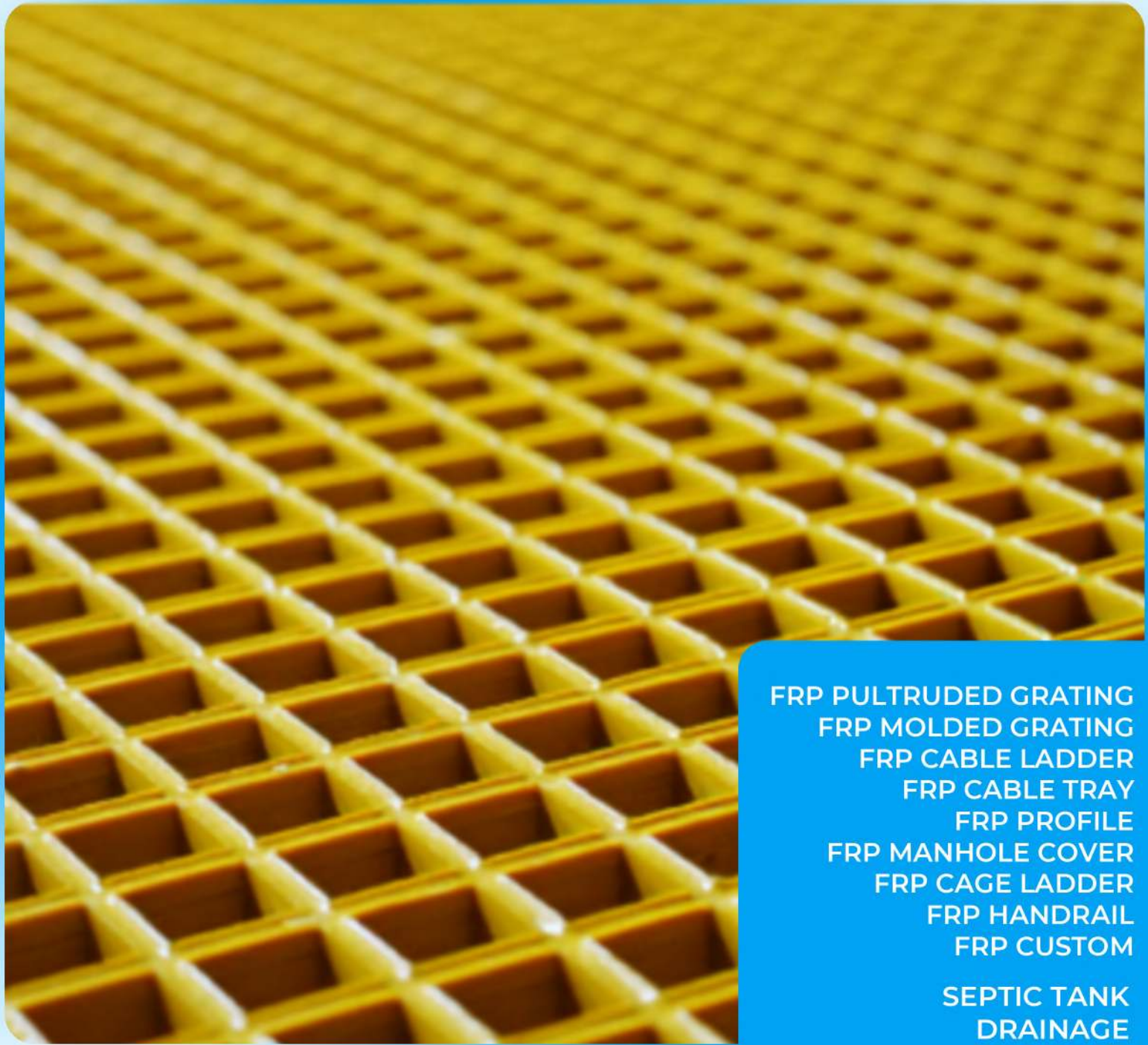


2026

CATALOG

Fiberglass Reinforced Plastic



FRP PULTRUDED GRATING
FRP MOLDED GRATING
FRP CABLE LADDER
FRP CABLE TRAY
FRP PROFILE
FRP MANHOLE COVER
FRP CAGE LADDER
FRP HANDRAIL
FRP CUSTOM

SEPTIC TANK
DRAINAGE

PILAR
PANCA INTEGRALAGUNA REKSA

OUR BRANDS





OUR COMPANY

PILARK Composites provides a diverse range of Fiberglass Reinforced Plastic (FRP) solutions for industrial, residential, and commercial applications.

The product portfolio includes Cable Trays, Cable Ladders, Molded Gratings, Pultruded Gratings, Stairway Ladders, Cage Ladders, and FRP Structural Profiles such as Angle Bars, I-Beams, C-Channels, and Square Tubes. Additional solutions include Cladding, Roofing, Handrails, and customized FRP applications.

Beyond FRP solutions, the portfolio also includes composite products made from PP (Polypropylene) and Polymer Concrete, including septic tanks and drainage systems. These solutions combine durability, cost efficiency, and versatility for applications such as roof trusses, fences, ladders, trench covers, swimming pool areas, and other infrastructure requirements.

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WHY FRP?

Lightweight



FRP offers a significant weight advantage over conventional materials such as steel, aluminum, and timber. With a typical weight of approximately 1/4 of steel, FRP is easier to transport and handle while maintaining high strength.

High Strength



FRP provides a high strength-to-weight ratio, combining structural strength with lightweight construction. This contributes to durability, long service life, and efficient handling.

Non Conductive



FRP is suitable for electrical insulation applications in environments such as electrical substations, chemical plants, and offshore platforms. Its non-conductive properties can enhance safety and reduce electrical risks.

Corrosion Resistant



FRP provides long-lasting performance in environments where moisture, chemicals, salt, and other corrosive conditions can affect conventional materials.

Fire Retardant



FRP products with suitable fire-retardant properties can be selected for applications where fire performance is an important consideration.

Easy Installation



The lightweight, modular, and versatile nature of FRP makes it easy to cut, join, handle, and install, making it suitable for a wide range of construction, manufacturing, and infrastructure projects.

Chemical Resistant



FRP can provide durable and economical performance in environments exposed to chemicals and corrosive substances, where conventional metal or wood materials may deteriorate.

UV Protections



FRP products formulated with appropriate UV resistance can maintain performance and appearance under prolonged outdoor exposure, making them suitable for demanding exterior applications.

CAPABILITIES

Advanced production and testing capabilities support a broad range of FRP solutions, including grating, cable tray, handrails, stair treads, ladders, and other composite products.

The available production equipment includes molded grating, pultrusion, hydraulic hot press, rebar pultrusion, VMC CNC, ladder production, polyconcrete processing, and roofing/cladding equipment.

Laboratory testing capabilities include sample preparation, viscometer testing, universal tensile testing, digitalized Charpy impact testing, differential scanning calorimetry, electric hot-air drying, muffle furnace testing, and vertical and horizontal flame chamber testing.

These capabilities support consistent product quality, performance evaluation, and application requirements across industrial and commercial projects.

Machines



Molded Grating
Quantity : 31 Machine



Pultrusion
Quantity : 5 Machine



Hydraulic Hot Press
Quantity : 4 Machine



Rebar Pultrusion
Quantity : 2 Machine



VMC CNC
Quantity : 2 Machine



Leadler
Quantity : 1 Machine



Polyconcrete
Quantity : 1 Machine



Roofing/Cladding
Quantity : 1 Machine

LAB Aparatus



Sample Maker



Visco Motor



Differentiation Scanning Calorimetry



Electric Hot Air Drying Oven



Universal Tonsile Testing



Digitalized & Charpy Impact Tester



Muffle furnace



Vertical & Horizontal Flame Chamber

CERTIFICATES

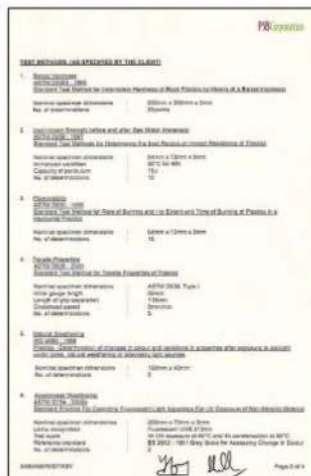
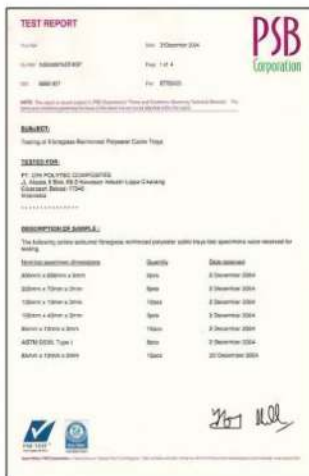
TKDN

ISO

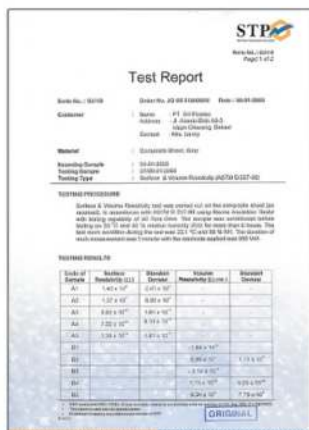
SMK



PSB



STP



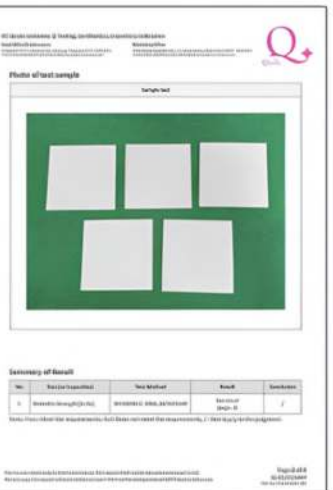
HAKI

OLine

HI-Grid



QUALIS

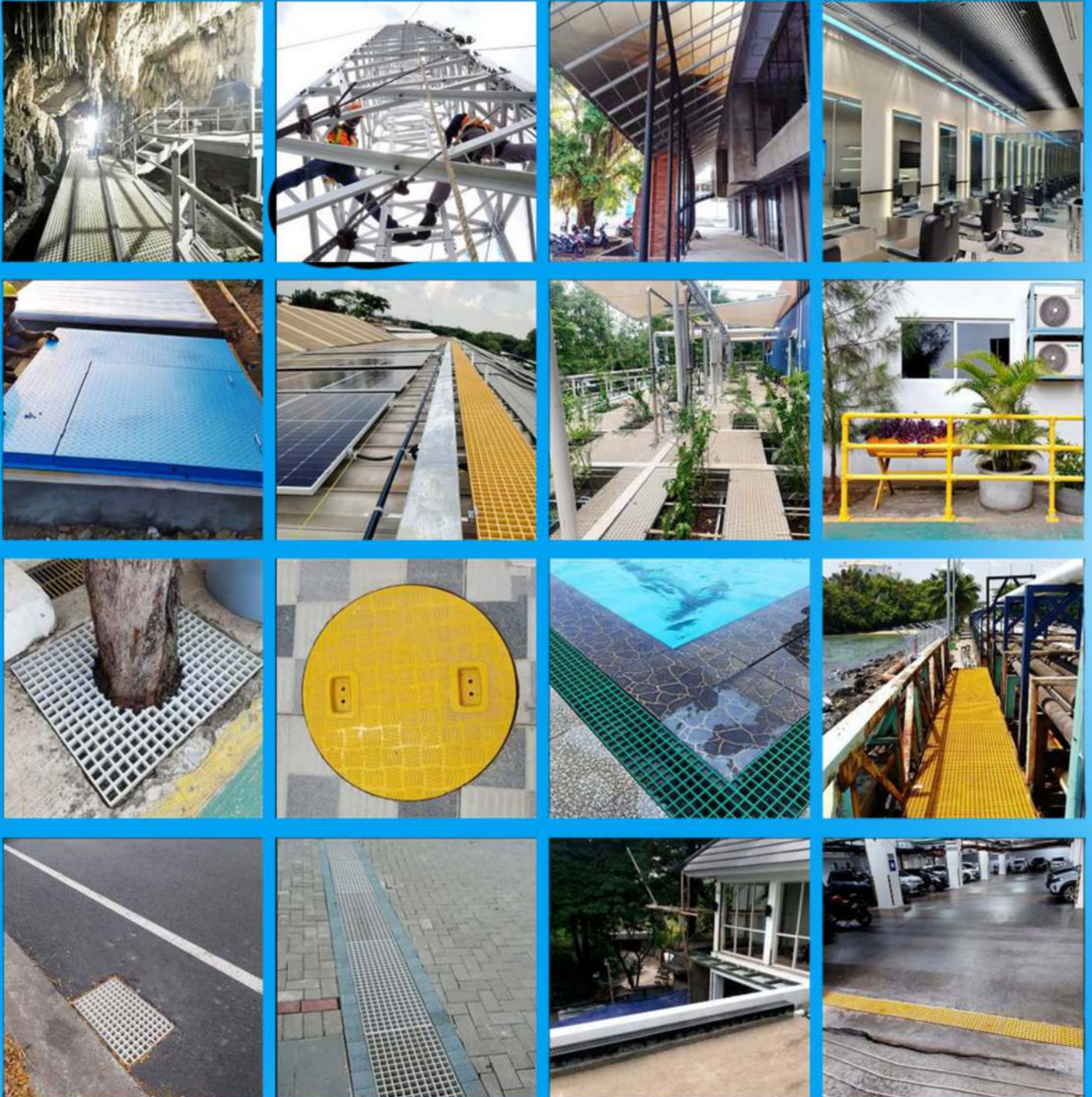


PRODUCT APPLICATION

INDUSTRIAL



COMMERCIAL



CORROSION RESISTENCE GUIDE

The general guidelines presented in this table take into consideration the normal applications of grating where exposure to harsh chemicals is limited to fumes or vapors and occasional splashes at ambient temperatures. This information is provided as a guide only since it is impossible to anticipate every conceivable application. For specific applications, which may fall outside the scope of these guidelines, it is recommended that the factory be consulted directly. Special applications may require a screening test of material samples in the chemical environment of interest.

