Axle Load + 30% Impact)	Load Distribution		Allowable Span <sup>2,3</sup>					Load Distribution		Allowable Span <sup>2,3</sup>				
		Parallel to Axle (1)	Perpendicular to Axle	HI4710	HI4715	HI4720	HI4725	HI4730	Parallel to Axle (1)	Perpendicular to Axle	HI5810	HI5815	HI5820	HI5825	HI5830
 <b>AASHTO Standard Truck<sup>4</sup></b> 32,000 lb Axle Load Dual Wheels ( <i>*formerly AASHTO H-20</i> )	20,800	20" + 2-3/8"	8"	0'-9"	1'-2"	2'-1"	2'-5"	3'-2"	20" + 3"	8"	0'-8"	1'-0"	1'-9"	1'-11"	2'-7"
 <b>Automobile Traffic / 5,000 lb Vehicle</b> 1,500 lb Load / 55% Drive Axle Load	2,220	8" + 2-3/8"	8"	1'-4"	2'-4"	3'-11"	4'-9"	5'-10"	8" + 3"	8"	1'-2"	1'-11"	3'-3"	3'-11"	4'-10"
 <b>5 Ton Capacity Forklift / 14,400 lb Vehicle</b> 24,400 lb Total Load / 85% Drive Axle Load	13,480	11" + 2-3/8"	11"	0'-8"	1'-1"	1'-9"	2'-1"	2'-8"	11" + 3"	11"	0'-8"	0'-11"	1'-6"	1'-9"	2'-3"
 <b>3 Ton Capacity Forklift / 9,800 lb Vehicle</b> 15,800 lb Total Load / 85% Drive Axle Load	8,730	7" + 2-3/8"	7"	0'-8"	1'-1"	1'-9"	2'-1"	2'-8"	7" + 3"	7"	0'-7"	0'-10"	1'-6"	1'-8"	2'-2"
 <b>1 Ton Capacity Forklift / 4,200 lb Vehicle</b> 6,200 lb Total Load / 85% Drive Axle Load	3,425	4" + 2-3/8"	4"	0'-9"	1'-4"	2'-9"	3'-3"	4'-3"	4" + 3"	4"	0'-8"	1'-1"	2'-3"	2'-7"	3'-6"

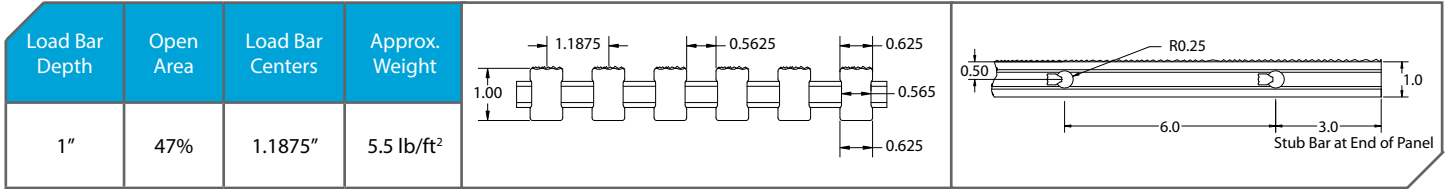
**NOTES:**

1. Load is carried by the grating load bars immediately under wheel + two additional load bars, one on each side of wheel.
2. Allowable Span is based on a 0.25" maximum deflection and a Factor of Safety of 3.0. Other criteria may be required by certain construction codes. Check code requirements to determine design criteria.
3. ALLOWABLE SPAN IS STRONGLY DEPENDENT ON WHEEL WIDTH AND VEHICLE WEIGHT/LOAD CAPACITY. If your application varies from the values given on this table, contact Fibergate Engineering for application assistance.
4. Load based on the AASHTO Standard Truck Load as defined in AASHTO LRFD Bridge Design Specifications, 2nd Ed. This does not imply that the allowable span meets the deflection requirements of this specification.

