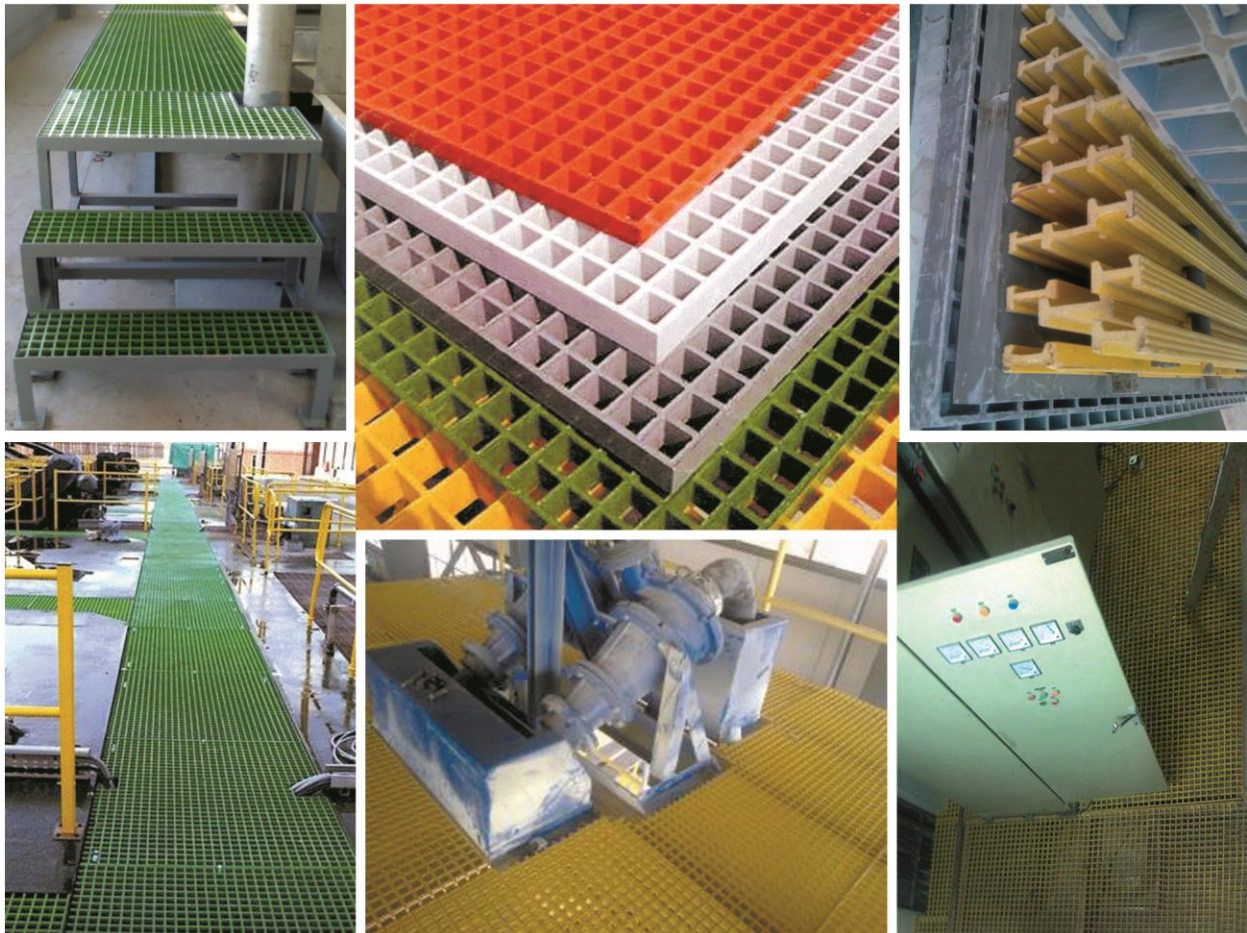


SPECIFICATIONS OF MOLDED GRATINGS



MOLDED GRATING PROCESS

Molded grating is manufactured in an open, heated mold that resembles a large waffle iron. Continuous reinforcements are placed in the mold in alternating layers and thoroughly wetted out with resin. This continuous process produces an integral, one-piece construction, which offers excellent corrosion resistance as well as bi-directional strength.