Chemicals Environment	Polyester		Vinylester	
	Max Wt.%	Max Oper. Temp °F	Max Wt.%	Max Oper. Temp °F
Acetic Acid	10	190	10	210
Acetic Acid	50	125	50	180
Acetone	N/R	N/R	100	75
Aluminum Chloride	SAT	170	SAT	200
Aluminum Hydroxide	SAT	160	SAT	170
Aluminum Nitrate	SAT	150	SAT	170
Aluminum Sulfate	SAT	180	SAT	200
Ammonium Chloride	SAT	170	SAT	190
Ammonium Hydroxide	1	100	10	150
Ammonium Hydroxide	28	N/R	28	100
Ammonium Carbonate	N/R	N/R	SAT	150
Ammonium Bicarbonate	15	125	SAT	130
Ammonium Nitrate	SAT	160	SAT	190
Ammonium Persulfate	SAT	N/R	SAT	150
Ammonium Sulfate	SAT	170	SAT	200
Amyl Alcohol	ALL	N/R	ALL	90
Amyl Alcohol Vapor	-	140	-	120
Benzene	N/R	N/R	100	140
Benzene Sulfonic Acid	25	110	SAT	200
Benzoic Acid	SAT	150	SAT	200
Benzoyl Alcohol	100	N/R	100	N/R
Borax	SAT	170	SAT	200
Calcium Carbonate	SAT	170	SAT	200
Calcium Chloride	SAT	170	SAT	200
Calcium Hydroxide	25	70	25	165
Calcium Nitrate	SAT	180	SAT	200
Calcium Sulfate	SAT	180	SAT	200
Carbon Disulfide	N/R	N/R	N/R	N/R
Carbonic Acid	SAT	130	SAT	180
Carbon Dioxide Gas	-	200	-	200
Carbon Monoxide Gas	-	200	-	200
Carbon Tetrachloride	N/R	N/R	100	75
Chlorine, Dry Gas	-	140	-	170
Chlorine, Wet Gas	-	N/R	-	180
Chlorine Water	SAT	80	SAT	180
Chromic Acid	5	70	10	120
Citric Acid	SAT	170	SAT	200
Copper Chloride	SAT	170	SAT	200
Copper Cyanide	SAT	170	SAT	200
Copper Nitrate	SAT	170	SAT	200
Crude Oil, Sour	100	170	100	200

Notes: N/R (Not Recommended), ALL (Any Concentration), SAT (Saturated Solution), FUM (Fumes)



Chemical Environment	Polyester		Vinylester	
	Max Wt. %	Max Oper. Temp °F	Max Wt.%	Max Oper. Temp °F
Cyclohexane	N/R	-	N/R	N/R
Cyclohexane, Vapor	ALL	100	ALL	130
Diesel Fuel	100	160	100	180
Diethyl Ether	N/R	N/R	N/R	N/R
Dimethyl Phthalate	N/R	N/R	N/R	N/R
Ethanol	50	75	50	90
Ethyl Acetate	N/R	N/R	N/R	N/R
Ethylene Chloride	N/R	N/R	N/R	N/R
Ethylene Glycol	100	90	100	200
Fatty Acids	SAT	180	SAT	200
Ferric Chloride	SAT	170	SAT	200
Ferric Nitrate	SAT	170	SAT	200
Ferric Sulfate	SAT	170	SAT	200
Ferrous Chloride	SAT	170	SAT	200
Fluoboric Acid	N/R	N/R	SAT	165
Fluosilicic Acid	N/R	N/R	SAT	70
Formaldehyde	50	75	50	100
Formic Acid	N/R	N/R	50	100
Gasoline	100	80	100	150
Glucose	100	170	100	200
Glycerine	100	150	100	200
Heptane	100	110	100	120
Hexane	100	90	100	130
Hydrobromic Acid	50	120	50	120
Hydrochloric Acid	10	150	10	200
Hydrochloric Acid	20	140	20	190
Hydrochloric Acid	37	75	37	95
Hydrofluoric Acid	N/R	N/R	15	80
Hydrogen Bromide, Dry	100	190	100	200
Hydrogen Bromide, Wet	100	75	100	130
Hydrogen Chloride	-	120	-	200
Hydrogen Peroxide	5	100	30	100
Hydrogen Sulfide, Dry	100	170	100	210
Hydrogen Sulfide, Wet	100	170	100	210
Hypochlorous Acid	20	80	20	150
Isopropyl Alcohol	N/R	N/R	15	80
Kerosene	100	140	100	180
Lactic Acid	SAT	170	SAT	200
Lead Acetate	SAT	170	SAT	200
Lead Chloride	SAT	140	SAT	200

Chemical Environment	Polyester		Vinylester	
	Max Wt. %	Max Oper. Temp °F	Max Wt.%	Max Oper. Temp °F
Lead Nitrate	SAT	-	SAT	200
Linseed Oil	100	150	100	190
Lithium Chloride	SAT	150	SAT	190
Magnesium Carbonate	SAT	140	SAT	170
Magnesium Chloride	SAT	170	SAT	200
Magnesium Hydroxide	SAT	150	SAT	190
Magnesium Nitrate	SAT	170	SAT	190
Magnesium Sulfate	SAT	170	SAT	190
Mercuric Chloride	SAT	150	SAT	190
Mercurous Chloride	SAT	140	SAT	180
Methyl Ethyl Ketone	N/R	N/R	N/R	N/R
Mineral Oils	100	170	100	200
Monochlorobenzene	N/R	N/R	N/R	N/R
Naphtha	100	140	100	170
Nickel Chloride	SAT	170	SAT	200
Nickel Nitrate	SAT	170	SAT	200
Nickel Sulfate	SAT	170	SAT	200
Nitric Acid	5	140	5	150
Nitric Acid	20	70	20	100
Oleic Acid	100	170	100	190
Oxalic Acid	ALL	75	ALL	120
Paper Mill Liquors	-	100	-	120
Perchloroethylene	100	N/R	100	N/R
Perchloric Acid	N/R	N/R	10	150
Perchloric Acid	N/R	N/R	30	80
Phosphoric Acid	10	160	10	200
Phosphoric Acid	100	120	100	200
Potassium Aluminum Sulfate	SAT	170	SAT	200
Potassium Bicarbonate	50	80	50	140
Potassium Carbonate	10	N/R	10	120
Potassium Chloride	SAT	170	SAT	200
Potassium Dichromate	SAT	170	SAT	200
Potassium Hydroxide	N/R	N/R	25	150
Potassium Nitrate	SAT	170	SAT	200
Potassium Nitrate	20	80	20	150
Potassium Permanganate	100	80	100	210
Potassium Sulfate	SAT	170	SAT	200
Propylene Glycol	ALL	170	ALL	200
Phthalic Acid	-	-	SAT	200
Sodium Acetate	SAT	160	SAT	200

Notes: N/R (Not Recommended), ALL (Any Concentration), SAT (Saturated Solution), FUM (Fumes)

Chemical Environment	Polyester		Vinylester	
	Max Wt. %	Max Oper. Temp °F	Max Wt.%	Max Oper. Temp °F
Sodium Benzoate	SAT	170	SAT	200
Sodium Bicarbonate	SAT	160	SAT	175
Sodium Bisulfate	ALL	170	ALL	200
Sodium Bromide	ALL	170	ALL	200
Sodium Carbonate	10	80	35	160
Sodium Chloride	SAT	170	SAT	200
Sodium Cyanide	SAT	170	SAT	200
Sodium Hydroxide	N/R	N/R	50	150
Sodium Hydroxide	N/R	N/R	25	80
Sodium Hypochloride	N/R	N/R	10	150
Sodium Monophosphate	SAT	170	SAT	200
Sodium Nitrate	SAT	170	SAT	200
Sodium Sulfate	SAT	170	SAT	200
Sodium Thiosulfate	ALL	100	ALL	120
Stannic Chloride	SAT	170	SAT	200
Styrene	N/R	N/R	N/R	N/R
Sulfated Detergent	0/50	170	0/50	200

Sulfur Dioxide	100	80	100	200
Sulfur Trioxide	100	80	100	200
Sulfuric Acid	93	N/R	93	N/R
Sulfuric Acid	50	N/R	50	180
Sulfuric Acid	25	75	25	190
Sulfurous Acid	SAT	80	N/R	N/R
Tartaric Acid	SAT	170	SAT	200
Tetrachloroethylene	N/R	N/R	FUM	75
Toluene	N/R	N/R	N/R	N/R
Trisodium Phosphate	N/R	N/R	SAT	175
Urea	SAT	130	SAT	140
Vinegar	100	170	100	200
Water, Distilled	100	170	100	190
Water, Tap	100	170	100	190
Water, Sea	SAT	170	SAT	190
Xylene	N/R	N/R	N/R	N/R
Zinc Chloride	SAT	170	SAT	200
Zinc Nitrate	SAT	170	SAT	200
Zinc Sulfate	SAT	170	SAT	200

Notes: N/R (Not Recommended), ALL (Any Concentration), SAT (Saturated Solution), FUM (Fumes)

FRP VS TRADITIONAL MATERIALS

We offers a wide range of pultruded structural components including channels, beams, angels, bars, rods concrete embedment angles, toe plate, flat sheets, and threaded rods and nuts. Structural shapes are used in a broad array of applications, providing a unique combination of corrosion resistance, high strength, dimensional stability and light weight, along with thermal and electric non-conductivity.

Contrast Item	FRP	Steel	Aluminium	Timber
Corrosion Resistance	High	Low	Medium	Low
Strength	High	High	High	Low
Weight	Low	High	Low	Low
Electric Insulation	High	No	No	Moderate
Thermal Conductivity	Low	High	High	High
Water Absorption	Low	Low	Low	High
EMI/RFI Transparency	Yes	No	No	Yes
Fabrication	Easy	Easy	Medium	Easy
Life Cycle Cost	Low	Moderate	Moderate	High

■ FRP



■ Steel



■ Aluminium



■ Timber



OUR BRAND

OLine Fiberglass Pultrusion provides FRP solutions for design and engineering challenges where long-term performance, cost efficiency, and corrosion resistance are important considerations. The product range can be configured to meet specific project requirements from the initial design stage.



HI-GRID FRP Grating is available in various types, sizes, colors, and surface finishes. The grating is designed for industrial and infrastructure applications requiring strength, safety, durability, and reliable long-term performance.



O-Max provides customizable products for wastewater treatment and related applications, with solutions that can be adapted to project requirements.



PROPERTIES SPECIFICATION

Properties specifications provide key characteristics, features, and performance requirements for the available products and serve as technical references for designers, engineers, builders, manufacturers, and users.

TYPE	RESIN BASE	DESCRIPTION	CORROSION RESISTANCE	FLAME SPREAD RATING ASTM E 84	MAX. OPR. TEMPERATURE
SUPERIOR	Vinylester	Superior Grade Corrosion Resistance, UV Protection and Fire Retardant	Excellent	Class A, FSI:0~25; SDR: Maximum 450	230 F/110 C
INDUSTRIAL	Isophthalic Polyester	Industrial Grade Corrosion Resistance, UV Protection and Fire Retardant	Very Good	Class A, FSI:0~25; SDR: Maximum 450	212 F/100 C
FOOD GRADE	Isophthalic Polyester	Food Grade Corrosion Resistance	Very Good	-	212 F/100 C
COMMERCIAL	Orthophthalic	Commercial Grade Corrosion Resistance and UV Protection	Moderate	Class C, FSI:76~200; SDR:Maximum 450	194 F/90C



FRP CRATING

Pultruded Grating is formed through a pultrusion process in which fiberglass reinforcements are drawn through a resin bath, shaped, and heated to form the finished structural grating.

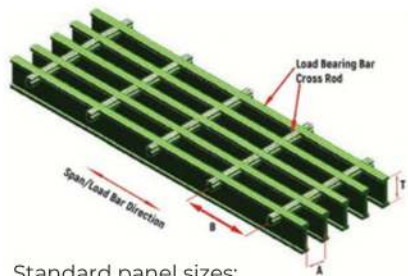
Molded Grating is formed through a molding process in which fiberglass reinforcements are combined with thermosetting resin and molded into a solid panel with a grid-like structure. The resulting product is suitable for applications requiring lightweight construction, corrosion resistance, and reliable load-bearing performance.

Molded Grating Vs Pultruded Grating

FEATURE	MOLDED GRATING	PULTRUDED GRATING
Manufacturing Process	Formed through a molding process using a heated mold and fiberglass rovings and resin.	Created by pulling continuous fiberglass strands through a resin bath and then through a heated die to shape the profile.
Material Composition	Typically made of fiberglass reinforced plastic (FRP) comprising resin and continuous fiberglass strands (rovings).	Also made of FRP, but tends to have a higher concentration of continuous glass fibers, which are aligned for strength.
Strength	Generally lighter and less strong compared to pultruded due to the lower concentration of fibers and the molding process.	Known for high strength-to-weight ratio due to the alignment and concentration of fibers during the pultrusion process.
Corrosion Resistance	Superior resistance to corrosion from chemicals, saltwater, and other corrosive elements.	Excellent corrosion resistance, often used in highly corrosive environments such as offshore platforms and chemical plants.
Impact Resistance	Less impact-resistant than pultruded due to the nature of the molded process	More impact-resistant due to the structure formed by the aligned fibers during pultrusion
Surface Characteristics	Often has a smoother surface finish, which maybe preferred in certain applications for easier cleaning.	Surface texture varies but generally has a more textured finish compared to molded grating.
Applications	Commonly used in applications where corrosion resistance, lightweight, and high strength are required, such as walkways, platforms, and trenches.	Ideal for applications requiring high strength, stiffness, and exceptional corrosion resistance, such as bridges, decks, and structural supports in aggressive environments.

Pultruded Grating

Pultruded grating is manufactured through a pultrusion process, where fiberglass reinforcements are pulled through a resin bath, then shaped and heated to create the final product.