# High Load Capacity Grating Details

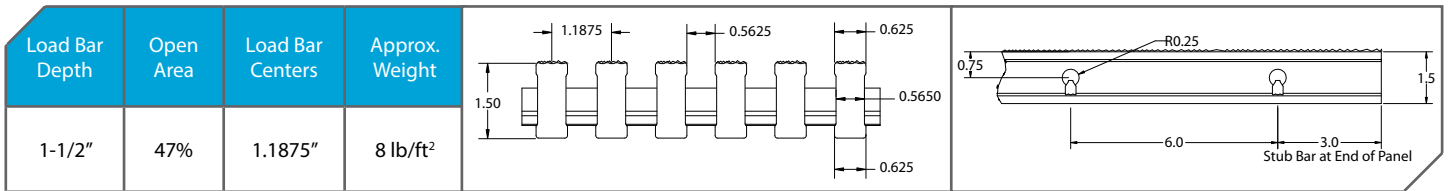
## Grating Details

### 1" Deep HI4710



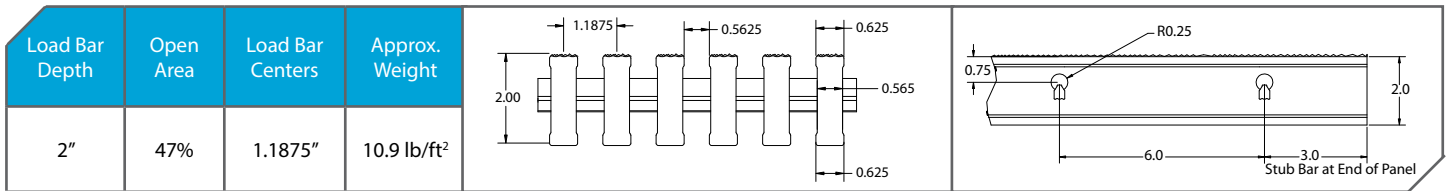
Section Properties per Ft of Width:  $A=5.96 \text{ IN}^2$   $I=0.51 \text{ IN}^4$   $S=1 \text{ IN}^3$

### 1-1/2" Deep HI4715



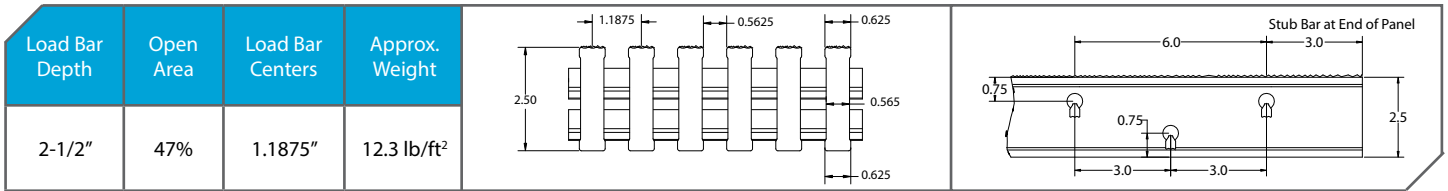
Section Properties per Ft of Width:  $A=8.79 \text{ IN}^2$   $I=1.72 \text{ IN}^4$   $S=2.26 \text{ IN}^3$

### 2" Deep HI4720



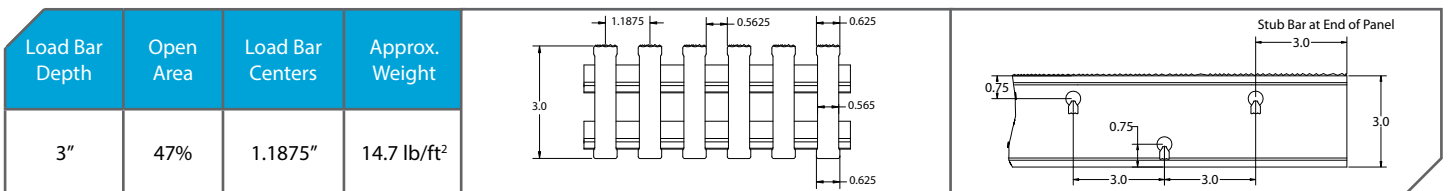
Section Properties per Ft of Width:  $A=11.64 \text{ IN}^2$   $I=3.96 \text{ IN}^4$   $S=3.96 \text{ IN}^3$