When the weaving process is completed, the mold is heated to cure the panel. If the grating is to have embedded grit, the mold will receive the grit at this time before the part is cured.

After curing, the part is extracted from the mold. The standard part would have a meniscus (concave) top surface for slip resistance. Should a standard grit surface be specified, the grit would be bonded to the top of the completed grating panel as a secondary operation.

MOLDED GRATING

Liquid resin and continuous fiberglass roving are systematically laid in the mold, layer after layer manually, to produce the desired thickness and panel dimensions. The finished molds are set aside for a predetermined time to allow the panel to cure. The panel is then ejected from the mold. The molds are cleaned and prepared for the process to begin again.



The one piece interwoven square mesh construction of molded grating produces two primary benefits: maximum corrosion resistance and high strength.

Because the grating is "cast" in one piece, there is no mechanical joint between bearing bars. The high percentage of resin in molded grating offers superior corrosion resistance. The molded grating with a square mesh pattern offers increased load capacity and panel utilization due to this bi-directional trait.



Cutting access holes in the molded grating does not weaken the panel and does not require additional or costly supports.

APPLICATIONS OF MOLDED GRATING



Applications

- Flooring
- Platform
- Walkways
- Assembly Lines
- Trench Covers
- Stairs
- Catwalks
- Ramps
- Greenhouse Shelving
- Pool Drainage
- Portable Building Floors

Markets

- Chemical
- Electronics
- Marine (including military vessels)
- Oil & Gas
- Petroleum Processing
- Plating
- Pulp and Paper
- Water/Wastewater
- Zoos/Aquariums
- Recreational Facilities
- Manufacturing

Benefits and Characteristics of FRP Molded Grating

- Non-Slip
- Corrosion Resistance
- Fire Resistance
- Non-Magnetic
- Impact Resistance
- Non-sparking
- Maintenance Free
- Light Weight
- Raised Floors
- Standard Bearing Surfaces
- Design
- Cost Savings
- Non-conductive
- Low Installation Costs
- High Strength-to-Weight Ratio
- Conductive Grating
- High Performance
- Ergonomic

DESCRIPTION

NON-SLIP

Composite Grating's integral grit top surface provides outstanding anti-slip protection for personnel in wet and oily environments. The grit is embedded in the top surface of each panel prior to curing. This combination of integral construction, plus depth of the embedded grit, creates a long-lasting maximum anti-slip top surface.

CORROSION RESISTANCE

Over a wide PH range (both acidic and caustic) is achieved by use of a premium grade resin system. FRP grating will outperform metallic grating when exposed to continuous submersion, splashing, spills, fumes or gases. Corrosion is a major problem for metal grating, stair treads and other products in many different industries such as chemical plants, food and beverage factories, water and wastewater facilities, power facilities. Molded grating are particularly designed to provide safe, long lasting and economical and worry-free solutions environments where chemicals and other corrosive materials attack and destroy metal.

FIRE RESISTANCE

Composite Grating is available in various resin systems, two of which meet the Class 1 flame spread rating of 25 or less, in accordance with ASTM E-84 Tunnel Test Method. If a flame spread of 10 or less is required, it will be available in request.

NON-MAGNETIC

The non-magnetic properties allow the Composite grating to be used in sensitive installations where the inherent magnetic properties of metallic grating would prove unsuitable.

IMPACT RESISTANCE

The impact resistance of Composite Grating allows repeated deflection without permanent deformation. A certain amount of deflection can occur with loading. However, once the load is removed, the grating will return to its original shape, unlike metallic grating, which will remain deformed and require costly repairs or replacement.

NON-SPARKING

The non sparking qualities of Composite Grating systems are ideally suited for those installations where hydrogen or other combustible gases may be found and which may explode or cause a fire from sparks produced from accidental dropping of tools onto the grating.

MAINTENANCE FREE

The use of Composite Grating virtually eliminates maintenance costs since painting is not required, and UV inhibitors protect against degradation from the sun.

LIGHTWEIGHT

Composite Grating weighs about one-quarter as much as steel grating. Two men can easily handle full panels, without the need for hoists, pulleys or dollies. If the Composite Grating needs to be moved for cleaning, maintenance or utility access, there is less chance of back injuries. The lightweight design of the grating reduces installation and fabrication costs, weighing only 12 kilos per sq mtr for 25mm and 18 kilos per sq mtr for 38mm.

