Pultruded FRP Grating

Product Catalogue & Load Data

FRP Grating Master · glass-fibre reinforced polymer (FRP/GRP) pultruded grating, structural profiles and accessories for industrial walkways, platforms, stair treads and trench covers.

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All load figures in this catalogue are transcribed from our published engineering tables. They are reference data for selection, not a warranty. Final selection must be checked against the deflection limit for your application (typically L/120 or L/180; L/150 for stair treads).

1. Product range

Pultruded grating is made from continuous glass-fibre rovings pulled through a resin bath and cured in a heated die, giving a constant cross-section with high unidirectional strength along the load-bearing bars. It is used where spans are long, loads are heavy, or where a molded panel would deflect too much.

Depths and open areas

Nominal depth	Actual depth	Bar types available	Typical open area
1 in	25 mm	I-bar, T-bar, square mesh	33% – 65%
1-1/2 in	38 mm	I-bar, square mesh	40% – 65%
2 in	51 mm	I-bar, T-bar, square mesh	33% – 60%
2-1/2 in	63 mm	I-bar	47% – 58%
3 in	76 mm	I-bar	47% – 58%

Resin systems

Resin code	Base	Corrosion resistance	Fire retardant	Standard colour	Max service temp.
VE-FR	Vinyl ester	Excellent	Yes	Orange / dark grey	82 °C
ISO-FR	Isophthalic polyester	Very good	Yes	Green / dark grey	65 °C
ORTHO-FR	Orthophthalic polyester	Moderate	Yes	Yellow / dark grey	65 °C
PHENOLIC	Phenolic	Very good	Low smoke, superior	Brown	150 °C

Panels are supplied with a smooth or gritted top surface. Standard panel sizes and custom cut-to-size fabrication are available; edge banding is not required for structural reasons on pultruded grating but is recommended where personnel may contact the panel edge.

2. Concentrated line load data

Loads are expressed per unit width of panel (lbs/ft of width, with the equivalent in kN/m of width). **Maximum recommended load** is the working load for pedestrian and industrial duty; **ultimate capacity** is the short-term structural limit and is not a working load. Values are for a single clear span with uniformly distributed load along the span; multiple spans, concentrated point loads and cantilevers require separate checking.

Conversion used throughout: kN/m = lbs/ft × 0.00444822 / 0.3048.

Bar type group: 47% open area

47% open · 25 mm · I-bar — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	6200	90.5	18600	271.4
18	457	4400	64.2	13300	194.1
24	610	3500	51.1	10700	156.2
30	762	2800	40.9	8500	124.0
36	914	2300	33.6	7100	103.6
42	1067	2000	29.2	6100	89.0
48	1219	1700	24.8	5300	77.3

47% open · 38 mm · I-bar — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	11600	169.3	34800	507.9
18	457	9600	140.1	28900	421.8
24	610	8600	125.5	26000	379.4
30	762	6900	100.7	20800	303.6
36	914	5700	83.2	17300	252.5
42	1067	4900	71.5	14800	216.0
48	1219	4300	62.8	13000	189.7

47% open · 51 mm · I-bar — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	30000	437.8	90100	1314.9
18	457	20600	300.6	61800	901.9
24	610	15800	230.6	47600	694.7
30	762	13000	189.7	39000	569.2
36	914	11100	162.0	33400	487.4
42	1067	9500	138.6	28600	417.4
48	1219	8300	121.1	25000	364.8

47% open · 64 mm · I-bar — nominal depth 64 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	30800	449.5	92500	1349.9
18	457	22200	324.0	66800	974.9
24	610	17900	261.2	53900	786.6
30	762	15300	223.3	46100	672.8
36	914	13600	198.5	41000	598.4

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
42	1067	12100	176.6	36400	531.2
48	1219	10900	159.1	32900	480.1
52	1321	10100	147.4	30400	443.7
60	1524	8700	127.0	26300	383.8
66	1676	7900	115.3	23900	348.8
72	1829	7300	106.5	21900	319.6
84	2134	6200	90.5	18800	274.4
96	2438	5400	78.8	16400	239.3