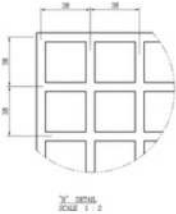
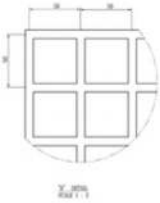
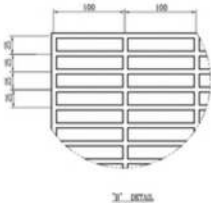
Standard panel sizes:
900W x 5850L

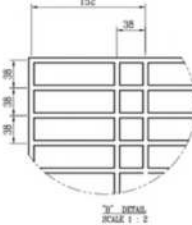
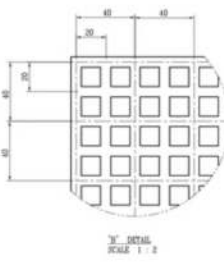
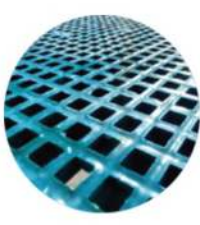
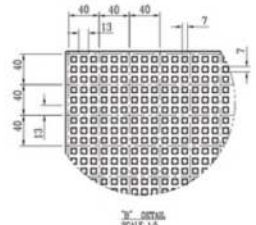
SERIES	GRATING Thickness. T (mm)	Load Bar Pitch. A (mm)	Cross Rod Pitch. B (mm)	Open Area (%)	Unit Weight (kg/m ²)
G-2500	25	30	150	30	11
G-4000	40	30	150	30	18
G-5000	50	30	150	30	22

Molded Grating

Molded Grating is manufactured through a molding process where fiberglass reinforcements are combined with a thermosetting resin and poured into a mold. The mixture is then cured to form a solid panel with a grid-like structure.

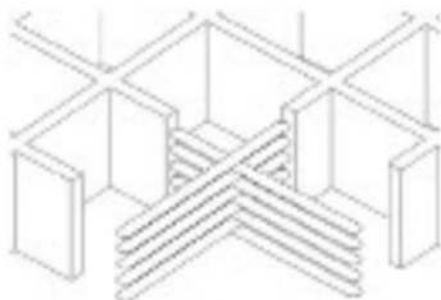
Mesh, Dimension & Weight

PRODUCT	PICTURE	DIMENSION	OPEN AREA (%)	WEIGHT (KG)/ SHEET
Square Mesh 38x38 		(W)1000 X (L)4000 (H)25 (W)1220 X (L)3660 (H)25 (W)1220 X (L)2440 (H)38 (W)1000 X (L)3000 (H)38 (W)1000 X (L)4000 (H)38 (W)1220 X (L)3660 (H)38 (W)1230 X (L)4010 (H)50	68	47,5 53 57 58,5 78 85 171
Square Mesh 50x50 		(W)1220 X (L)4000 (H)50	78	113,5
Rectangular Mesh 100X25 		(W)1007 X (L)4007 (H)30	68	62

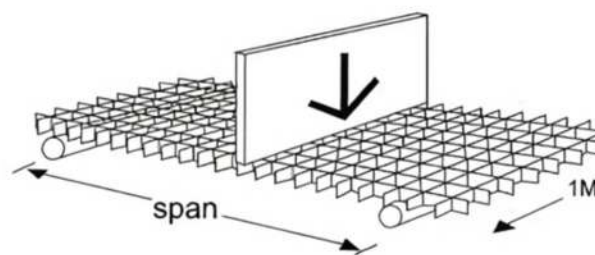
Rectangular Mesh 152x38 		(W)1220 X (L)3660 (H)38	68	76
Mini Mesh 		(W)1247 X (L)4047 (H)38	42	108,5
Micro Mesh 		(W)1527 X (L)4047 (H)30 (W)1527 X (L)4047 (H)38	30	155

LOAD BEARING CAPACITY

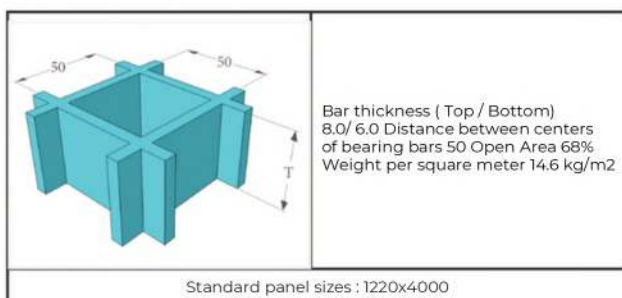
Molded Grating



HI-GRID molded grating load deflection tables



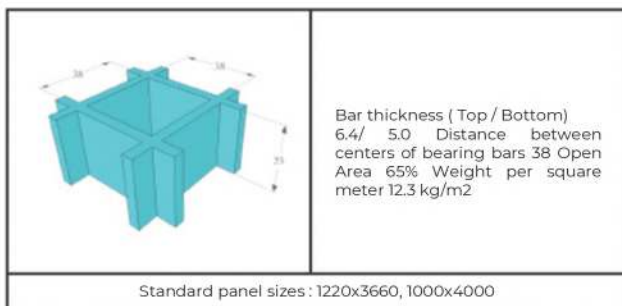
Concentrated line load-deflection in mm



HI-GRID MG5050 T50

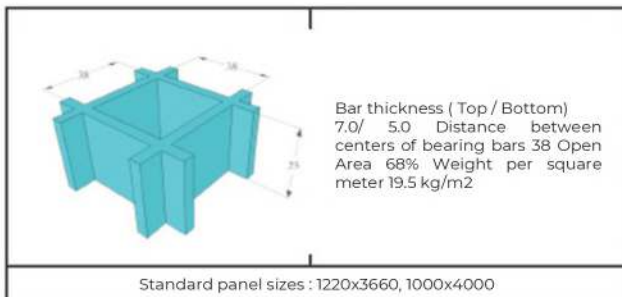
Span (mm)	Deflection	Load in kgs/m of width						Break Point
		75	150	300	450	600	750	
305		0.279	0.305	0.406	0.483	0.635	1.041	21727
610		0.356	0.580	0.813	1.128	1.753	3.327	11713
914		0.508	1.118	2.235	3.2	5.156	10.058	7780
1067		0.584	1.295	2.718	4.14	6.985	14.122	6636
1219		0.914	1.93	3.937	5.918	9.957	-	5834

HI-GRID MG3838 T25



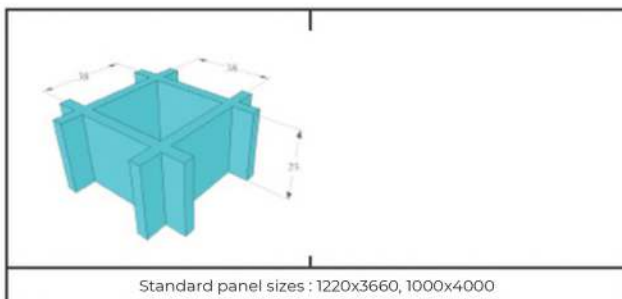
Span (mm)	Deflection	Load in kgs/m of width						Break Point
		75	150	300	450	600	750	
450		0.559	1.14	2.159	3.073	4.115	4.75	3910
600		1.16	2.32	4.64	6.97	9.29	11.62	2924
900		3.92	7.84	12.11	18.44	19.82	20.77	1948
1200		9.29	18.5	15.33	23.54	25.52	27.98	1461

HI-GRID MG3838 T38



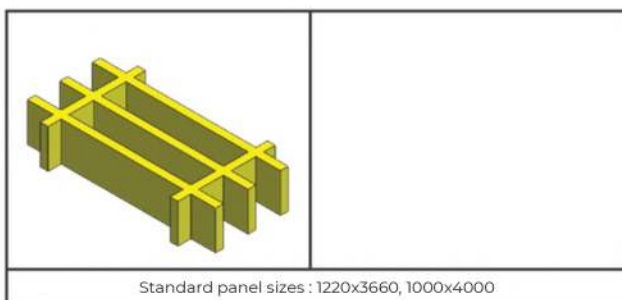
Span (mm)	Deflection	Load in kgs/m of width						Break Point
		150	300	450	600	750	1500	
300		0.35	0.483	0.61	0.762	0.889	1.06	17116
600		0.66	1.245	1.85	2.464	3.073	8.48	8718
900		1.90	3.683	5.563	7.417	9.296	13.79	5817
1200		4.74	9.677	14.63	19.58	21.19	---	3755

HI-GRID MG3838 T50



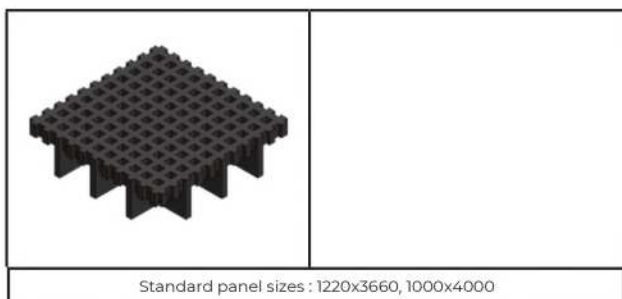
Span (mm)	Deflection	Load in kgs/m of width						Break Point
		75	150	300	450	600	750	
305		0,073	0,192	0,302	0,3	0,443	0,783	1,662
610		0,217	0,311	0,479	1,092	1,241	2,048	3,814
914		0,392	0,692	1,146	2,941	4,217	5,221	6,13
1067		0,422	0,74	1,27	2,677	6,81	9,724	12,128
1219		0,652	1,052	2,241	5,024	10,724	12,289	15,64
1500							16,311	18,218
2000							19,118	22,331

HI-GRID RECTANGULAR MESH H30

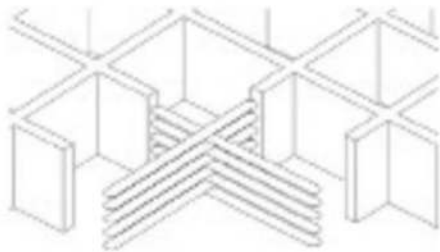


Span (mm)	Deflection	Load in kgs/m of width						Break Point
		75	150	300	450	600	750	
305		0.33	0.45	0.75	0.95	1.27	1.52	9442
610		0.85	1.72	3.5	5.12	6.95	8.6	4305
750		1.4	2.7	5.1	7.5	9.55	11.95	3589
1000		2.45	4.65	8.82	12.25	16.5	19.65	3216

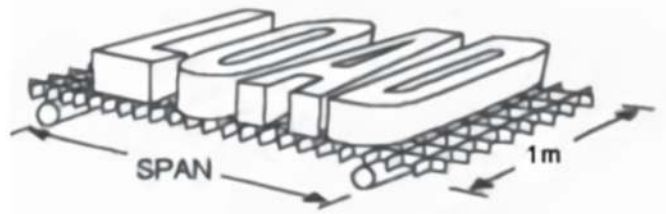
HI-GRID MICROMESH 20x20/13x13



Span (mm)	Deflection	Load in kgs/m of width					Break Point
		75	150	300	500	700	
305		0.33	0.68	1.34	2.1	2.7	
450		0.73	1.47	2.94	4.42	5.89	
600		0.86	1.7	3.4	5.1	6.8	
750		1.07	2.13	4.26	6.4	8.53	
1000		1.88	3.75	7.5	10.2	15.54	



HI-GRID molded grating load deflection tables



Uniformed load-deflection in mm

HI-GRID MG5050 T50

	Bar thickness (Top / Bottom) 8.0/ 6.0 Distance between centers of bearing bars 50 Open Area 68% Weight per square meter 14.6 kg/m²
Standard panel sizes : 1220x4000	

Deflection Span (mm)	Load in kgs/square meter						
	240	480	980	1450	2450	3650	4880
305	0.254	0.279	0.33	0.381	0.432	0.483	0.737
610	0.318	0.584	0.965	1.372	1.753	2.134	4.115
914	1.194	2.108	3.937	5.766	7.595	9.449	18.593
1067	1.448	2.997	6.096	9.22	12.344	15.443	-
1219	2.413	4.928	9.957	14.961	19.989	-	-

HI-GRID MG3838 T25

	Bar thickness (Top / Bottom) 6.4/ 5.0 Distance between centers of bearing bars 38 Open Area 65% Weight per square meter 12.3 kg/m²
Standard panel sizes : 1220x3660, 1000x4000	

Deflection Span (mm)	Load in kgs/square meter						
	240	480	980	1450	2450	3650	4880
450	0.66	1.092	1.93	2.769	4.47	6.579	---
600	1.118	2.108	4.14	6.172	10.21	15.265	---
750	2.667	5.387	10.82	16.28	21.73	29.962	---
900	5.537	11.17	21.71	23.16	26.54	31.590	---

HI-GRID MG3838 T38

	Bar thickness (Top / Bottom) 7.0/ 5.0 Distance between centers of bearing bars 38 Open Area 68% Weight per square meter 19.5 kg/m²
Standard panel sizes : 1220x3660, 1000x4000	

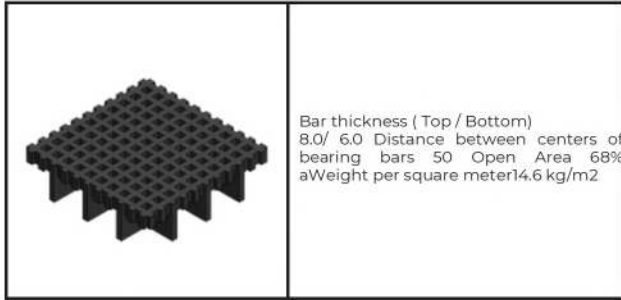
Deflection Span (mm)	Load in kgs/square meter						
	240	480	980	1450	2450	3650	4880
450	0.66	1.092	1.93	2.769	4.47	6.579	---
600	1.118	2.108	4.14	6.172	10.21	15.265	---
750	2.667	5.387	10.82	16.28	21.73	29.962	---
900	5.537	11.17	21.71	23.16	26.54	31.590	---

HI-GRID MG3838 T50

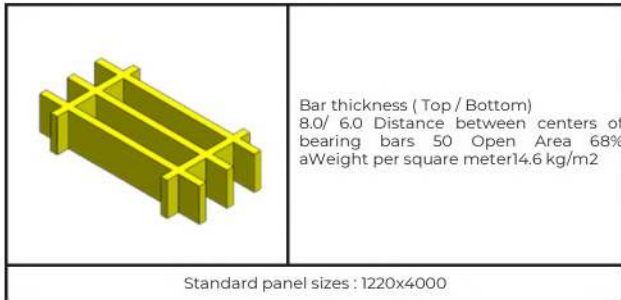
	Bar thickness (Top / Bottom) 7.0/ 5.0 Distance between centers of bearing bars 38 Open Area 68% Weight per square meter 19.5 kg/m²
Standard panel sizes : 1220x3660, 1000x4000	