### 2-1/2" Deep HI4725



Section Properties per Ft of Width:  $A=14.5 \text{ IN}^2$   $I=7.96 \text{ IN}^4$   $S=6.15 \text{ IN}^3$

### 3" Deep HI4730



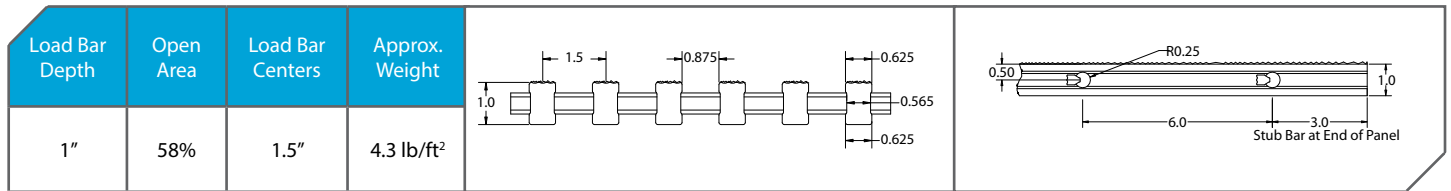
Section Properties per Ft of Width:  $A=17.34 \text{ IN}^2$   $I=13.22 \text{ IN}^4$   $S=8.81 \text{ IN}^3$

#### NOTES:

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

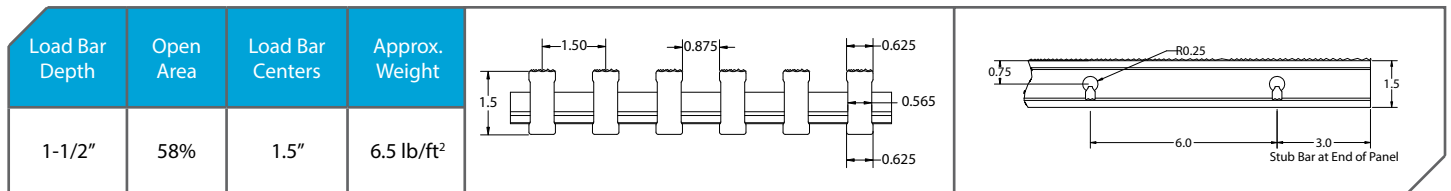
# High Load Capacity Grating Details

## 1" Deep HI5810



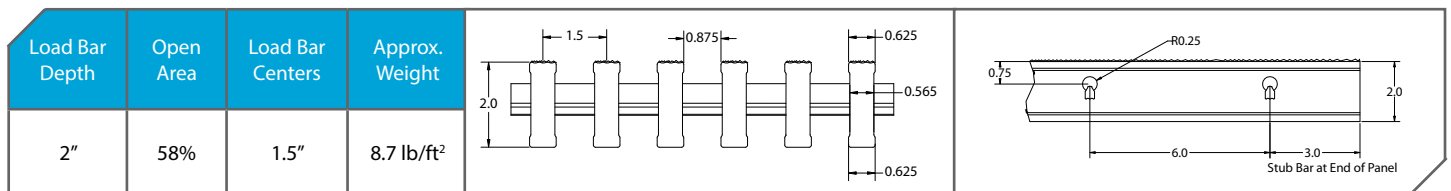
Section Properties per Ft of Width:  $A=4.72 \text{ IN}^2$   $I=0.4 \text{ IN}^4$   $S=0.78 \text{ IN}^3$