47% open · 76 mm · I-bar — nominal depth 76 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	39600	577.9	118800	1733.8
18	457	28100	410.1	84300	1230.3
24	610	22300	325.4	67000	977.8
30	762	18900	275.8	56700	827.5
36	914	16600	242.3	49800	726.8
42	1067	14900	217.4	44900	655.3
48	1219	13700	199.9	41200	601.3
52	1321	12900	188.3	38700	564.8
60	1524	11400	166.4	34200	499.1
66	1676	10300	150.3	31100	453.9
72	1829	9500	138.6	28500	415.9
84	2134	8100	118.2	24400	356.1
96	2438	7100	103.6	21300	310.9

Bar type group: 58% open area

58% open · 25 mm · I-bar — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	4900	71.5	14700	214.5
18	457	3500	51.1	10600	154.7
24	610	2800	40.9	8500	124.0
30	762	2200	32.1	6800	99.2
36	914	1800	26.3	5600	81.7
42	1067	1600	23.4	4800	70.1
48	1219	1400	20.4	4200	61.3

58% open · 38 mm · I-bar — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	9100	132.8	27500	401.3
18	457	7600	110.9	22900	334.2
24	610	6800	99.2	20500	299.2
30	762	5400	78.8	16400	239.3
36	914	4500	65.7	13700	199.9
42	1067	3900	56.9	11700	170.7
48	1219	3400	49.6	10200	148.9

58% open · 51 mm · I-bar — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	23800	347.3	71400	1042.0
18	457	16300	237.9	48900	713.6
24	610	12500	182.4	37600	548.7
30	762	10300	150.3	30900	451.0
36	914	8800	128.4	26400	385.3
42	1067	7500	109.5	22600	329.8
48	1219	6600	96.3	19800	289.0

58% open · 64 mm · I-bar — nominal depth 64 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	24400	356.1	73300	1069.7
18	457	17600	256.9	52900	772.0
24	610	14200	207.2	42600	621.7
30	762	12100	176.6	36500	532.7
36	914	10800	157.6	32400	472.8
42	1067	9600	140.1	28800	420.3
48	1219	8600	125.5	26000	379.4
52	1321	8000	116.8	24000	350.3
60	1524	6900	100.7	20800	303.6
66	1676	6300	91.9	18900	275.8
72	1829	5700	83.2	17300	252.5
84	2134	4900	71.5	14900	217.4
96	2438	4300	62.8	13000	189.7

58% open · 76 mm · I-bar — nominal depth 76 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	31300	456.8	94000	1371.8
18	457	22200	324.0	66700	973.4
24	610	17700	258.3	53100	774.9
30	762	14900	217.4	44900	655.3
36	914	13100	191.2	39400	575.0
42	1067	11800	172.2	35500	518.1
48	1219	10800	157.6	32600	475.8
52	1321	10200	148.9	30600	446.6
60	1524	9000	131.3	27100	395.5
66	1676	8200	119.7	24600	359.0
72	1829	7500	109.5	22500	328.4
84	2134	6400	93.4	19300	281.7
96	2438	5600	81.7	16900	246.6

Bar type group: I-bar 60% open

60% open · 25 mm · I-bar — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	3570	52.1	7140	104.2
18	457	3390	49.5	6780	98.9
24	610	2840	41.4	5680	82.9
30	762	2300	33.6	4600	67.1
36	914	1970	28.8	3940	57.5
42	1067	1670	24.4	3340	48.7
48	1219	1440	21.0	2880	42.0
54	1372	1280	18.7	2560	37.4
60	1524	1150	16.8	2300	33.6
66	1676	1050	15.3	2100	30.6
72	1829	960	14.0	1920	28.0