Deflection Span (mm)	Load in kgs/m of width						
	240	480	980	1450	2450	3650	4880
305	0.073	0.098	0.284	0.3	0.38	0.41	0.59
610	0.227	0.426	0.762	1.092	1.483	1.817	2.971
914	0.974	1.741	3.02	4.217	6.332	7.981	14.784
1067	1.212	2.014	3.97	6.81	9.47	11.552	18.442
1219	2.136	3.511	6.641	10.724	15.54	19.228	-

HI-GRID Micromesh 20x20/13x13



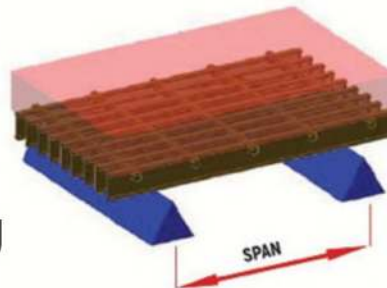
Span (mm)	Deflection	Load in kgs/m of width				
		240	480	980	1450	2000
305		0.43	0.83	1.67	2.5	3.35
450		0.68	1.37	2.76	4.15	5.53
600		1.1	2.13	4.24	6.37	8.45
750		1.67	3.35	6.7	10.12	13.4
1000		3.85	5.35	10.65	16.1	-



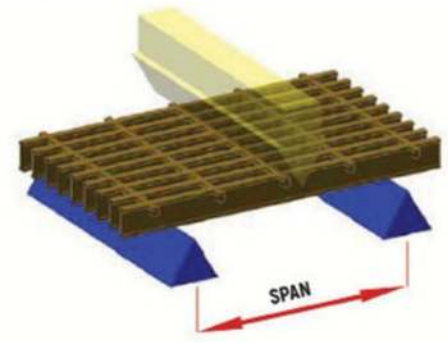
HI-GRID RECTANGULAR MESH H30

Span (mm)	Deflection	Load in kgs/square meter					
		240	480	980	1500	2000	2500
305		0.275	0.38	0.284	0.55	0.85	1.05
610		1.84	3.68	5.534	7.392	9.22	-
915		3.65	6.63	12.57	18.55	20.54	-
1067		6.56	10.65	14.88	21.45	-	-

UNIFORM LOAD



CONCENTRATED LOAD



Pultruded Grating MAX PG2500

Span (mm)	UNIFORM LOAD (kg/m ²)																		
	100	150	200	300	400	500	600	800	900	1000	1200	1400	1600	2000	3000	4000	5000	8000	9000
	DEFLECTION δ (mm)																		
250	0.003	0.005	0.006	0.009	0.012	0.015	0.018	0.024	0.027	0.029	0.035	0.041	0.047	0.059	0.088	0.117	0.146	0.234	0.263
500	0.052	0.075	0.098	0.145	0.192	0.239	0.285	0.379	0.425	0.472	0.565	0.659	0.752	0.939	1.406	1.872	2.339	3.740	4.206
750	0.262	0.380	0.499	0.735	0.971	1.208	1.444	1.917	2.153	2.389	2.862	3.335	3.807	4.753					
1000	0.829	1.203	1.576	2.323	3.070	3.817	4.564	6.057											
1250	2.024	2.936	3.848	5.671	7.495														
1500	4.197	6.088	7.978																
1750	7.776																		

Span (mm)	CONCENTRATED LOAD (kg)																		
	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
	DEFLECTION δ (mm)																		
250	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.22	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.37
500	0.15	0.23	0.30	0.38	0.45	0.53	0.60	0.68	0.75	0.83	0.90	0.98	1.05	1.13	1.20	1.27	1.35	1.42	1.50
750	0.36	0.53	0.70	0.87	1.03	1.20	1.37	1.54	1.71	1.87	2.04	2.21	2.38	2.55	2.71	2.88	3.05	3.22	3.39
1000	0.68	0.98	1.28	1.58	1.87	2.17	2.47	2.77	3.07	3.37	3.67	3.97	4.26	4.56	4.86	5.16	5.46	5.76	6.06
1250	1.13	1.60	2.07	2.53	3.00	3.47	3.94	3.94	4.87	5.34	5.80	6.27	6.74						
1500	1.76	2.43	3.10	3.78	4.45	5.12	5.79	6.47											
1750	2.60	3.52	4.43	5.35	6.26														

MAX PG4000

Span (mm)	UNIFORM LOAD (kg/m ²)																		
	100	150	200	300	400x	500	600	800	900	1000	1200	1400	1600	2000	3000	4000	5000	8000	9000
	DEFLECTION δ (mm)																		
250	0.003	0.004	0.005	0.007	0.009	0.011	0.013	0.018	0.020	0.022	0.027	0.031	0.035	0.044	0.066	0.088	0.109	0.175	0.197
500	0.041	0.059	0.076	0.111	0.146	0.181	0.216	0.285	0.320	0.355	0.425	0.495	0.565	0.704	1.053	1.402	1.751	2.798	3.147
750	0.208	0.297	0.385	0.562	0.739	0.915	1.092	1.445	1.622	1.799	2.152	2.505	2.895	3.565					
1000	0.659	0.938	1.217	1.776	2.334	2.892	3.451	4.568											
1250	1.609	2.290	2.972	4.335	5.698														
1500	3.336	4.749	6.162																
1750	6.180																		

Span (mm)	CONCENTRATED LOAD (kg)																		
	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
	DEFLECTION δ (mm)																		
250	0.03	0.04	0.06	0.07	0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18	0.20	0.21	0.22	0.24	0.25	0.27	0.28
500	0.12	0.17	0.23	0.29	0.34	0.40	0.45	0.51	0.54	0.62	0.68	0.73	0.79	0.84	0.90	0.96	1.01	1.07	1.12
750	0.28	0.41	0.53	0.66	0.79	0.91	1.04	1.16	1.29	1.41	1.54	1.67	1.79	1.92	2.04	2.17	2.29	2.42	2.54
1000	0.55	0.77	0.99	1.22	1.44	1.66	1.89	2.11	2.33	2.56	2.78	3.00	3.23	3.45	3.67	3.90	4.12	4.34	4.57
1250	0.94	1.29	1.64	1.99	2.34	2.69	3.04	3.39	3.74	4.08	4.43	4.78	5.13						
1500	1.51	2.02	2.52	3.02	3.52	4.03	4.53	5.03											
1750	2.31	2.99	3.68	4.36	5.05														

MAX PG5000

Span (mm)	UNIFORM LOAD (kg/m ²)																		
	100	150	200	300	400	500	600	800	900	1000	1200	1400	1600	2000	3000	4000	5000	8000	9000
	DEFLECTION δ (mm)																		
250	0.003	0.004	0.005	0.007	0.009	0.011	0.013	0.017	0.019	0.021	0.025	0.029	0.033	0.042	0.062	0.083	0.104	0.166	0.186
500	0.040	0.057	0.073	0.106	0.139	0.172	0.205	0.217	0.305	0.338	0.404	0.470	0.536	0.668	0.998	1.328	1.659	2.649	2.980
750	0.204	0.288	0.371	0.538	0.706	0.873	1.040	1.374	1.542	1.709	2.043	2.378	2.712	3.381					
1000	0.645	0.909	1.173	1.702	2.230	2.758	3.287	4.344											
1250	1.574	2.219	2.864	4.154	5.444														
1500	3.264	4.601	5.939																
1750	6.046																		

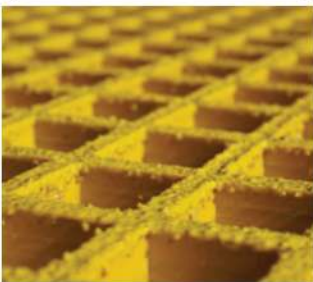
Span (mm)	CONCENTRATED LOAD (kg)																		
	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
	DEFLECTION δ (mm)																		
250	0.03	0.04	0.05	0.07	0.08	0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20	0.21	0.23	0.24	0.25	0.26
500	0.11	0.17	0.22	0.27	0.32	0.38	0.43	0.48	0.54	0.59	0.64	0.69	0.75	0.80	0.85	0.91	0.96	1.01	1.06
750	0.27	0.39	0.51	0.63	0.75	0.87	0.99	1.11	1.23	1.34	1.46	1.58	1.70	1.82	1.94	2.06	2.18	2.03	2.41
1000	0.54	0.75	0.96	1.17	1.38	1.60	1.81	2.02	2.23	2.44	2.65	2.86	3.08	3.29	3.50	3.17	3.92	4.13	4.34
1250	0.94	1.27	1.60	1.94	2.27	2.60	2.93	3.26	3.59	3.92	4.25	4.58	4.91						
1500	1.54	2.02	2.49	2.97	3.44	3.92	4.39	4.87											
1750	2.38	3.03	3.68	4.33	4.97														

COLORS



TOP SURFACE

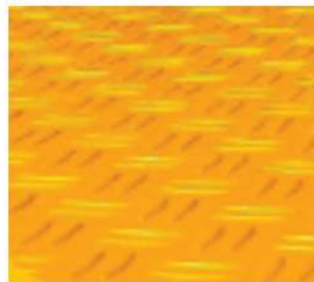
Anti Skid



Concave



Chequered Plate



Flat



INSTALLATION

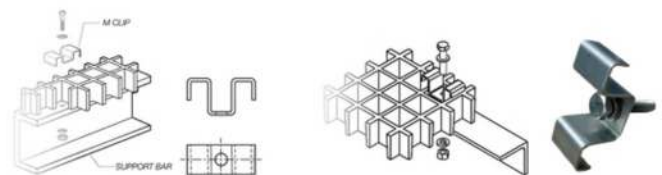
FASTENERS :

All fasteners are stainless steel SUS 304 grade.

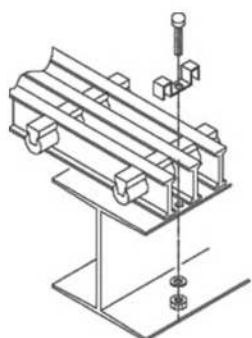
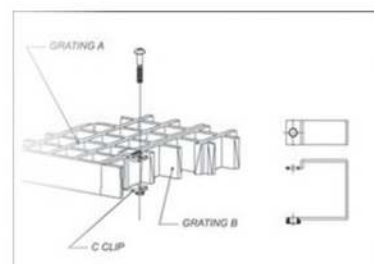
Type M: typical used for restraint movement in any direction and also could be used to fix two panel.

Type C: FRP Grating clips for connecting two FRP grating panels

M-Clip



C-Clip



M - Clip

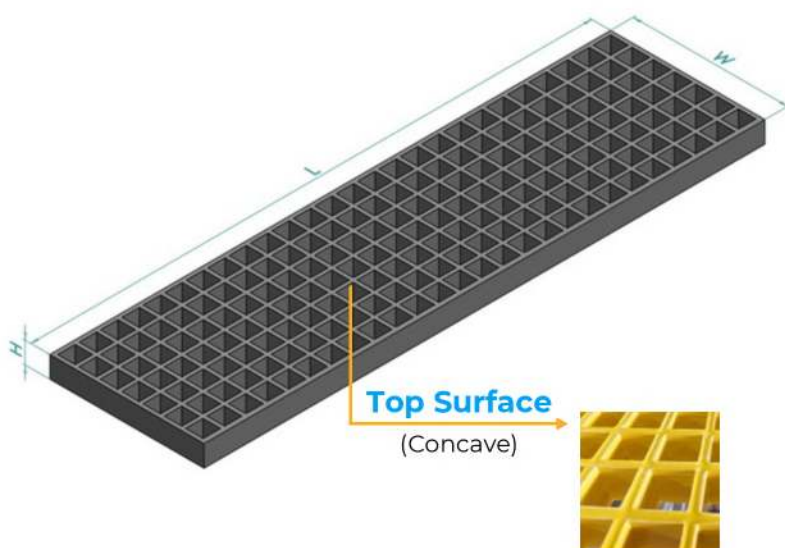


TRENCH COVER MOLDED GRATING

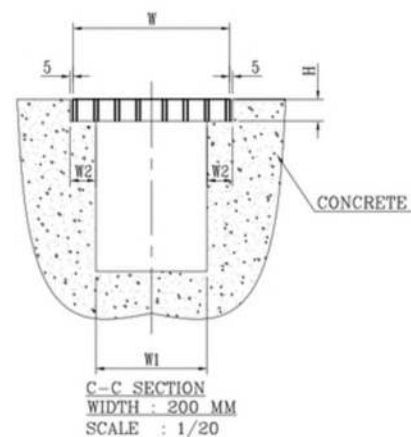
Square Mesh 38 x 38

DIMENSION	W	W1	W2	H	OPEN AREA (%)	WEIGHT (Kg)
(W)160 X (L)1000 X (H)25	160	100	30	25	68	1,9
(W)275 X (L)1000 X (H)25	275	200	37,5	25	68	3,2
(W)390 X (L)1000 X (H)25	390	300	45	25	68	4,6
(W)505 X (L)1000 X (H)25	505	400	52,5	25	68	6
(W)620 X (L)1000 X (H)25	620	500	60	25	68	7,3

DIMENSION	W	W1	W2	H	OPEN AREA (%)	WEIGHT (Kg)
(W)160 X (L)1000 X (H)38	160	100	30	38	68	3,1
(W)275 X (L)1000 X (H)38	275	200	37,5	38	68	5,4
(W)390 X (L)1000 X (H)38	387	300	43,5	38	68	7,5
(W)505 X (L)1000 X (H)38	500	400	50	38	68	9,8
(W)620 X (L)1000 X (H)38	615	500	57,5	38	68	12