## 1-1/2" Deep HI5815



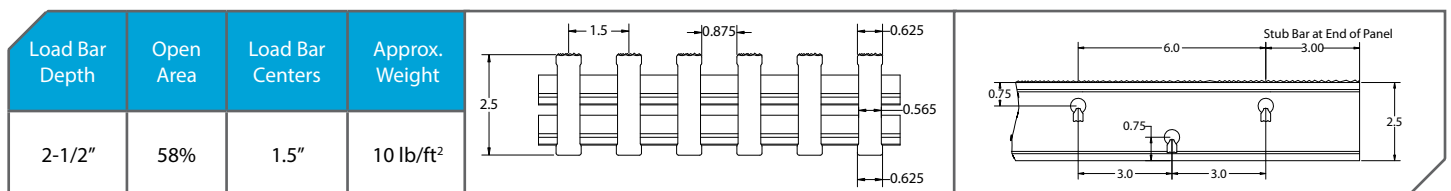
Section Properties per Ft of Width:  $A=6.96 \text{ IN}^2$   $I=1.36 \text{ IN}^4$   $S=1.79 \text{ IN}^3$

## 2" Deep HI5820



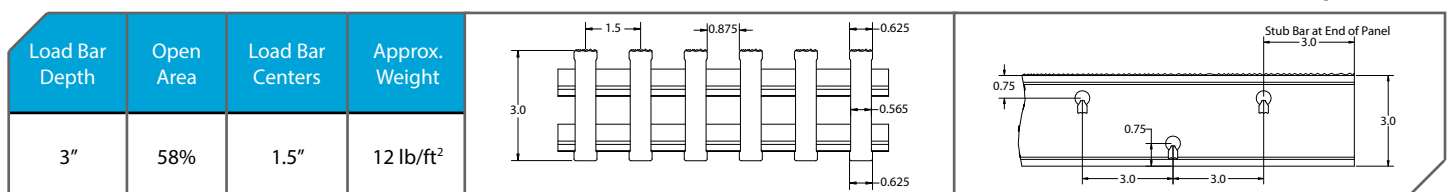
Section Properties per Ft of Width:  $A=9.2 \text{ IN}^2$   $I=3.12 \text{ IN}^4$   $S=3.12 \text{ IN}^3$

## 2-1/2" Deep HI5825



Section Properties per Ft of Width:  $A=11.5 \text{ IN}^2$   $I=6.09 \text{ IN}^4$   $S=4.87 \text{ IN}^3$

## 3" Deep HI5830



Section Properties per Ft of Width:  $A=13.73 \text{ IN}^2$   $I=10.46 \text{ IN}^4$   $S=6.98 \text{ IN}^3$



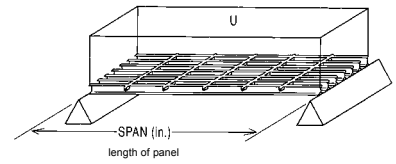
## HI Advantages

- High Strength
- Aluminum Oxide Grit Surface
- Slip Resistant
- Fire Retardant
- Non Conductive
- Low Maintenance
- Corrosion Resistant

## Applications

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

# HI47 Grating Uniform Load Chart



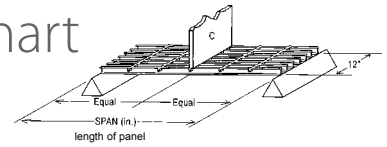
**HI47 PULTRUDED SERIES UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES**