60% open · 38 mm · I-bar — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	7620	111.2	15240	222.4
18	457	7370	107.6	14740	215.1
24	610	4880	71.2	9760	142.4
30	762	4500	65.7	9000	131.3
36	914	3750	54.7	7500	109.5
42	1067	3220	47.0	6440	94.0
48	1219	2810	41.0	5620	82.0
54	1372	2500	36.5	5000	73.0
60	1524	2250	32.8	4500	65.7
66	1676	2050	29.9	4100	59.8
72	1829	1880	27.4	3760	54.9

Bar type group: T-bar 50% open

50% open · 51 mm · T-bar — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	7560	110.3	15120	220.7
18	457	7560	110.3	15120	220.7
24	610	5940	86.7	11880	173.4
30	762	5200	75.9	10400	151.8
36	914	4320	63.0	8640	126.1
42	1067	3710	54.1	7420	108.3
48	1219	3250	47.4	6500	94.9
54	1372	2890	42.2	5780	84.4
60	1524	2600	37.9	5200	75.9
66	1676	2360	34.4	4720	68.9
72	1829	2170	31.7	4340	63.3

Bar type group: I-bar 40% open

40% open · 25 mm · I-bar — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	5350	78.1	10700	156.2
18	457	5080	74.1	10160	148.3
24	610	4260	62.2	8520	124.3
30	762	3450	50.3	6900	100.7
36	914	2950	43.1	5900	86.1
42	1067	2500	36.5	5000	73.0
48	1219	2160	31.5	4320	63.0
54	1372	1920	28.0	3840	56.0
60	1524	1730	25.2	3460	50.5
66	1676	1570	22.9	3140	45.8
72	1829	1440	21.0	2880	42.0

40% open · 38 mm · I-bar — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	11430	166.8	22860	333.6
18	457	11060	161.4	22120	322.8
24	610	7310	106.7	14620	213.4
30	762	6750	98.5	13500	197.0
36	914	5630	82.2	11260	164.3
42	1067	4820	70.3	9640	140.7
48	1219	4220	61.6	8440	123.2
54	1372	3750	54.7	7500	109.5
60	1524	3380	49.3	6760	98.7
66	1676	3070	44.8	6140	89.6
72	1829	2810	41.0	5620	82.0

Bar type group: T-bar 33% open

33% open · 51 mm · T-bar — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	10080	147.1	20160	294.2
18	457	10080	147.1	20160	294.2
24	610	7920	115.6	15840	231.2
30	762	6930	101.1	13860	202.3
36	914	5760	84.1	11520	168.1
42	1067	4950	72.2	9900	144.5
48	1219	4330	63.2	8660	126.4
54	1372	3780	55.2	7560	110.3
60	1524	3400	49.6	6800	99.2
66	1676	3090	45.1	6180	90.2
72	1829	2830	41.3	5660	82.6

Bar type group: 2" x 2"

2" x 2" mesh · 25 mm deep — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	620	9.0	—	—
18	457	395	5.8	—	—
24	610	265	3.9	—	—
30	762	200	2.9	—	—
36	914	140	2.0	—	—

2" x 2" mesh · 51 mm deep — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	2140	31.2	—	—
18	457	1800	26.3	—	—
24	610	1450	21.2	—	—
30	762	1130	16.5	—	—
36	914	910	13.3	—	—
42	1067	780	11.4	—	—
48	1219	680	9.9	—	—
54	1372	600	8.8	—	—
60	1524	530	7.7	—	—

Bar type group: 1-1/2" x 1-1/2"

1-1/2" x 1-1/2" mesh · 25 mm deep — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	900	13.1	—	—
18	457	570	8.3	—	—
24	610	410	6.0	—	—
30	762	320	4.7	—	—
36	914	270	3.9	—	—
42	1067	220	3.2	—	—

1-1/2" x 1-1/2" mesh · 38 mm deep — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	1860	27.1	—	—
18	457	1425	20.8	—	—
24	610	1190	17.4	—	—
30	762	950	13.9	—	—
36	914	740	10.8	—	—
42	1067	590	8.6	—	—
48	1219	440	6.4	—	—
54	1372	354	5.2	—	—

Bar type group: 1" x 4"

1" x 4" mesh · 25 mm deep — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	980	14.3	—	—
18	457	712	10.4	—	—