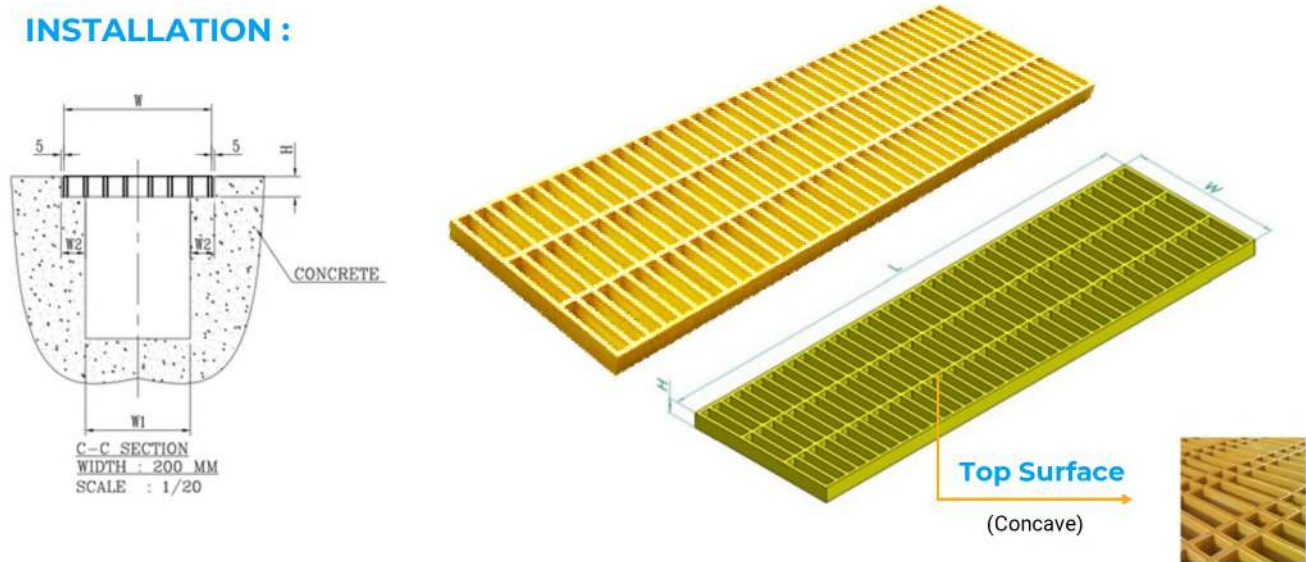
INSTALLATION:



Rectangular Mesh 100 x 25

DIMENSION	W	W1	W2	H	OPEN AREA (%)	WEIGHT (Kg)
(W)306 X (L)1007 X (H)30	306	200	53	30	68	4,7
(W)406 X (L)1007 X (H)30	406	300	53	30	68	6,2
(W)506 X (L)1007 X (H)30	506	400	53	30	68	7,8
(W)606 X (L)1007 X (H)30	606	500	53	30	68	9,3

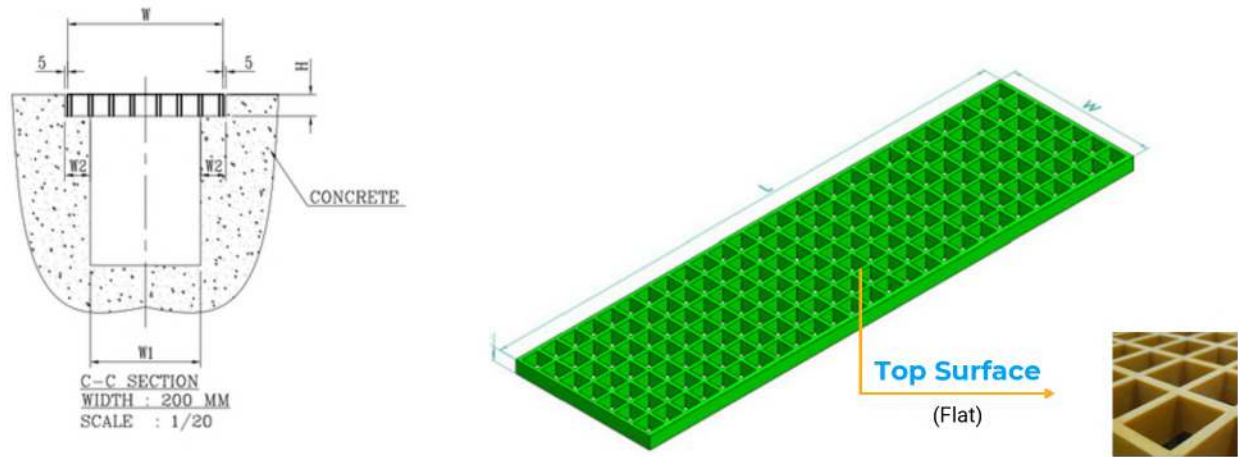
INSTALLATION :



Trench Cover for Swimming Pool

DIMENSION	W	W1	W2	H	OPEN AREA (%)	WEIGHT (Kg)
(W)235 X (L)1000 X (H)25	235	200	17,5	25	68	2,8
(W)273 X (L)1000 X (H)25	273	250	11,5	25	68	3,2
(W)349 X (L)1000 X (H)25	349	300	24,5	25	68	4,1

INSTALLATION :



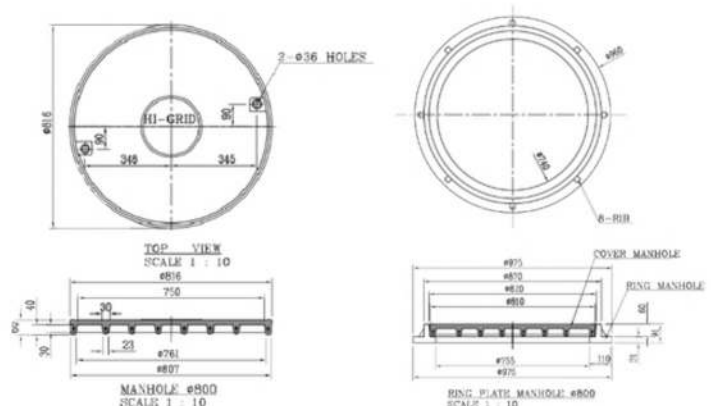
FRP MANHOLE COVER

BMC TYPE

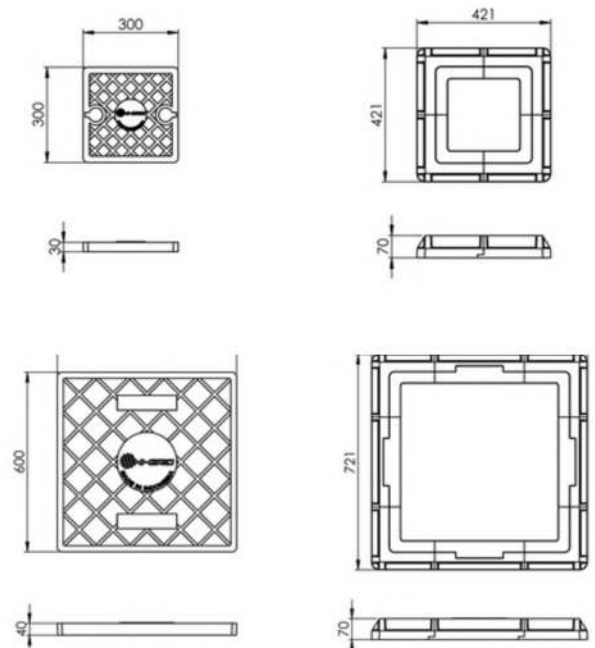
BMC stands for Bulk Molding Compound, a composite material based on resin and glass-fiber reinforcement. BMC Manhole Covers provide a lightweight alternative to cast-iron manhole covers, with a significantly lower material density.

An 800 mm diameter manhole cover with a thickness of 60 mm is capable of withstanding a maximum load of 25,000 kg (25 tons), while the product weight is approximately 42 kg, including a 30 kg ring support. BMC Manhole Covers are suitable for inspection chambers and other access applications where strength, corrosion resistance, lightweight handling, and durability are required.

BMC Rounded



BMC Square



MATERIALS COMPARISONS

DIFFERENCES	BMC MANHOLE	CAST IRON MANHOLE	CONCRETE MANHOLE
Material	Resin, Recycled Glass Fiber, Inorganic Filler, and additives	Cast Iron (FC) Ductile Iron (FCD)	Sand & Cement
Production Process	1. Design the Manhole 2. Prepare the Mold 3. Mix the materials 4. Hot Press and Cure 5. Remove the Manhole 6. Finish and Inspect 7. Quality Control	1. Design the Manhole 2. Make the Pattern 3. Create the Mold. 4. Melt the Cast Iron 5. Pour the Iron 6. Cool and Solidify 7. Remove from Mold 8. Clean and Finish 9. Quality Control	- Design the Manhole - Prepare the Mold - Mix the Concrete - Pour the Concrete - Set and Cure - Remove from Mold - Finish and Inspect - Quality Control
Life Time	Long	Long	Short
Strength	High	High	Low
Price	Competitive	Depending on the material grade.	Competitive
Safety	Anti theft due to its zero resale value	Prone to theft because cast iron has a high resale value.	Low likelihood of theft due to its low resale value and relative heaviness, which makes it difficult to move.
Design	Varied, and customizable.	Varied, and customizable	Standard design; cannot be customized.

COLORS



Black



Light Grey



Yellow



Green

SPECIFICATION

Type BMC Specification

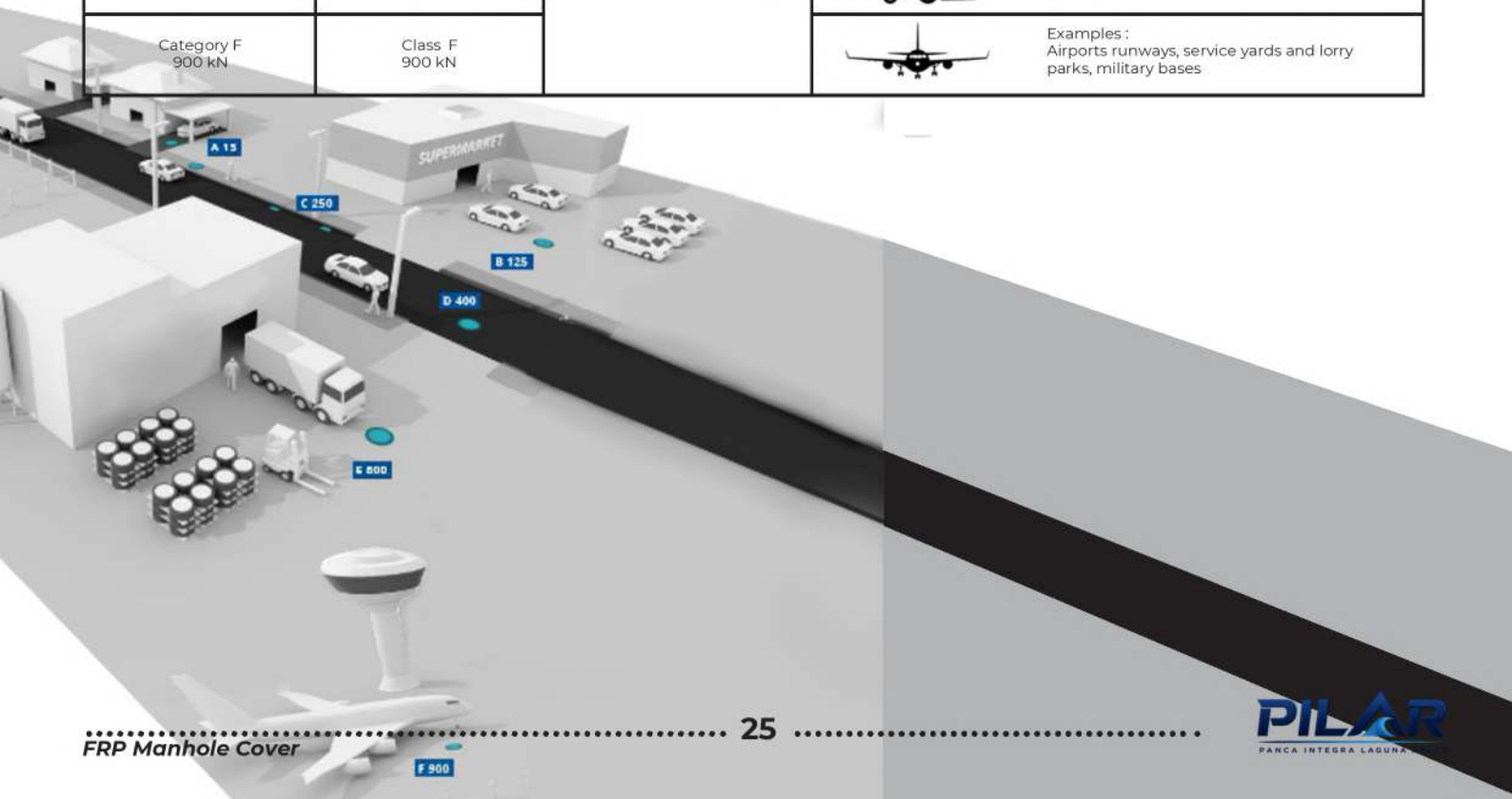
Type	Thickness (mm)	Dimension (mm)	Weight (Kg/Pcs)
BMC Rounded	60	OD 800	42
BMC Square	30	300 x 300	6,5
	40	600 x 600	25

Ring BMC

Type	Thickness (mm)	Dimension (mm)	Weight (Kg/Pcs)
Ring BMC Rounded	90	OD 975; ID 810	30

LOAD CLASSES

European Standard EN 124	Australian Standard A53996	HI-Grid BMC Manhole Cover	Description
Category A 15 kN	Class A 10 kN	Class A 15 kN	 Examples : Pedestrian and cycleways, garage doors, domestic drives, lawned areas
Category B 125 kN	Class B 80 kN	Class B 125 kN	 Examples : Light vehicle driveways, private car parks, pedestrian precincts
Category C 250 kN	Class C 210 kN	Class C 250 kN	 Examples : Service stations (cars), parkside areas, paved areas, kerbsides
Category D 400 kN	Class D 400 kN	Not yet Available	 Examples : Carriageway locations, service station fore-courts, public areas
Category E 600 kN	Class E 600 kN		 Examples : industrial areas, forklifts, docksides
Category F 900 kN	Class F 900 kN		 Examples : Airports runways, service yards and lorry parks, military bases





FRP CABLE TRAY & LADDER

FRP Cable Tray

Straight Cable Tray 3000mm (WxH)	90° Horizontal Elbow Tray (WxH)	Horizontal Equal Tee (WxH)	90° Inside Ver- tical Elbow Tray (WxH)	90° Outside Ver- tical Elbow Tray (WxH)	Right Hand Side Reducer Tray (W1xW2)	Left Hand Side Reducer Tray (W1xW2)
50 x 50	50 x 50 (R 600)	50 x 50	50 x 50 (R 600)	50 x 50 (R 600)	300 x 100	300 x 100
100 x 100	100 x 100 (R 600)	100 x 100	100 x 100 (R 600)	100 x 100 (R 600)	300 x 200	300 x 200
200 x 100	200 x 100 (R 600)	200 x 200	200 x 100 (R 600)	200 x 100 (R 600)		
300 x 100	300 x 100 (R 600)	300 x 300	300 x 100 (R 600)	300 x 100 (R 600)		