RAISED FLOORS

Many plant operations have a need for slightly elevated Floor Grating. Fixed or adjustable pedestals can be used for applications up to a height of 600mm. Plastic insert mouldings, which raise the Composite Grating panels 7mm off the floor, are ideal for allowing liquid drainage below the Grating.

STANDARD BEARING SURFACES

On most installations, a minimum of 38mm bearing support should be provided under the edges of Composite Grating panels.

DESIGN

The design procedures associated with Composite Grating are entirely different from those associated with other materials. The prime consideration in designing with this reinforcement is allowable 'deflection' as opposed to ultimate 'loading' used with steel and aluminium. The reason for this is the inherent elasticity of reinforced plastic, permitting far greater deflection than steel, without the danger of structural failure. Load and deflection tables are available on request.

COST SAVINGS

In a review of costs, Composite grating showed significant savings over the use of stainless steel grating, and when consideration is given to 'life cycle costs', combining anti-slip benefits, the saving over the use of metal grating alternatives is quite considerable.

NON-CONDUCTIVE

The non-conductive properties make Composite Grating ideally suited for work platforms and flooring situated in electrically hazardous locations.

LOW INSTALLATION COSTS

Composite Grating weights considerably less than conventional metal gratings, and is easier and less expensive to transport, install and remove. Only simple hand tools are required for installation and removal, eliminating the need for costly equipment and labour costs associated with heavy lifting, cutting and welding.

HIGH STRENGTH-TO-WEIGHT RATIO

Molded grating manufactured as a composite of continuous strands and high quality resin is integrally constructed for strength, it is less than one-half the weight of steel grating allowing easy removal for access below floor level and installation with no heavy equipment and less manpower. Properly installed, molded grating meet specified load requirements for steel and are more impact resistance than metal.

ERGONOMIC

Employees are experiencing fatigue after standing on solid concrete and heavy non-adjustable galvanized steel platforms all day, molded grating is the best solution to ease the strain on the backs, foot and legs of workers increasing worker comfort and productivity due to its nature slight resiliency that makes them comfortable to stand on for a long period.

CONDUCTIVE GRATING

Composite Conductive Grating provides a specially formulated carbon, black surface, which will eliminate hazardous static electricity when properly grounded. This anti-static property is most advantageous in high-tech electronic industries where sophisticated equipment may be damaged due to static electricity. It also provides a safe environment in combustible areas by not allowing static sparks. Conductive Grating can be used in Railway Fuel Stations, Circuit Board Manufacture, Oil Refineries, Underground Mining Operations, Ammunition Factories etc.

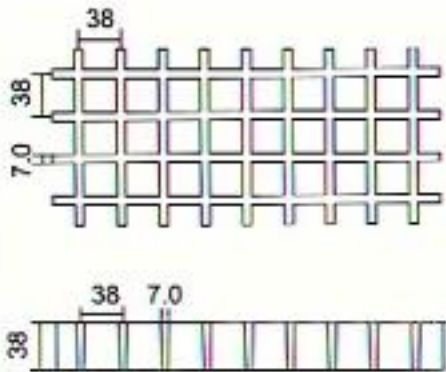
HIGH PERFORMANCE

Composite structural Composite grating materials have demonstrated a proven ability to withstand the harsh side effects of corrosive conditions better than galvanized steel. For many years, composites have been reliably used in traditionally corrosive industries such as chemical processing, plating and marine construction. While the cost of material is an important criteria in the design of a project, it does not reflect the total cost of the project. Beyond material purchase price, the engineer also should consider the related costs of installation, maintenance over time and replacement of debilitated materials.

MOLDED GRATING SELECTION

Type	Panel Size (mm)	Thickness (mm)	Mesh Size (mm)	Appro. Wt. (kg/m ²)
MG 100	3660 × 1220	25.4	38.1 × 38.1	13.5
MG 150-A	3660 × 1220	38.1	38.1 × 38.1	19.0
MG 150-B	4026 × 1525	38.1	38.1 × 38.1	19.0
MG 200	3660 × 1220	50.8	50.8 × 50.8	25.0
MG 100R	3660 × 1220	25.4	25.4 × 101.6	15.0
MG 150R	3050 × 600	38.1	38.1 × 152.4	19.5