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
24	610	534	7.8	—	—
30	762	420	6.1	—	—
36	914	356	5.2	—	—
42	1067	304	4.4	—	—

Bar type group: 3/4" x 4"

3/4" x 4" mesh · 25 mm deep — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	1330	19.4	—	—
18	457	800	11.7	—	—
24	610	600	8.8	—	—
30	762	485	7.1	—	—
36	914	370	5.4	—	—
42	1067	315	4.6	—	—

Bar type group: 3/4" x 3/4"

3/4" x 3/4" mesh · 38 mm deep — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	1860	27.1	—	—
18	457	1425	20.8	—	—
24	610	1190	17.4	—	—
30	762	950	13.9	—	—
36	914	740	10.8	—	—
42	1067	590	8.6	—	—
48	1219	440	6.4	—	—
54	1372	354	5.2	—	—

Bar type group: I-bar 65% open

65% open · 25 mm · I-bar — nominal depth 25 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	4561	66.6	—	—
18	457	3259	47.6	—	—
24	610	2544	37.1	—	—
30	762	2035	29.7	—	—
36	914	1696	24.8	—	—
42	1067	1447	21.1	—	—
48	1219	1260	18.4	—	—
54	1372	1117	16.3	—	—

65% open · 38 mm · I-bar — nominal depth 38 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	7719	112.7	—	—
18	457	5146	75.1	—	—

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
24	610	3860	56.3	—	—
30	762	3041	44.4	—	—
36	914	2495	36.4	—	—
42	1067	2088	30.5	—	—
48	1219	1784	26.0	—	—
54	1372	1533	22.4	—	—
60	1524	1333	19.5	—	—
66	1676	1170	17.1	—	—

Bar type group: T-bar 58% open

58% open · 51 mm · T-bar — nominal depth 51 mm

Span (in)	Span (mm)	Max recommended load (lbs/ft)	= kN/m	Ultimate capacity (lbs/ft)	= kN/m
12	305	4722	68.9	—	—
18	457	4722	68.9	—	—
24	610	4722	68.9	—	—
30	762	3778	55.1	—	—
36	914	3148	45.9	—	—
42	1067	2698	39.4	—	—
48	1219	2361	34.5	—	—
54	1372	2099	30.6	—	—
60	1524	1889	27.6	—	—
66	1676	1717	25.1	—	—
72	1829	1574	23.0	—	—
78	1981	1453	21.2	—	—

3. Selection and installation notes

• Determine the clear span between supports first. Pultruded grating carries load along the direction of the load-bearing bars; panels must be laid with the bars spanning the gap, not parallel to it.

• Check deflection, not only strength. Working load deflection is normally limited to L/120 for walkways and L/180 where stricter serviceability is required; stair treads are usually limited to L/150.

• For multiple spans the deflection reduces substantially; for cantilevers keep the overhang short and hold the panel down on at least two supports with a minimum of three clips at each interior support.

• Hold-down clips: a minimum of two clips per support beam at a maximum spacing of 1.2 m on centre, and no fewer than four clips per panel. Abutting panel edges should be supported by a structural member or joined with abutment clips at a maximum of 600 mm on centre.

• Cut-outs for pipe penetrations are acceptable within the panel if the removed width does not exceed one third of the panel width; larger openings need additional support framing.

• Pultruded grating cannot be welded. Where field modification is needed, use fasteners and structural profiles rather than welding; cut edges should be sealed to limit moisture ingress into the resin.

• Fasteners in stainless steel are recommended for chemical and marine service; standard carbon steel fasteners will corrode even though the grating itself does not.

4. Limits of this document

This catalogue reproduces published table values only. It makes no statement about price, delivery time, third-party approvals or comparative performance of other manufacturers' products. Where a project requires certified load testing, custom sizing, or a deflection calculation for a specific combination of span, load and bar type, contact our engineering team with the span, the design load and the required deflection limit.

Reference data, not a warranty. Values transcribed from our engineering tables; verify before ordering.