FRP Cable Ladder Type 100

Straight Cable Ladder 3000mm (WxH)	90° Horizontal Elbow Ladder (WxH)	Horizontal Equal Ladder (WxH)	90° Inside Verti- cal Elbow Ladder (WxH)	90° Outside Verti- cal Elbow Ladder (WxH)	Right Hand Side Reduc- er Ladder (W1xW2)	Left Hand Side Reducer Ladder (W1xW2)
300 x 100	300 x 100 (R 300; R 600)	300 x 100	300 x 100 (R 300; R 600)	300 x 100 (R 300; R 600)	800 x 300	800 x 300
400 x 100	400 x 100 (R 300; R 600)	400 x 100	400 x 100 (R 300; R 600)	400 x 100 (R 300; R 600)	800 x 400	800 x 400
600 x 100	600 x 100 (R 300; R 600)	600 x 100	600 x 100 (R 300; R 600)	600 x 100 (R 300; R 600)	800 x 600	800 x 600
800 x 100	800 x 100 (R 300; R 600)	800 x 100	800 x 100 (R 300; R 600)	800 x 100 (R 300; R 600)	600 x 300	600 x 300
900 x 100	900 x 100 (R 300; R 600)	900 x 100	900 x 100 (R 300; R 600)	900 x 100 (R 300; R 600)	600 x 400	600 x 400
1000 x 100	1000 x 100 (R 300; R 600)	1000 x 100	1000 x 100 (R 300; R 600)	1000 x 100 (R 300; R 600)	400 x 300	400 x 300
1100 x 100	1100 x 100 (R 300; R 600)	1100 x 100	1100 x 100 (R 300; R 600)	1100 x 100 (R 300; R 600)		
1200 x 100	1200 x 100 (R 300; R 600)	1200 x 100	1200 x 100 (R 300; R 600)	1200 x 100 (R 300; R 600)		

OLine FRP Cable Tray and Ladder systems are high-quality fiberglass support systems designed for electrical and corrosion-sensitive environments. They provide an alternative to galvanized steel, aluminum, and other non-metallic cable support systems.

The range includes straight trays and ladders, horizontal and vertical elbows, equal tees, reducers, and other fittings to support flexible cable routing configurations.

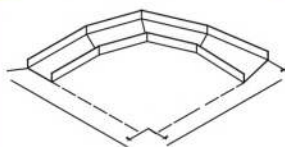
Note: Standard colors are light grey. Covers, custom colors, and custom sizes can be provided according to project requirements.

FRP Cable Ladder Type 150

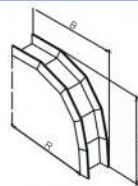
Straight Cable Ladder 3000mm (WxH)	90° Horizontal Elbow Ladder (WxH)	Horizontal Equal Ladder (WxH)	90° Inside Vertical Elbow Ladder (WxH)	90° Outside Vertical Elbow Ladder (WxH)	Right Hand Side Reducer Ladder (W1xW2)	Left Hand Side Reducer Ladder (W1xW2)
300 x 150	300 x 150 (R 300; R 600)	300 x 150	300 x 150 (R 300; R 600)	300 x 150 (R 300; R 600)	800 x 300	800 x 300
400 x 150	400 x 150 (R 300; R 600)	400 x 150	400 x 150 (R 300; R 600)	400 x 150 (R 300; R 600)	800 x 400	800 x 400
600 x 100	600 x 150 (R 300; R 600)	600 x 150	600 x 150 (R 300; R 600)	600 x 150 (R 300; R 600)	800 x 600	800 x 600
800 x 150	800 x 150 (R 300; R 600)	800 x 150	800 x 150 (R 300; R 600)	800 x 150 (R 300; R 600)	600 x 300	600 x 300
900 x 150	900 x 150 (R 300; R 600)	900 x 150	900 x 150 (R 300; R 600)	900 x 150 (R 300; R 600)	600 x 400	600 x 400
1000 x 150	1000 x 150 (R 300; R 600)	1000 x 150	1000 x 150 (R 300; R 600)	1000 x 150 (R 300; R 600)	400 x 300	400 x 300
1100 x 150	1100 x 150 (R 300; R 600)	1100 x 150	1100 x 150 (R 300; R 600)	1100 x 150 (R 300; R 600)		
1200 x 150	1200 x 150 (R 300; R 600)	1200 x 150	1200 x 150 (R 300; R 600)	1200 x 150 (R 300; R 600)		

AVAILABLE FITTINGS

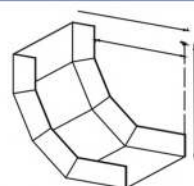
Cable Tray



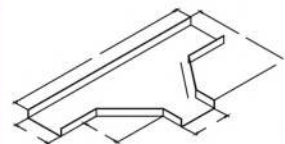
90° Horizontal Elbow Tray



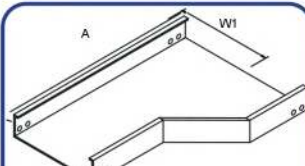
90° Outside Vertical Elbow Tray



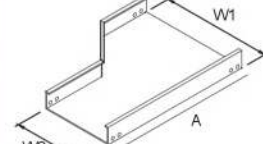
90° Inside Vertical Elbow Tray



Horizontal Equal Tee Tray

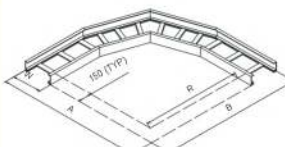


Right Hand Side Reducer Tray

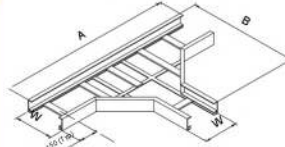


Left Hand Side Reducer Tray

Cable Ladder



90° Horizontal Elbow Ladder



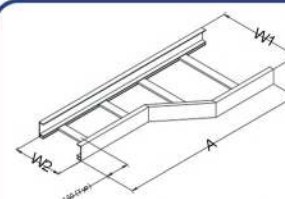
Horizontal Equal Tee Ladder



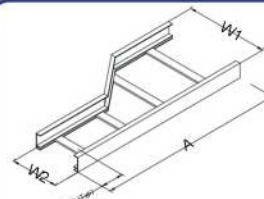
90° Horizontal Equal Tee Ladder



90° Outside Vertical Elbow Ladder



Right Hand Side Reducer Ladder



Left Hand Side Reducer Ladder

LOAD TEST

Load Test Cable Ladder

Support Span (m)	Type H100				
	Deflection (mm)				Maximum Allowable Load (Kg/m)
	Width (300)	Width (600)	Width (900)	Average (mm)	
3.0	46	49	51	49	241
2.7	34	36	38	37	300
2.4	28	30	33	30	380
2.1	22	26	29	26	485
1.8	16	19	21	19	679
1.5	12	14	16	14	940

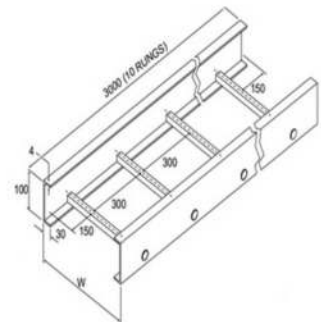
Specification Ladder Type H100	
Loading	148 Kg/m for span 3 m
Colour	Light grey
Standard Length	3 m
UNP Channel	100 mm x 30 mm x 4 mm
Rung	28 x 28 mm
Loading Depth	68 mm
Width	300, 600, 900 (mm)
Weight	10, 12 & 15 (kg/length)

NEMA Loading Standard:

Class A : 75 Kg/m

Class B : 112 Kg/m

Class C : 148 Kg/m



Support Span (m)	Type H150				
	Deflection (mm)				Maximum Allowable Load (Kg/m)
	Width (300)	Width (600)	Width (900)	Average (mm)	
3.0	26	29	34	30	304
2.7	19	25	30	25	378
2.4	15	20	25	20	483
2.1	9	14	19	14	580
1.8	7	11	17	12	867
1.5	4	9	16	10	1357

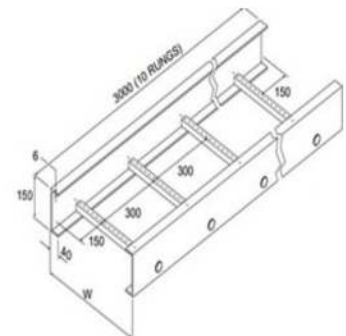
Specification Ladder Type H150	
Loading	148 Kg/m for span 3 m
Colour	Light grey
Standard Length	3 m
UNP Channel	150 mm x 40 mm x 6 mm
Rung	28 x 28 mm
Loading Depth	116 mm
Width	300, 600, 900 (mm)
Weight	18,20,23 (kg/length)

NEMA Loading Standard:

Class A : 75 Kg/m

Class B : 112 Kg/m

Class C : 148 Kg/m



Load Test Cable Tray

Support Span (m)	Specification Tray Type H100			
	Deflection (mm)			Load Test (Kg/m)
	Width (100)	Width (200)	Width (300)	
3.0	6.178	6.74	7.889	150
2.5	3.854	4.338	4.861	150
2.0	2.517	2.891	3.667	150
1.5	1.886	2.57	2.367	150
1.0	0.975	1.25	1.628	150
0.5	0.25	0.38	0.48	150

FRP PROFILES



A wide range of pultruded structural components is available, including channels, beams, angles, bars, rods, concrete embedment angles, toe plates, flat sheets, threaded rods, and nuts. These structural profiles are suitable for a broad range of applications and combine corrosion resistance, high strength, dimensional stability, lightweight construction, and thermal and electrical non-conductivity.

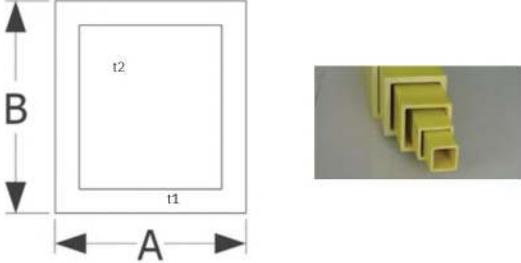
Mechanical Properties

SPECIMEN	TENSILE STRENGTH (MPa)	MODULUS TENSILE (GPa)	SHEAR STRESS (MPa)
THICKNESS 10	517.85	42.14	102.57
THICKNESS 8	477.80	41.98	115.43
THICKNESS 6	407.93	36.78	106.10

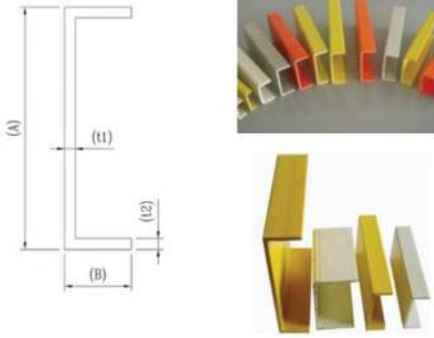
Properties	Method	Value
Tensile Strength	ASTM D3039	517 MPa
Tensile Modulus	ASTM D3039	42.14 GPa
Shear Stress (MPa)	ASTM D3039	102.57 MPa
Impact Strength (IZOD)	ASTM D256	
	Before Immersion	3549J/m
	After Immersion	3420J/m
	% Change	-3,60%
Hardness Test	ASTM D2583	52
Water Absorption	ASTM D570	0.06%
Flammability; Smoke Density	UL-94	
	Horizontal	HB-C
	Vertical	V-0
	ASTM D635	HB (less than 5 sec)
	ASTM E662	Non Flaming L2 & Flaming L3
UV Resistance Accelerated Weathering	ASTM G154	Scale 5
Natural Weathering	ISO 4582:1998	RATING NO 4
DC Resistance or Conductance of insulating Materials	ASTM D257	5.47 × 10"

SPECIFICATION

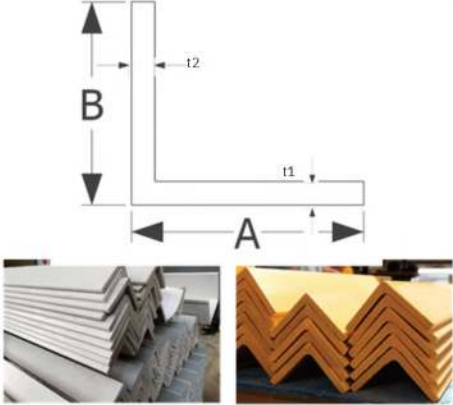
Square Hollow & Rect. Hollow

Drawing	Type	Dimensions (mm) A X B X T	Weight kg/m
	SH50	50x50x6	2.12
	SH60	60x60x6	2.59V
	SH65	65x65x6	2.83
	SH75	75x75x9	4.75
	SH100	100x100x6	4.51
	SH125	125x125x6	5.90
	RH100	100x75x6	3.91

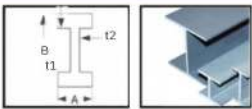
U-Channel

Drawing	Type	Dimensions (mm) A X B X T1 X T2	Weight (kg/m)
	U50	50x25x4x4	0.96
	U70	70x25x4.5x4.5	0.95
	U100A	100x30x4x4	1.28
	U100B	100x30x6x6	1.92
	U135	135x35x6x6	2.46
	U150	150x30x4x4	1.68
	U200	200x55x9x9	5.76

Equal - Angle

Drawing	Type	Dimensions (mm) A X B X T	Weight (kg/m)
	EL25	25x25x6	0.56
	EL50A	50x50x4	0.62
	EL50B	50x50x6	1.14
	EL75	75x75x6	1.77
	EL100A	100x100x6	2.50
	EL60	60x60x8	1.67
	EL80	80x80x8	2.31
	EL100B	100x100x10	3.6

I-Beam

Drawing	Type	Dimensions (mm) A X B X T1 X T2	Weight (kg/m)
	IB100	100x50x6x6	2.86
	IB150	150x75x6x6	4.36

Floor Deck

Drawing	Type	Dimensions (mm) A X B X T1 X T2	Weight (kg/m)
	FL-H	335x28x4x4	3.5
	FL-I	460x80x5	6.9

C-Channel

Drawing	Type	Dimensions (mm) A X B X T1 X T2	Weight (kg/m)
	C50	50X25X4X4	5.2
	C60	60X19X3X3	3.9
	C111	111X19X3X3	5.6
	C150	150X65X7X7	22.2
	C210	210X19X3X3	8.9
	C310	310X19X3X3	12.2

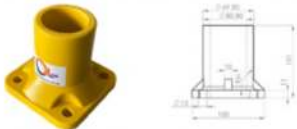
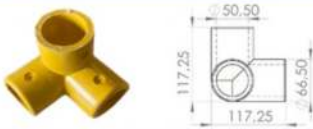
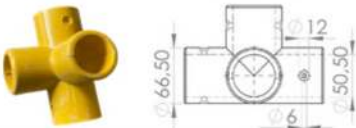
Drawing	Type	Dimensions (mm) A X B X T	Weight (kg/m)
	Square Pipe 25x25	25 X 25 X Ø16	0.85
	Square Pipe 28x28	28 X 28 X Ø22	0.8
	Serrated Tube Ø45	Ø45 X 6	1.2
	Round Bar Ø12	Ø12	0.3
	I Bar 25	25 X 10 X 4	0.4
	I Bar 40	40 X 10 X 4	0.5
	I Bar 50	50 X 10 X 4	0.6
	Elips Bar	60 X 22 X 4	1.1

FRP HANDRAIL

FRP Handrails and fittings provide a strong, corrosion-resistant, lightweight solution for access platforms, bridges, industrial facilities, and other areas requiring safe edge protection.