MG 150-B



MOLDED GRATING CHEMICAL RESISTANCE GUIDE

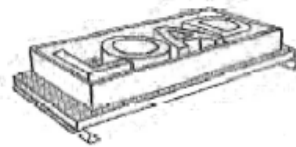
CHEMICAL	TYPE VINIL		TYPE ISO		TYPE ORTHO	
	Environment	% Conc. Max. Oper. Temp. F/C	% Conc.	Max. Oper. Temp. F/C	% Conc.	MAX. OPER. TEMP. F/C
Acetic Acid	50	180/82	50	125/52	25	N/R
Aluminum Hydroxide	100	180/82	100	160/71	ALL	-
Ammonium Chloride	ALL	210/99	ALL	170/77	ALL	-
Ammonium Bicarbonate	50	160/70	15	125/52	ALL	-
Ammonium Hydroxide	28	100/38	28	N/R	ALL	N/R
Ammonium Sulfate	ALL	210/99	ALL	170/77	ALL	-
Benzene	ALL	N/R	ALL	N/R	ALL	N/R
Benzoic Acid	SAT	210/99	SAT	150/66	ALL	77/25
Borax	SAT	210/99	SAT	170/77	ALL	-
Calcium Carbonate	ALL	180/82	ALL	170/77	ALL	-
Calcium Nitrate	ALL	210/99	ALL	180/82	ALL	-
Carbon Tetrachloride	100	150/65	100	N/R	100	N/R
Chlorine, Dry Gas	-	210/99	-	140/60	-	N/R
Chlorine Water	SAT	200/93	SAT	80/27	SAT	N/R
Chromic Acid	10	150/65	5	70/21	5	N/R
Citric Acid	ALL	210/99	ALL	170/77	ALL	77/25
Copper Chloride	ALL	210/99	ALL	170/77	ALL	104/40
Copper Cyanide	ALL	210/99	ALL	170/77	ALL	77/25
Copper Nitrate	ALL	210/99	ALL	170/77	ALL	-
Ethanol	50	100/38	50	75/24	10	77/25
Ethylene Glycol	100	200/93	100	90/32	100	104/40
Ferric Chloride	ALL	210/99	ALL	170/77	ALL	104/40
Ferrous Chloride	ALL	210/99	ALL	170/77	ALL	86/30
Formaldehyde	ALL	150/65	50	75/24	25	-
Gasoline	100	180/82	100	80/27	100	77/25
Glucose	100	210/99	100	170/77	ALL	-
Glycerin	100	210/99	100	150/66	100	-
Hydrobromic Acid	50	150/65	50	120/49	18	-
Hydrochloric Acid	37	150/65	37	75/24	10	86/30
Hydrogen Peroxide	30	150/65	5	100/38	5	N/R
Lactic Acid	ALL	210/99	ALL	170/77	ALL	77/25
Lithium Chloride	SAT	210/99	SAT	150/66	ALL	-
Magnesium Chloride	ALL	210/99	ALL	170/77	ALL	104/40

CHEMICAL	TYPE VINIL		TYPE ISO		TYPE ORTHO	
	% Conc.	Max. Oper. Temp. F/C	% Conc.	Max. Oper. Temp. F/C	% Conc.	MAX. OPER. TEMP. F/C
Magnesium Nitrate	ALL	210/99	ALL	140/66	ALL	86/30
Magnesium Sulfate	ALL	210/99	ALL	170/77	ALL	104/40
Mercuric Chloride	100	210/99	100	150/66	100	104/40
Mercurous Chloride	ALL	210/99	ALL	140/60	ALL	104/40
Nickel Chloride	ALL	210/99	ALL	170/77	ALL	104/40
Nickel Sulfate	ALL	210/99	ALL	170/77	ALL	104/40
Nitric Acid	20	120/49	20	70/21	2	N/R
Oxalic Acid	ALL	210/99	ALL	75/24	ALL	N/R
Perchloric Acid	30	100/38	10	N/R	10	N/R
Phosphoric Acid	100	210/99	100	120/49	80	N/R
Potassium Chloride	ALL	210/99	ALL	170/77	ALL	104/40
Potassium Dichromate	ALL	210/99	ALL	170/77	ALL	77/25
Potassium Nitrate	ALL	210/99	ALL	170/77	ALL	104/40
Potassium Sulfate	ALL	210/99	ALL	170/77	ALL	104/40
Propylene Glycol	ALL	210/99	ALL	170/77	ALL	104/40
Sodium Acetate	ALL	210/99	ALL	160/71	ALL	104/40
Sodium Bisulfate	ALL	210/99	ALL	170/77	ALL	-
Sodium Bromide	ALL	210/99	ALL	170/77	5	-
Sodium Cyanide	ALL	210/99	ALL	170/77	5	N/R
Sodium Hydroxide	25	180/82	N/R	N/R	1	N/R
Sodium Nitrate	ALL	210/99	ALL	170/77	ALL	104/40
Sodium Sulfate	ALL	210/99	ALL	170/77	ALL	104/40
Stannic Chloride	ALL	210/99	ALL	160/71	ALL	104/40
Sulfuric Acid	75	100/38	25	75/24	10	-
Tartaric Acid	ALL	210/99	ALL	170/77	ALL	-
Vinegar	100	210/99	100	170/77	ALL	-
Water, Distilled	100	180/82	100	170/77	ALL	86/30
Zinc Nitrate	ALL	210/99	ALL	170/77	ALL	104/40
Zinc Sulfate	ALL	210/99	ALL	170/77	ALL	104/40

