

GRP Grating Load & Span Tables

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Working load vs clear span for molded (bi-directional) and pultruded (I-bar / T-bar long-span) GRP grating. Every cell shows **Max Recommended / Ultimate**. Static, ambient-temperature conditions. Impact or dynamic loading: use 1/2 of tabulated values.

Design Criteria

Criterion	Value
Safety factor - molded	5:1 on Ultimate Capacity
Safety factor - pultruded	2:1
Safety factor - HLC wheel loads	2.5 (0.25 in max deflection)
Deflection - pedestrian walkway	Lesser of L/120 or 3/8 in
Deflection - pultruded comfort	Lesser of 3/8 in or L/125
Deflection - pultruded firmer	Lesser of 1/4 in or L/200
Typical live load (walking)	50-65 psf uniform; 250 lb concentrated
Dead load (integral cover)	Apply 0.5 multiplier to load values

Molded Grating - Uniform Load (psf)

Style (depth x mesh)	12 in	18 in	24 in	30 in	36 in	48 in	60 in
5/8 in 1x4 rect	1540/8130	680/3410	380/1920	380/1920	-	-	-
3/4 in 1x4 rect	1770/8880	600/3610	330/2030	330/2030	-	-	-
3/4 in 1-1/2 sq	1350/7720	780/2660	250/1500	250/1500	-	-	-
3/4 in Micro	-	440/3940	440/2220	440/2220	220/1100	-	-
1 in 1x4 rect	1420/7120	950/4750	530/2670	530/2670	110/870	-	-
1 in 1-1/2 sq	2140/10700	630/2290	350/1780	350/1780	170/580	-	-
1-1/2 in 1-1/2 sq	3200/19240	1420/7100	800/4000	800/4000	260/1700	200/1000	-
2 in 2 sq	3840/16000	1850/9280	1040/5220	1040/5220	340/1300	260/1300	160/830

Molded HLC - High Load Capacity (psf)

HLC Style	12 in	18 in	24 in	30 in	36 in	42 in
1-1/2 in HLC (1x2 rect)	28000/78000	12400/31000	6800/17000	4300/14500	3000/10000	2200/5500
2 in HLC (1x2 rect)	31200/70000	14500/36200	9000/22500	5800/10700	4000/7500	2900/7200

ZeAllgrate Molded (Metric) - Recommended Max Load (kg/m2)

Thickness x Mesh	0.30m	0.46m	0.61m	0.76m	0.91m	1.07m	1.22m	1.37m	1.52m
25.4 mm / 38.1 sq	8788	3711	2002	1250	879	-	-	-	-
25.4 mm / 25.4x101.6	9570	4638	2607	1641	1152	-	-	-	-
38.1 mm / 38.1 sq	18163	9277	5810	3711	2392	1611	1074	771	-
38.1 mm / Mini-Mesh	18163	9277	5810	3711	2392	1611	1074	771	-
50.8 mm / 50.8 sq	20897	11718	7080	4394	2930	2148	1660	1269	1025

Pultruded Grating - Uniform Load (psf, Max Rec / Ultimate)

Profile	12in	18in	24in	30in	36in	42in	48in	54in	60in	66in	72in
I4010	5350/10700	3390/6780	2540/5080	2060/4120	1760/3520	1430/2860	1080/2160	850/1700	690/1380	570/1140	-
I6010	3570/7140	2260/4520	1690/3380	1370/2740	1180/2360	950/1900	720/1440	570/1140	460/920	-	-
I4015	11430/22860	7370/14740	4790/9580	4420/8840	3690/7380	2760/5520	2110/4220	1670/3340	1350/2700	1120/2240	940/1880
I6015	7620/15240	4910/9820	3190/6380	2950/5900	2460/4920	1840/3680	1410/2820	1110/2220	900/1800	740/1480	630/1260
T3320	10080/20160	6720/13440	3960/7920	3460/6920	2880/5760	2470/4940	2160/4320	1680/3360	1360/2720	1120/2240	950/1900
T5020	7560/15120	5040/10080	2970/5940	2590/5180	2160/4320	1850/3700	1620/3240	1280/2560	1040/2080	860/1720	720/1440

Molded vs Pultruded - Selection Guidance

Criterion	Molded	Pultruded	Note
Corrosion resistance	HR	HR/R	All systems rated HR/R
Bi-directional span	HR	NR	Molded square mesh carries load both ways
Single-direction span	A	R	Pultruded bearing bars along the span
Ease of installation	A	HR	Pultruded panels cut and clip faster
Custom panel sizes	R	NR	Molded molds to near-custom dimensions

Support spacing: set bearers to the working-load span for your panel thickness; never bridge beyond the rated unsupported span. Fixed with SS304/SS316 clips at every intersection.

Data per ZeAllgrate published technical tables (izeall.com). Working guide - confirm with engineering before specification.