The modular system is available with a range of fittings and configurations, including end stands, corner stands, continuous sections, wall mounting, base mounting, tee joints, elbow joints, and other connection components.

The system is designed for practical assembly and installation while offering long-term performance with minimal maintenance.

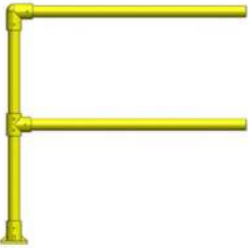
Drawing	Type	Dimensions (mm)	Weight (kg)
	Base Mounting Square	100 X 100 X Ø50,5	0.443
	3 Way Corner	ID Ø50,5 ; T:8	0.574
	4 Ways Corner	ID Ø50,5 ; T:8	0,69
	Cross Joint	ID Ø50,5 ; T:8	0,468
	Adjustable Elbow	ID Ø50,5 ; T:6,5	0,324
	Elbow Corner	ID Ø50,5 ; T:8	0,482
	Tee Joint	ID Ø50,5 ; T:7	0,327
	Wall Mounting	130,5 X 150 ; T:7	0,525
	Round Tube	OD Ø 50 X 3 ; T:6	0,586

MECHANICAL PROPERTIES

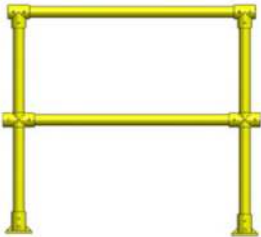
Properties	Value
Water Absorption	0.57%
Flexural Modulus	1.86 GPa
Flexural Strength	302 MPa
Tensile Strength	210 MPa
Tensile Modulus	22 GPa
Flame Retardant Rating	Class A
Dielectric Breakdown Voltage	14.98 kV

MODUL

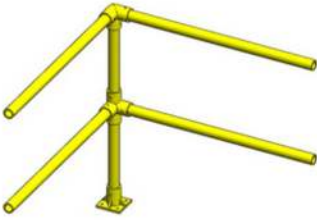
Two Lines Handrail



End Stand Handrail

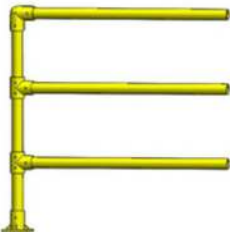


Corner Stand Handrail

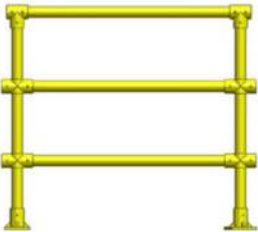


Continue Stand Handrail

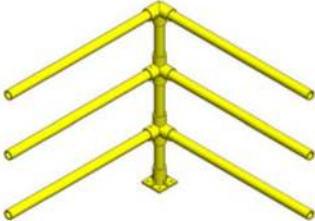
Three Lines Handrail



End Stand Handrail



Corner Stand Handrail

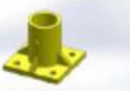


Continue Stand Handrail

Assembling & Installation



Wall Mounting



Base Mounting



Tee Joint



Elbow Joint



3 Way Joint



4 Way Joint



Cross Joint



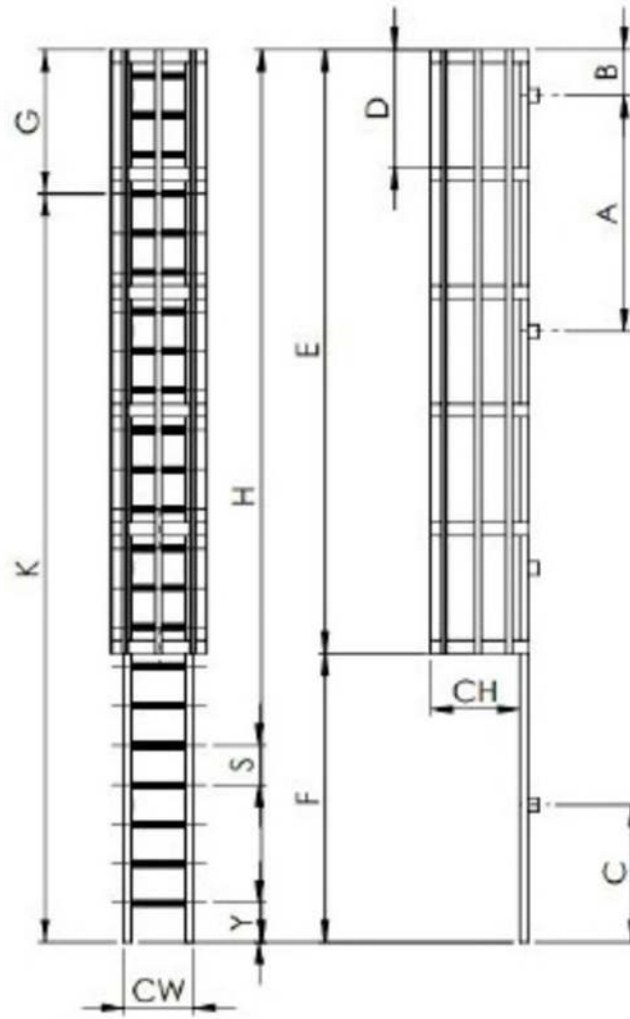




FRP CAGE LADDER

BMFRP Cage Ladders provide a safe and durable access solution for industrial and commercial facilities. Manufactured from fiber-reinforced polymer, the ladder system is designed for long-term performance and demanding environments.

Key features include corrosion resistance for harsh environments, a protective cage that provides an additional level of fall protection, pre-assembled components for easier installation, non-conductive construction for applications near electrical equipment, and lightweight handling compared with conventional metal ladders.



No	Description	Code	Size	Part	Dimension	Approximately Weight	Qty
1	Total Height	H	5000mm	Ellipse Bar	60x22x4	5 Kg/Ea	2
2	Mounting Bracket Spacing	A	1200mm x (3)	U-Channel 200x55x9	150x55x9 Length=100mm	0.35 Kg/Ea	8
		B	650mm			0.95 Kg/Ea	
		C	750mm			1 Kg/Ea	
3	Hoop Spacing Equal Distance	D	500mm X (6)	Flat Bar t=4mm	Width = 7mm		7
4	Cage Size	E	3000mm	Flat Bar t=4mm	Width = 5mm	0.5 Kg/Ea	7
		F	2000mm				
		CH	650mm				
		CW	400mm	Serrated Tube	OD=Ø45 ID=Ø32 length = 400 mm		14
5	Walk Thru	G	800mm				
6	Platform Height	K	4200mm				
7	Spacing of Rung	S	300mm x (14)				
8	Base Point	Y	300mm				
9	accessories			Bolt & Nut	M10 x 40		109



GFRP REBAR

GFRP Rebar is a concrete reinforcing bar made from a combination of fiberglass and resin, making it significantly lighter than steel while maintaining high strength. Unlike iron, GFRP Rebar does not rust, making it ideal for use in structures frequently exposed to water or chemical environments.

MATERIAL COMPARISON

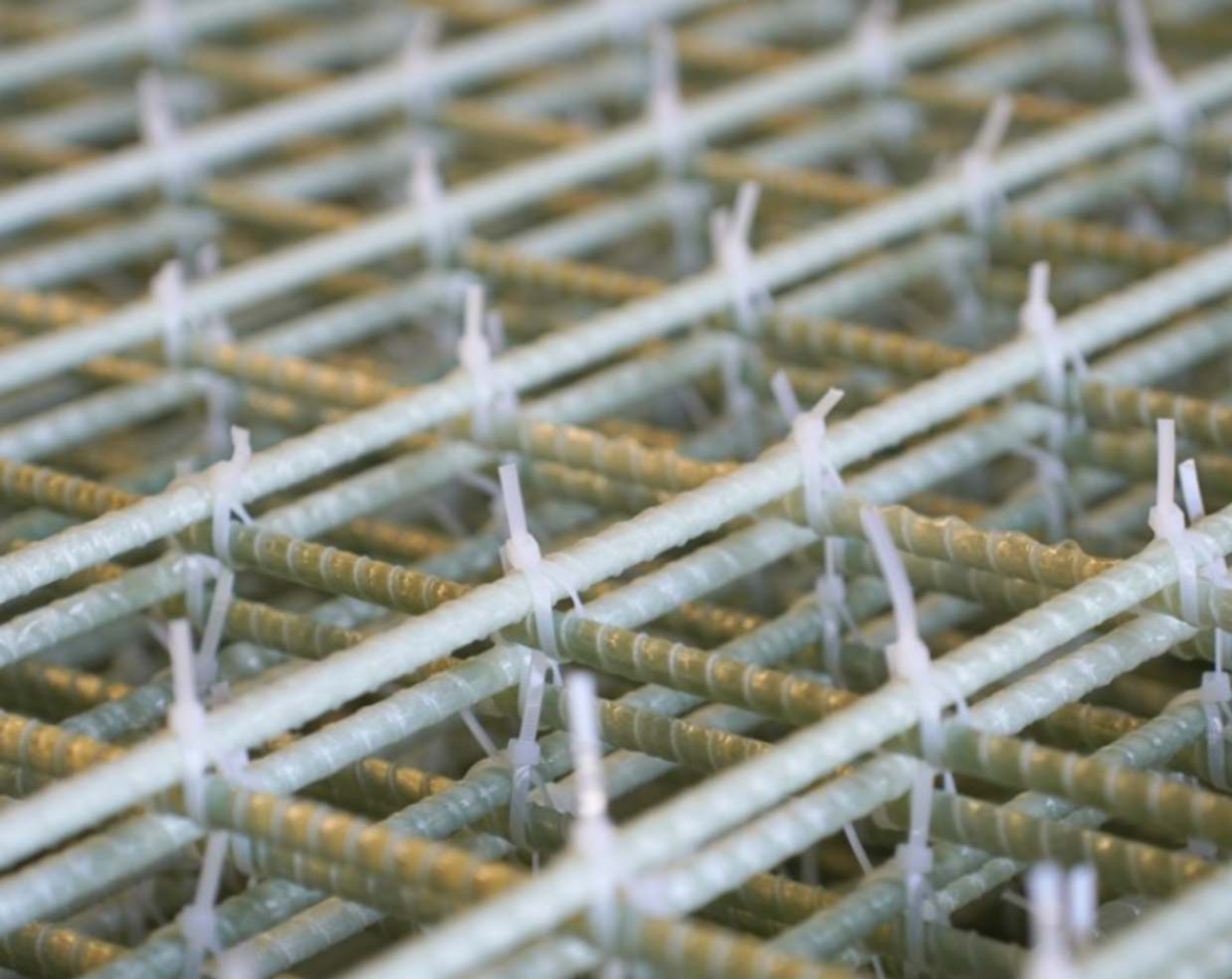
No	Variable	Rebar GFRP	Rebar Steel		Unit
Note: Rebar comparison data D16					
A. mechanical properties					
1	Tensile Strength	629	BJTS 420	525	MPa
2	Modulus of elasticity	40 - 50	200		GPa
3	Ductility	does not undergo plastic deformation	capable of undergoing plastic deformation (yielding)		
4	Bond strength with concrete	6-8.7	10-12.1		MPa
A. physical properties					
5	Density	2200	7800		Kg/m3
6	Corrosion resistance	LONGER	YES		
7	Heat conductor	NO	YES		
8	Electrical conductor	NO	YES		

MATERIAL COMPARISON

No	Variable	Rebar GFRP	Rebar Steel	Unit
Note: Rebar comparison data D16				
C. Construction aspect				
9	Installation	Simple	Require	
10	Bending	NO	YES	
11	Joining	>40d	>40d	
12	Service life	LONGER	SHORT	
13	Maintenance	LOW	HIGH	
D. Mobilization aspect				
14	Weight	0.45	1.58	Kg/m
15	40ft trailer shipment	30	30	Ton
16		5550	1570	
17		333666	18840	
E. Production aspect				
18	Output	140		Pcs/Day
19	Colour Variations	Can be adjusted (to natural resin color standards)	1 Colour	

SPECIFICATION

Product	Diameter	Length	Tensile Strength	Weight
	mm	mm	Mpa	Kg/m
O-Line GFRP Rebar Ø 6	6	6000	778	0.10
O-Line GFRP Rebar Ø 8	8	6000	749	0.13
O-Line GFRP Rebar Ø 10	10	6000	718	0.15
O-Line GFRP Rebar Ø 12	12	6000	659	0.24
O-Line GFRP Rebar Ø 16	16	6000	629	0.38
O-Line GFRP Rebar Ø 22	22	6000	596	0.65
O-Line GFRP Rebar Ø 28	28	6000	563	1.38
O-Line GFRP Rebar Ø 32	32	6000	532	1.59
O-Line GFRP Rebar Ø 36	36	6000	483	1.99
O-Line GFRP Rebar Ø 38	38	6000	460	2.12



GFRP WIRE MESH

GFRP Wire Mesh is a reinforcing mesh made from fiberglass and resin, making it lighter than steel wire mesh while still maintaining high strength. Unlike steel, GFRP Wire Mesh does not rust, making it ideal for use in structures frequently exposed to water, chemicals, or corrosive environments.

