

FRP Grating - Specifications and Load Data

Molded and pultruded fiberglass grating: mesh, weight, panel sizes, resin systems and load/deflection tables.

5 sections - 7 tables - 31 data points | GT-FRP-SPEC | Rev 1.0

Important - read first

This document is provided for selection guidance only. Values are nominal and subject to manufacturing tolerance. Chemical resistance and load data depend on the exact medium, concentration, temperature and support conditions of your application. Confirm the final specification with us before ordering.

This document covers the molded and pultruded FRP grating we supply. Use it to select a mesh and a resin system, and to read the deflection at your support span.

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1 . Molded grating - mesh and panel data

Bar thickness is given as top / bottom. Open area affects drainage and ventilation; weight affects the support structure you need.

Molded grating meshes

Mesh	Bar thickness top / bottom (mm)	Open area	Weight (kg/m²)	Panel sizes (mm)
19*19H30	6.5 / 5.0	40%	19.1	1220 x 4000, 1220 x 3660, 1220 x 2440, 915 x 3050
38*38H30	6.0 / 5.0	68%	14.6	1524 x 4000, 1220 x 4000, 1220 x 3660, 1220 x 2440, 915 x 3050
50*50H50	8.0 / 6.0	78%	23.7	1800 x 4000, 1524 x 4000, 1220 x 3660, 1220 x 2440, 915 x 3050
38*152H38	8.0 / 6.0	67%	15.92	1220 x 3660, 1220 x 2440, 915 x 3050
38*38H50	11 / 9.0	56%	42	1220 x 4000, 1220 x 3660, 1220 x 2440, 915 x 3050
25*152H38	7.0 / 5.0	62%	23.1	565 x 3050 (stair tread panel)

2 . Pultruded grating - series data

Pultruded grating carries load along one axis only. Plan the bearing bar direction before ordering.

Pultruded grating series

Series	Load bar depth (mm)	Open area	Weight (kg/m²)	Panel sizes (mm)
I-4010	25	50%	17.8	1220 or 915 wide x 3050 or 6100 long

Series	Load bar depth (mm)	Open area	Weight (kg/m ²)	Panel sizes (mm)
T-1210	25	12%	14.5	1220 or 915 wide x 3050 or 6100 long
T-1215	38	12%	19.6	1220 or 915 wide x 3050 or 6100 long
T-5020	50	50%	15.66	1220 or 915 wide x 3050 or 6100 long

3 . Resin systems, flame class and oxygen index

The number in a system code is the ASTM E84 flame spread index: a lower figure means the material spreads flame less, and 25 or less is the threshold normally specified as Class 1. Oxygen index is a separate measure of ignitability. Choose the resin by the chemical environment first; the chemical resistance document gives the data medium by medium.

Resin systems

Our code	Base resin	ASTM E84 flame spread	Oxygen index	Specified for
VEFR-25	Vinyl ester	25 max	28 min	Severe acids and alkalis; heavy-duty chemical service
VEFR-10	Vinyl epoxy resin	10 max	35 min	As VEFR-25 where flame resistance also matters
IFR-25	Isophthalic polyester	25 max	28 min	General industrial service, moderate chemical duty
IFGR-30	Isophthalic polyester, food grade formulation	30 max	26	Food processing areas
OFR-25	Orthophthalic polyester	25 max	28 min	Water, sea water and neutral salts
OFR	Orthophthalic polyester	not rated	-	Non flame-retardant applications
MP-5	Phenolic	5 max	typically 80	Maximum flame resistance and low smoke

Resin chemistry, not the brand, determines chemical resistance. Our formulation is our own: the base resin is one component, and supplier details are not published.

4 . Load and deflection data

Deflection is given in millimetres for the stated span and load. The limit load column is the failure threshold and must not be used as a working load.

19x19H30 - linear load, deflection (mm)

Span (mm)	75 kg/m	150 kg/m	300 kg/m	450 kg/m	750 kg/m	1500 kg/m	Limit load (kg/m)
300	<0.25	<0.25	0.25	0.51	0.76	1.52	9923
450	0.25	0.51	1.02	1.52	2.54	3.92	4827
600	0.51	1.27	2.29	3.56	5.84	7.38	4112
750	1.27	2.54	4.83	7.37	12.4	16.0	3174
900	2.27	4.54	9.08	13.6	18.7	22.1	2637

19x19H30 - uniform load, deflection (mm)

Span (mm)	350 kg/m ²	500 kg/m ²	750 kg/m ²	1000 kg/m ²	1500 kg/m ²	2500 kg/m ²
300	0.29	0.48	0.57	0.75	1.15	1.82
450	0.78	1.19	1.81	2.47	3.54	4.95
600	1.76	2.66	4.28	5.56	8.41	13.2
750	3.48	5.12	8.21	11.0	16.4	—

Span (mm)	350 kg/m ²	500 kg/m ²	750 kg/m ²	1000 kg/m ²	1500 kg/m ²	2500 kg/m ²
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50x50H50 - limit load, linear (kg/m)

50*50H50 limit load	300 mm	600 mm	900 mm	1200 mm
Linear (kg/m)	21727	11713	7780	5834

38x152H38 - limit load, linear and uniform

38*152H38 limit load	300 mm	450 mm	600 mm	750 mm	900 mm	1050 mm	1200 mm
Linear (kg/m)	12628	9946	8233	7040	6146	5439	5141
Uniform (kg/m ²)	41358	26962	21716	18446	13420	10180	8418

5 . How to use these tables

- Choose the mesh by open area and weight: a larger mesh drains and ventilates better, a smaller mesh carries more load and stops small objects falling through.
- Choose the resin system by the chemical environment, not by price. See the oxygen index table above.
- Read the deflection table at your actual support span. A common working limit is L/100 for walkways and L/200 where a stiffer feel is required.
- Treat the limit load as a safety reference only. Design working loads well below it.
- Confirm the panel size against your opening before ordering; panels can be cut to size on request.