ALL...Concentrations; SAT...Saturated Solution; N/R...Not Recommended; -...No Information Available.

Physical Properties of Molded Grating

Property	Test Method	Units	Value
Tensile Strength	ASTM D-638	PSI	100,000
Tensile Modulus	ASTM D-638	PSI	5.6×10^6
Flexural Strength	ASTM D-790	PSI	100,000
Flexural Modulus	ASTM D-790	PSI	5.6×10^6
Compressive Strength	ASTM D-695	PSI	60,000
Izod Impact Notch	ASTM D-256	Ft.-Lbs./In.	40
Barcol Hardness			50 (Min.)
Specific Gravity	ASTM D-792		2
Water Absorption	ASTM D-570	Max. %	.03
Flame Retardant	ASTM E-84		Less than 25
Flame Retardant	ASTM D-635		Self-Extinguishing

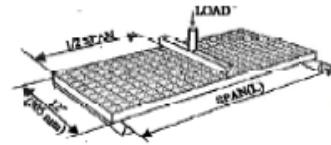


Uniform Load (Kg/m)

Uniform Load Deflection(mm)

Uniform Load & Deflection Tables

Span	Style	Uniform Load & Deflection														Max Rec. L&D	
300	38x38x25	Load	481	1922	2883	3844	4806	7208	7689	8650	9611	10572	11533	12495	13456	14417	7593
		Deflection	0.25	0.75	1.25	1.50	2.00	3.00	3.25	3.50	4.00	4.50	4.75	5.25	5.75	6.00	3.25
	38x38x30	Load	481	1441	2162	2918	3647	5434	5814	6976	7813	8594	9453	10398	11333	12239	8763
		Deflection	0.25	0.50	0.75	0.87	1.08	1.62	1.75	2.10	2.35	2.58	2.83	3.10	3.41	3.68	2.50
	38x38x38	Load	481	961	1442	1992	2403	2883	3364	3844	4325	4806	7208	9611	14417	19222	9933
		Deflection	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.750	0.75	1.25	1.25	1.75	2.50	3.50	1.75
50x50x50	Load	481	961	1442	1992	2403	3604	4806	7208	9611	14417	19222	24028	28834	30035	12014	
	Deflection	0.25	0.25	0.25	0.25	0.50	0.50	0.50	0.75	1.00	1.50	2.00	2.50	3.00	3.00	1.25	
450	38x38x25	Load	240	481	961	1201	1442	1922	2403	2883	3364	3844	4325	4806	6007	6247	3374
		Deflection	0.50	1.00	2.00	2.50	2.75	3.75	5.00	5.57	6.75	7.25	8.50	9.50	12.00	12.50	6.75
	38x38x30	Load	240	481	961	1311	1638	2293	1476	1771	1983	2181	2399	2638	2875	3105	3895
		Deflection	0.38	0.75	1.37	1.75	2.18	3.05	3.29	3.90	4.36	4.79	5.26	5.78	6.30	6.80	5.00
	38x38x38	Load	240	481	961	1422	1922	2403	2883	3364	3844	4325	4806	6007	7028	9611	4416
		Deflection	0.25	0.25	0.75	1.00	1.50	1.75	2.00	2.50	2.75	3.25	3.50	4.50	5.25	7.00	3.25
50x50x50	Load	240	481	961	1442	1922	2403	3004	3604	4205	4806	7208	9611	12014	13215	5339	
	Deflection	0.25	0.25	0.50	0.75	0.75	1.00	1.25	1.50	2.00	2.25	3.25	4.25	5.25	6.00	2.25	
600	38x38x25	Load	120	240	360	481	961	1201	1442	1922	2403	2883	3604	3700			4898
		Deflection	0.75	1.50	2.25	3.00	6.25	7.75	9.25	12.25	15.50	18.50	23.25	23.75			12.25