Product	Dimention
Oline fiberglass wiremesh	1700 x 2400 x Ø10mm
Oline fiberglass wiremesh	1700 x 2400 x Ø12mm

DRAINAGE

Trench BMC

BMC Trench Drainage systems are formed from thermosetting resin, fiberglass, fillers, and additives combined into a homogeneous composite material. The system provides a durable, corrosion-resistant, and customizable drainage solution for managing surface water runoff. Its relatively lightweight construction and ease of installation make it suitable for industrial facilities, commercial properties, parking areas, residential developments, and other infrastructure applications.



Model	Inner Width(mm)	Inner Height (mm)	Outer Width (mm)	Outer Height (mm)	Total Length (mm)	Weight (kg)
OLTD3003001000BMC	300	270	350	300	1000	31



Polypropylene

Oline PP Drainage, primarily used for rapidly collecting ground rainwater and directing it to the municipal pipe network, is gradually replacing cast-in-place concrete ditches. With rising labor and raw material costs each year, plastic linear drainage ditches are widely used in commercial blocks, parks, parking lots, roads, seaports, airports, and other locations.



Installation:



Size and Dimensions

Model	Inner Width (mm)	Inner Height (mm)	Outer Width (mm)	Outer Height (mm)	Total Length (mm)	Cover Size (mm)
OLTD1001001000BLPP	100	100	150	140	1000	135
OLTD1601601000BLPP	160	160	250	200	1000	200
OLTD2002001000BLPP	200	200	280	240	1000	250
OLTD3003001000BLPP	300	300	400	360	1000	350
OLTD4004001000BLPP	400	400	480	455	1000	460
OLTD5005001000BLPP	500	500	570	555	1000	550

Connector

Model	Detail
OLFWCTD300300BLPP	Oline Four-way Connector Trench Drain; Size: Width=300mm, Height=300mm; Black; PP
OLECCTD300300BLPP	Oline End-cup Connector Trench Drain; Size: Width=300mm, Height=300mm; Black; PP
OLFWCTD200200BLPP	Oline Four-way Connector Trench Drain; Size: Width=200mm, Height=200mm; Black; PP
OLECCTD200200BLPP	Oline End-cup Connector Trench Drain; Size: Width=200mm, Height=200mm; Black; PP
OLFWCTD160160BLPP	Oline Four-way Connector Trench Drain; Size: Width=160mm, Height=160mm; Black; PP
OLECCTD160160BLPP	Oline End-cup Connector Trench Drain; Size: Width=160mm, Height=160mm; Black; PP
OLFWCTD100100BLPP	Oline Four-way Connector Trench Drain; Size: Width=100mm, Height=100mm; Black; PP
OLECCTD100100BLPP	Oline End-cup Connector Trench Drain; Size: Width=100mm, Height=100mm; Black; PP



Oline Four-way Connector Trench Drain



Oline End-cup Connector Trench Drain

Polymer Concrete

OLine Polymer Concrete Drainage includes polymer concrete channels, sumps, and kerbs. Polymer concrete is a versatile and durable composite material formed by combining mineral fillers with a synthetic or natural resin binding agent.

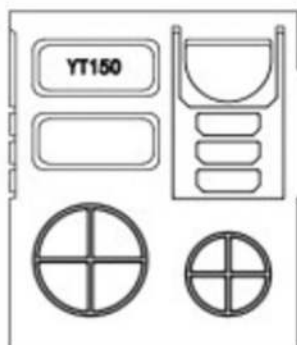
Its long service life and material performance make polymer concrete suitable for a wide range of building, construction, infrastructure, and drainage applications.



Model	Inner Width (mm)	Inner Height (mm)	Outer Width (mm)	Outer Height (mm)	Total Length (mm)	Weight (kg)
OLTD10010010000PC	100	10	140	120	1000	11.03
OLTD1501301000PC	150	130	190	150	1000	16.57
OLTD2001301000PC	200	130	240	150	1000	16.57
OLTD2501801000PC	250	180	290	200	1000	23.22
OLTD4002751000PC	400	275	460	300	1000	44.70

Polymer Concrete Pits

Model	Detail
OLSPTD100480460PC	Size: Width=100mm, Height=480mm, Length=460mm; Polyconcrete
OLSPTD200580560PC	Size: Width=200mm, Height=580mm, Length=560mm; Polyconcrete
OLSPTD300580450PC	Size: Width=300mm, Height=580mm, Length=450mm; Polyconcrete
OLSPTD400620640PC	Size: Width=400mm, Height=620mm, Length=640mm; Polyconcrete





SEPTIC TANK

Three-chamber Septic Tanks are widely used for domestic wastewater treatment in residential communities, office buildings, hotels, schools, hospitals, barracks, public toilets, food-processing facilities, residential buildings, and other locations requiring domestic sewage treatment.

The three-chamber configuration supports staged wastewater treatment and is suitable for projects requiring a practical, durable, and efficient wastewater management solution.

Product Feature:

Eco Friendly

O-Max Septic Tank Environmentally Friendly Durable.

Excellent Sealing Property

No leakage, no odor, no pollution, maintenance-free, to ensure the function of anaerobic manure.

Long Service Life

O-Max Septic Tank is environmental protection material, strong and durable, with oxidation resistance and acid-base corrosion resistance, buried in the ground can be used for 50 years.

Low Cost & High Quality

Flexible site selection, less land occupation, saving of land resources, Improving the use efficiency of real estate.

Easy Installation

Modular production, complete set, convenient installation, high efficiency, shorten construction period.

Environmental Protection

The treated sewage can meet the discharge standard. It is an environmentally friendly product that is recommended by the urban construction department.

Individual Septic Tank Specification

O-Max PP Septic Tank

Product Name	O-Max PP Septic Tank				
Main Material	Polypropylene				
Model	OMAXST06CBM-3BLPP	OMAXST1CBM-5BLPP	OMAXST2CBM-5BLPP	OMAXST25CBM7BLPP	Sedimentation
Size	0.6m3	1.0m3	2.0m3	2.5m3	30 Days
Dimension (mm)	1575x835x780 ; T:3	1720x990x910 ; T:5	2340x1235x1165 ; T:5	2725x1260x1180; T:7	
Weight (kgs)	29	48	84	129	
Number of Users	1-4	3-6	10-15	13-17	
Diameter of Manhole (mm)	315x315	315x200x200	315x200x200x315	315x315x315	
Parts for one set	The Upper Tank + Bottom Tank + Partition Board + Elbow Pipe + Manhole Covers + Screws Nuts + Sealing Ring+ Sealing Tape + Honey Comb + BioBall				

Accessories O-Max PP Septic Tank



Sealing Tape



Sealing Ring



Nut & Screws



Elbow Pipe



Cover



Partition Panel



Honey Comb



Bio Ball

Chamber 2

The Second Stage: Fermentation Chamber
Function: Continue to precipitate and ferment, organic matter make further fermentation and decompose into ammonia NH₂, methane CH₄, etc. Most of germs are killed in this chamber.
Residence time: ≥ 10 days
Flow Direction: Intermediate solution flows to Chamber 3

Chamber 1

The first stage: Pre-fermentatic chamber
Function: Precipitate inorganic matters, Pre-anaerobic ferment, killing pathogens and viruses.
Residence time: ≥ 20days
Flow Direction: Intermediate solution flows to Chamber 2



Chamber 3

The Third Stage: Storage Chamber
Function: Store decomposed manure, can be used as high-quality organic fertilizer.
Residence time: ≥ 30days

O-Max FRP Septic Tank

Product Name	O-Max FRP Septic Tank				
Main Material	FRP				
Model	OMAXST05CM-3WHSMC	OMAXST1CM-5WHSMC	OMAXST15C-5WHSMC	OMAXST2CBM-5WHSMC	Sedimentation
Size	0.5m3	1.0m3	1.5m3	2.0m3	30 Days
Dimension (mm)	1298x796x840 ; T:3	1710x968x1000 ; T:5	1910x1035x1200 ; T:5	1966x1266x1300 ; T:5	
Weight (Kgs)	32	56	70	93-96	
Number of Users	1-4	3-6	7-10	10-15	
Diameter of Manhole (mm)	300x300	400x400	400x250x400	400x300x400	
Parts for one set	The Upper Tank + Bottom Tank + Partition Board + Elbow Pipe + Manhole Covers + Screws Nuts + Sealing Ring + Sealing Tape + Honey Comb + BioBall				

Accessories O-Max FRP Septic Tank



Sealing Tape



Sealing Ring



Nut & Screws



Elbow Pipe



Cover



Partition Panel



Honey Comb



Bio Ball



Assembling & Installation



1. Lay down the bottom cover



2. Fix partition board to the edge buckle



3. Fix two partition board well



4. Install elbow



5. Sealing tape on the edge of the bottom cover (No need to tear the upper layer)



6. Install up cover



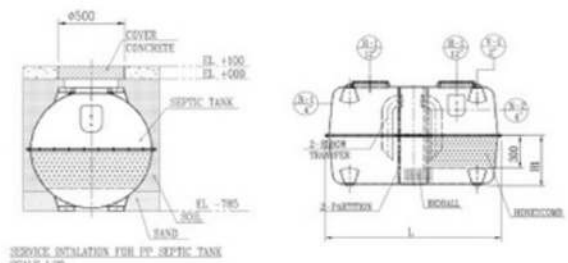
7. Open according to the construction site request, then, install seating ring



8. Sealed by bolts & nuts



9. Cover the viewing manhole
Installation finished



THE CLIENTS

Agriculture

Evans Group (MG)
Sorini Agro Asia Corp Tbk, PT (PF)
Wilmar Indonesia Group, PT (CL,CT,MG)

Automotive

Evolution Tyres, PT (MG)

Chemical

Asahimas Chemical, PT (CL,CT,MG)
Austin Powder Indonesia, PT (MG)
Dover Indonesia Chemical, PT (CT)
Indonesia Acids Industry, PT (PG)
Lautan Otsuka Chemical, PT (MG)
Lautan Luas Sulfamat, PT (MG)
Liku Telaga, PT (PG)
Mitsubishi Chemical Indonesia, PT (PG)
Multi Nitrotama Kimia, PT (PG)
Pacinesia Chemical Industry, PT (MG)
Sulfindo Adiusaha, PT (CL,CT,MG)

Cooling Tower

Golden Mulyono Pratama, PT (PF)

Developer

Sinar Mas Land, PT (MG)
Summarecon Agung Tbk, PT (MG)

Engineering & Contractor

Adhi Karya, PT (MG)
Asahi Synchrotech Indonesia, PT (MG)
Bajra Mandalasakti, PT (CL)
Black and Veatch, PT (MG)
Chiyoda International Indonesia, PT (MG)
Fadajaya Makmur, PT (CL,MG)
Inti Bumi Mas, PT (CL)
Jaya Konstruksi Manggala, PT (MG)
Libratama, PT (CL)
Linde Indonesia, PT (CT)
Lintech Duta Pratama, PT (MG)
Memiontec Indonesia, PT (MG)
Murinda Iron Steel, PT (MG)
Niatsae Prakarsa Indonesia, PT (MG,PF)
Nindya Karya (Persero), PT (MG)
Pembangunan Perumahan (Persero), PT (MG)
Prambanan Dwipaka, PT (MG)
Rekayasa Industri, PT (CL,MG,PF)
Samsung C&T (CT)
Sanggar Sarana Baja, PT (MG)
Takenaka Indonesia, PT (MG)
Tatamulia Nusantara Indah, PT (PG, MG,PF)
Total Persada Indonesia, PT (MG,PF)
Weir Mineral, PT (MG)
Wijaya Karya, PT (MG, CT,PF)

Factory

AM/NS Indonesia, PT (CL,CT)
Cheetham Garam Indonesia, PT (MG,PF)
Kaltim Nitrate Indonesia, PT (MG)

Fertilizer

Agri Indomas, PT (MG)
Petrokimia Gresik, PT (CL,CT,MG)
Pupuk Iskandar Muda, PT (MG)
Pupuk Kaltim, PT (CL,CT,MG)
Pupuk Sriwidjaya Palembang (Pusri), PT (CT)

Maritime

Samudra Marine Indonesia, PT (MG)
Pancaran Group (MG)
Waruna Shipyard Indonesia, PT (MG)

Oil & Gas

Essa Industries Indonesia, PT (MG)
Jambaran Tiung Biru, Pertamina (CL)
Pertamina Drilling Services Indonesia, PT (ST)
Pertamina Hulu Energy, PT (MG)

Power Plant

Cirebon Electric Power, PT (CL)
Jawa Satu (CT,PF)
Lestari Banten Energy (HR,MG)
PLTU Paiton Energy (CL,CT,MG)
Muara Laboeh Geothermal (MG,SW)
Merak Energy (MG)
PLTU Lontar (MG)
PLTU Muara Karang (PG)
PLTU Labuan Angin Sibolga (MG)
Star Energy, PT (PF)
Tanjung Jati Power Services, PT (MG)
Wilmar Bioenergi Indonesia, PT (MG)

Pulp & Paper

Pabrik Kertas Tjiwi Kimia, Tbk, PT(MG)
Papertech Indonesia, PT (CT,MG)
Riau Andalan Pulp & Paper, PT (CL,MG)
Tanjung Enim Lestari, PT (CL)
Toba Pulp Lestari, PT (PG)

Recreation

Goa Laumehe, (MG)
Taman Safari Indonesia (Bali) (MG,PF)

Resources

Adaro Indonesia, PT (MG)
Amman Mineral Nusa Tenggara, PT (MG, PG)

Batu Tua Tembaga Raya, PT (CL,MG)
Bumi Suksesindo, PT (CL,MG)
Freeport Indonesia, PT (CL,MG)
Freeport Manyar Refinery, PT (MG)
Merdeka Tsingshan Indonesia, PT (MG)
Mifa Bersaudara, PT (MG)
Timah Industri, PT (MG)
QMB New Energy, PT (MG,PF)

Telecommunication

Dayamitra Telekomunikasi Tbk, PT (PF)

Textile

Bandung Sakura Textile, PT (MG)
Biporin Agung, PT (MG)
South Pasific Viscose, PT (MG)

Water Treatment

Envicon Ekatama, PT (MG)
Organo Indonesia, PT (MG)
WWTP Ancol (MG)
WWTP Pekan Baru (MG)