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

**NOTES:**

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

# HI47 Grating Concentrated Line Load Chart



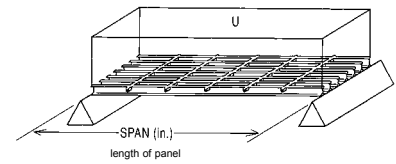
**HI47 PULTRUDED SERIES LINE LOAD TABLE - DEFLECTIONS IN INCHES**

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

**NOTES:**

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

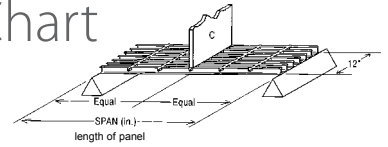
# HI58 Grating Uniform Load Chart



HI58 PULTRUDED SERIES UNIFORM LOAD TABLE - DEFLECTIONS IN INCHES													
CLEAR SPAN (in)	STYLE	UNIFORM LOAD (psf)										MAXIMUM RECOM. LOAD (psf)	ULTIMATE CAPACITY (psf)
		100	200	300	400	500	600	700	800	900	1000		
12	HI5810	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	9800	29500
	HI5815	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	18300	55100
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	47600	142800
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	48800	146600
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	62700	188100
18	HI5810	<0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.08	4700	14100
	HI5815	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	0.02	0.02	10100	30500
	HI5820	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	21700	65200
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	23500	70500
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29600	89000
24	HI5810	0.02	0.05	0.07	0.09	0.12	0.14	0.16	0.19	0.21	0.23	2800	8500
	HI5815	<0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06	6800	20500
	HI5820	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	12500	37600
	HI5825	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.01	0.02	23500	42600
	HI5830	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	29600	53100
30	HI5810	0.06	0.11	0.17	0.23	0.28	0.34	0.40	0.45	—	—	1800	5400
	HI5815	0.01	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12	0.14	4300	13100
	HI5820	<0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	8200	24700
	HI5825	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	9700	29200
	HI5830	<0.01	<0.01	<0.01	<0.01	0.01	0.01	0.02	0.02	0.02	0.02	11900	35900
36	HI5810	0.12	0.23	0.35	0.47	—	—	—	—	—	—	1200	3700
	HI5815	0.03	0.06	0.08	0.11	0.14	0.17	0.20	0.22	0.25	0.28	3000	9100
	HI5820	0.01	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	5800	17600
	HI5825	<0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	7200	21600
	HI5830	<0.01	<0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04	8700	26300
42	HI5810	0.22	0.44	—	—	—	—	—	—	—	—	900	2700
	HI5815	0.05	0.10	0.16	0.21	0.26	0.31	0.36	0.42	0.47	—	2200	6700
	HI5820	0.02	0.05	0.07	0.09	0.12	0.14	0.17	0.19	0.21	0.24	4300	12900
	HI5825	0.01	0.02	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.12	5400	16400
	HI5830	<0.01	0.02	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	6700	20300
48	HI5810	0.37	—	—	—	—	—	—	—	—	—	700	2100
	HI5815	0.09	0.18	0.27	0.36	0.44	—	—	—	—	—	1700	5100
	HI5820	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.32	0.36	0.40	3300	9900
	HI5825	0.02	0.04	0.06	0.08	0.10	0.13	0.15	0.17	0.19	0.21	4300	13000
	HI5830	0.01	0.02	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.12	5400	16300
52	HI5825	0.03	0.06	0.09	0.11	0.14	0.17	0.20	0.23	0.26	0.29	3700	11100
	HI5830	0.02	0.03	0.05	0.07	0.09	0.10	0.12	0.14	0.15	0.17	4700	14100
60	HI5825	0.05	0.10	0.15	0.20	0.25	0.31	0.36	0.41	0.46	—	2700	8300
	HI5830	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.30	3600	10800
66	HI5825	0.07	0.15	0.22	0.30	0.37	0.45	—	—	—	—	2300	6900
	HI5830	0.04	0.09	0.13	0.18	0.22	0.26	0.31	0.35	0.40	0.44	2900	8900
72	HI5825	0.11	0.21	0.32	0.42	—	—	—	—	—	—	1900	5700
	HI5830	0.06	0.12	0.19	0.25	0.31	0.37	0.44	0.50	—	—	2500	7500
84	HI5825	0.20	0.39	—	—	—	—	—	—	—	—	1400	4200
	HI5830	0.12	0.23	0.35	0.46	—	—	—	—	—	—	1800	5500
96	HI5825	0.33	—	—	—	—	—	—	—	—	—	1000	3200
	HI5830	0.20	0.39	—	—	—	—	—	—	—	—	1400	4200

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

# HI58 Grating Concentrated Line Load Chart



**HI58 PULTRUDED SERIES LINE LOAD TABLE - DEFLECTIONS IN INCHES**

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

**NOTES:**

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- Fibergate does not recommend this product for turning wheel loads. If these conditions are expected, contact Fibergate Engineering.
- Fibergate recommends a maximum deflection of 0.25" for this product under normal loading conditions. The use of L/500 may be required by certain construction codes. Check code requirements to determine design criteria.
- All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.