	38x38x30	Load	300	600	891	1201	1501	2101	2269	2719	3045	3349	3683	4051	4415		21915.5
		Deflection	0.88	1.50	2.62	6.12	7.65	10.71	11.56	13.87	15.53	17.00	18.70	20.57	22.40		8.875
	38x38x38	Load	481	961	1422	1922	2403	2883	3364	4085	4806	6007	7208	8410	9611		2485
		Deflection	1.00	1.50	3.00	4.25	5.25	6.25	7.25	8.75	10.50	13.00	15.50	18.25	20.75		5.50
50x50x50	Load	240	481	961	1442	1922	2403	2883	3364	3844	4325	4806	6007	6728	7208	3004	
	Deflection	0.25	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.25	7.00	7.50	3.00	
750	38x38x25	Load	120	240	360	481	721	961	1201	1442	1922	2163	2283				1216
		Deflection	1.75	3.50	5.25	6.75	10.25	13.75	17.00	20.50	27.50	30.75	32.50				17.25
	38x38x30	Load	300	600	891	1201	1501	2101	2269	2722	3048	3352	3687	4055			1403.5
		Deflection	2.00	4.00	6.00	8.00	10.16	14.20	15.30	18.36	20.56	22.60	24.86	27.30			12.375
	38x38x38	Load	481	961	1422	1922	2403	2883	3364	3844	4325	4806	5286	5767			1591
		Deflection	2.25	4.50	6.75	9.25	11.50	13.75	16.00	18.25	20.50	22.75	25.52	27.50			7.50
50x50x50	Load	240	481	721	841	961	1442	1922	2403	2883	3364	3844	4325	4806		1922	
	Deflection	0.50	1.25	1.75	2.00	2.25	3.50	4.50	5.75	6.75	8.00	9.00	10.25	11.25		4.50	
900	38x38x25	Load	120	240	360	481	721	961	1201	1442	1562						846
		Deflection	3.75	7.75	11.50	15.50	23.25	31.00	38.50	46.25	50.25						27.00
	38x38x30	Load	180	300	420	601	751	1051	1135	1362	1525	1677	1844				975.5
		Deflection	3.13	3.63	8.25	11.50	14.37	20.10	21.70	26.00	29.12	32.00	32.20				19.25
	38x38x38	Load	240	360	481	721	961	1201	1442	1682	1922	2403	2883	3364			1105
		Deflection	2.50	3.75	5.00	7.50	10.00	12.50	14.75	17.25	19.75	24.75	29.75	34.75			11.50
50x50x50	Load	240	360	481	721	961	1201	1442	1922	2403	2883	3364				1336	
	Deflection	1.00	1.75	2.25	3.25	4.50	5.50	6.50	8.75	11.00	13.25	15.25				6.00	
1000	38x38x25	Load	114	229	343	450	687	915	1144								590
		Deflection	5.95	1.67	17.62	23.33	35.24	46.90	58.57								30.24
	38x38x30	Load	158	175	295	383	497	695.8	730								681.5
		Deflection	12.15	14.58	15.99	20.78	27.00	33.60	36.20								22.025
	38x38x38	Load	229	252	275	297	320	343	458	527	687	801	915				773
		Deflection	4.05	4.52	5.00	5.24	5.71	6.19	8.10	10.24	12.38	14.29	16.43				13.81
50x50x50	Load	229	343	458	915	1144	1373	1602	1831	2060	2288	2746				934	
	Deflection	1.90	2.86	3.81	7.62	9.52	11.19	13.10	15.00	16.90	18.81	22.62				7.62	



Concentrated Load (Kg/m)

Concentrated Load Deflection (mm)

Concentrated Line Load & Deflection Tables

Span	Style	Concentrated Line Load & Deflection																Max Rec. L&D
300	38×38×25	Load	146	293	439	586	732	1099	1117	1318	1465	1611	1758	1904	2051	2197	1157	
		Deflection	0.25	0.75	1.00	1.25	1.50	2.50	2.50	3.00	3.25	3.50	3.75	4.25	4.50	4.75	2.50	
	38×38×30	Load	146	293	439	586	732	988	1067	1280	1305	1435	1578	1735	1891	2040	1335	
		Deflection	0.25	0.75	0.75	0.95	1.18	1.65	1.78	2.13	2.38	2.61	2.87	3.15	3.43	3.70	2.00	
	38×38×38	Load	146	293	439	586	732	879	1025	1172	1318	1465	1831	2197	2563	2930	1513	
		Deflection	0.25	0.25	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.25	1.75	2.00	2.50	2.75	1.50	
	50×50×50	Load	146	366	732	879	1025	1172	1318	1392	1465	2197	2930	3662	4394	4541	1831	
		Deflection	0.25	0.25	0.50	0.50	0.50	0.75	0.75	0.75	0.75	1.25	1.50	2.00	2.50	2.50	1.00	
450	38×38×25	Load	73	146	220	293	366	439	586	732	879	1025	1172	1318	1392	1465	772	
		Deflection	0.50	1.00	1.50	2.00	2.50	3.0	4.00	5.00	6.00	7.00	8.25	9.25	9.75	10.25	5.25	
	38×38×30	Load	110	219	329	439	548	767	828	993	1112	1223	1345	1479	1612	1740	1037	
		Deflection	0.50	0.88	1.37	1.75	2.00	2.80	3.02	3.60	4.00	4.40	4.84	5.32	5.79	6.25	3.875	
	38×38×38	Load	146	293	439	586	732	879	1025	1172	1318	1465	1831	2197	2563	2930	1302	
		Deflection	0.50	0.75	1.25	1.50	2.00	2.25	2.75	3.00	3.50	3.75	4.75	5.075	6.50	7.50	2.50	
	50×50×50	Load	73	146	293	439	586	732	915	1099	1282	1465	1831	2197	2563	2930	1200	
		Deflection	0.25	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.75	3.50	4.00	4.50	2.00	
600	38×38×25	Load	37	73	110	146	293	366	439	586	732	879	1099	1128			579	
		Deflection	0.50	1.25	1.75	2.50	5.00	6.25	7.50	10.00	12.25	14.75	18.50	19.00			9.75	
	38×38×30	Load	91	183	274	292	370	518	559	670	750	825	907	997.7	1087		668	
		Deflection	0.60	1.50	4.25	2.87	3.64	5.09	5.49	6.58	7.36	8.00	8.80	9.68	10.55		7.00	
	38×38×38	Load	146	293	439	586	732	879	1025	1172	1318	1465	1831	2197	2563		757	
		Deflection	0.75	1.75	2.50	3.25	4.25	5.00	5.75	6.75	7.50	8.25	10.50	12.50	14.50		4.25	
	50×50×50	Load	73	146	293	439	586	732	879	1025	1172	1318	1465	1831	2051	2197	915	
		Deflection	0.25	0.50	0.75	1.25	1.50	2.00	2.50	2.75	3.25	3.50	4.00	5.00	5.50	6.00	2.50	
750	38×38×25	Load	37	72	110	146	220	293	366	439	586	732	879				463	
		Deflection	1.00	2.25	3.25	4.50	6.50	8.75	11.00	13.25	17.50	22.00	26.25				13.75	
	38×38×30	Load	55	109	201	292	365	511	551	661	740	814	895	984			534	
		Deflection	0.88	1.88	3.15	4.50	5.62	7.86	8.40	10.10	11.30	12.40	13.64	15.00			9.875	
	38×38×38	Load	73	146	293	439	586	732	879	1025	1172	1318	1465	2197			605	
		Deflection	0.75	1.50	3.00	4.50	5.75	7.25	8.75	10.25	11.75	13.25	14.75	22.00			6.00	
	50×50×50	Load	73	146	293	439	586	732	879	1025	1172	1318	1465	1611	1758		732	
		Deflection	0.25	0.75	1.50	2.25	3.00	3.50	4.25	5.00	5.75	6.50	7.25	8.00	8.75		3.50	
900	38×38×25	Load	37	73	146	220	293	366	439	586	732						385	
		Deflection	2.00	4.00	8.25	12.25	16.50	20.50	24.75	33.00	41.25						21.75	
	38×38×30	Load	55	91	146	220	275	385	415	498	557	612	673				444.5	
		Deflection	1.63	3.00	5.5	8.12	10.15	14.21	15.30	18.36	20.56	22.60	24.86				15.375	
	38×38×38	Load	73	110	146	220	293	366	439	513	586	732	1099	1465			504	
		Deflection	1.25	2.00	2.75	4.00	5.25	6.50	8.00	9.25	10.50	13.25	19.75	26.50			9.00	
	50×50×50	Load	73	146	293	439	586	732	879	1025	1172	1318	1465				611	
		Deflection	0.50	1.25	2.25	3.5	4.75	5.75	7.00	8.25	9.25	10.50	11.75				5.00	
1000	38×38×25	Load	35	70	105	140	279	419	558								315	
		Deflection	2.62	5.48	8.10	10.71	21.43	32.14	42.86								24.29	
	38×38×30	Load	53	87.5	122	174	217	303	327	392.40	439						363.5	
		Deflection	2.26	4.17	5.95	8.21	10.26	14.36	15.80	18.96	21.20						17.74	
	38×38×38	Load	70	105	140	209	279	349	384	419	698	1046	1395				412	
		Deflection	1.90	2.86	3.81	5.71	7.62	9.29	10.24	11.19	18.81	28.10	37.62				11.19	
	50×50×50	Load	70	105	140	279	419	558	698	837	977	1116	1256				498	
		Deflection	0.95	1.19	1.67	3.33	5.24	6.90	8.57	10.24	12.14	13.81	15.48				6.19	

MOLDED GRATING FASTENERS

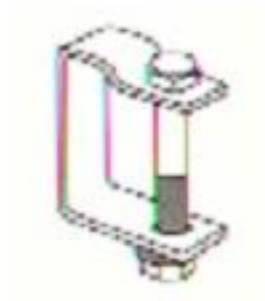
Type "**L**" Clip-For use in securing grating to support frames.



Type "**M**" Hold Down Clips-Designed to fix grating on support structure & prevent it from turning in all four directions.



Type "**C**" Clips-Applied to connect two adjacent grating bars.



STANDARDS OF FRP COMPOSITES

The Following Standards are used in composite productions:

ASTM C-177-85	Heat Flux
ASTM D-149-87	Dielectric Strength
ASTM D-229-86	Testing Rigid Sheet for Electrical Insulation (Ladder)
ASTM D-256-87	Impact Resistance
ASTM D-495-84	Electrical Resistance
ASTM D-570-81	Water Absorption
ASTM D-635-81	Flammability
ASTM D-638-87b	Tensile Strength
ASTM D-695-85	Compressive Strength
ASTM D-696-79	Thermal Expansion
ASTM D-709-87	Specifications for Laminated Thermosetting Materials
ASTM D-732-85	Shear Strength by Punch
ASTM D-790-86	Flexural Strength
ASTM D-792-86	Specific Gravity
ASTM D-953-87	Bearing Strength
ASTM D-1499-84	Weathering
ASTM D-1505-85	Density
ASTM D-2344-89	Interlaminar Short Beam Shear Strength
ASTM D-2583-87	Hardness
ASTM D-2584-85	Ignition Loss
ASTM D-3647-84	Classifying Pultruded Shapes
ASTM D-3846-85	In-plane Shear Strength
ASTM D-3914-84	In Plane Shear
ASTM D-3916-84	Tensile
ASTM D-3917-88	Dimensional Tolerances
ASTM D-3918-80	Pultrusion Terms
ASTM D-4385-88	Visual Defects
ASTM D-4475-85	Short Beam Shear Strength
ASTM D-4476-90	Flexural Properties
ASTM E-84-87	Tunnel Beam Test
ASTM E-662-83	Smoke Chamber
ASTM E-831-86	Linear Thermal Expansion (CTE)
ASTM F-1092-94	Handrails
ASTM G-23-81	Weathering
ASTM G-53-84	Weathering