



MAGIC COMPOSITES, INC.
中德合资河北曼吉科工艺玻璃钢有限公司



**FRP Grating,
Handrail,
Platforms &
Structural
Shapes**





ABOUT MGI

Magic Composites, Inc., a German-Chinese joint venture, is a manufacturer of fiberglass reinforced plastics (FRP) products in China. It has the ability to produce high quality gratings and a variety of other corrosion resistant products for commercial, industrial and wastewater applications.

Magic Composites, Inc. was established in 1996 in North China on a 14 acre site and having more than 240,000 sq. ft. of manufacturing space under roof. With approximately 150 employees working together and the assets of more than 8 million US dollars, Magic specializes in the fiber reinforced polymer composites.

OEM SERVICES

Magic has the capability to offer FRP gratings manufactured to meet your unique application requirements. Magic also provides professional services for Original Equipment Manufacturer (OEM) customers at an increasingly competitive price.

By OEM with Magic Composites, Inc., your company will benefit from:

A professional, experienced and enthusiastic team - as we are very familiar with fiberglass reinforced plastic products, you will save a lot of time when working with us.

Quick response and great communication - our international trading department is set up to meet your expectations. All questions and enquiries will be answered in English.

Competitive price - You will get better deals because of the difference in currency rates.

Excellent quality products and services - in order to gain 100% satisfaction from customers, we continuously look for ways to improve quality on our products and services.

Strong quality control - we have set very high standard for quality. Our products might not be the cheapest, but they offer the best overall values.

High Quality FRP Products at Great Prices





APPLICATION OF FRP GRATING

- Printing & Dyeing
- Marine
- Pharmaceutical
- Metals & Mining
- Transportation
- Shipyard
- Oil & Gas
- Electronics
- Offshore
- Food & Beverage
- Pulp & Paper
- Platforms
- Stair treads
- Flooring
- Wash racks
- Bridges
- Walkways
- Trench covers
- Ramps
- Water & Wasterwater
- Tower packing
- Chemical

FEATHERS & ADVANTAGES

- **Corrosion Resistance** - the use of more than ten premium grade resin systems with a thoroughly wetted fiberglass process and a one-piece molded construction ensures solid structural integrity in tough environments
- **Slip Resistance** - a meniscus or permanent grit surface provides a safe, slip-resistant walking surface
- **Low Maintenance** - corrosion resistant and requires no scraping, sandblasting or painting
- **Fire Retardant** - flame spread rating of 25 or less, as tested in accordance with ASTM E-84; meets the self-extinguishing requirements of ASTM D-635
- **High Strength-to-Weight Ratio** - 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
- **Electrically and Thermally Nonconductive** - all-FRP construction provides additional worker safety
- **Impact Resistance** - can withstand major impacts with little structural damage and no failure
- **Easily Fabricated** - does not need heavy lifting equipment or expensive tools; can be easily carried by two workers; can be cut using standard circular or saber saws fitted with abrasive blades; has excellent utilization
- **Electronically Transparent** - does not affect electromagnetic or radio wave frequencies



MATERIAL

Standard Resin Systems: *

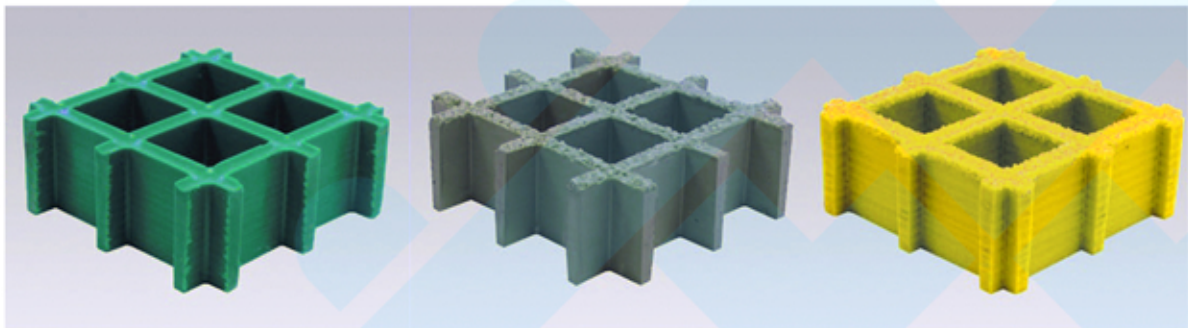
General Purpose (Orthophthalic Polyester) - An economical general purpose resin system for grating applications requiring good strength with minimal contact with harsh chemicals.

ISO (Isophthalic Polyester) - A resin system offering an intermediate level of chemical resistance in moderately corrosive environments. A recommended material for applications involving splash or spill contact with chemicals.

Vinyl Ester - Provides the maximum level of corrosion resistance to aggressive chemical environments. Use in applications where contact with harsh chemicals, caustics or bleach is frequent.

* All three resin systems meet Class I Flame Spread Rating per ASTM E-84 test standards
Other resin systems are available upon request

AVAILABLE TOP SURFACES



Meniscus

Embedded Grit

Post-cure Grit

Meniscus Top - The concave surface of Fibergrate meniscus top grating provides superior slip resistant footing in most environments.

Embedded Grit - Grit is added to the mold after the grating has been laid put not cured. Grit and resin are forced into the top of the grating and allowed to cure with the grating a clen, durable grit surface.

Post-cure Grit - After the grating is cured and removed from the mold, grit is applied to the top of the grating with a strong adhesive. The grit surface is heat-cured with and additional top cot of adhesive for a maximum bond.



CHEMICAL RESISTANCE GUIDE

Chemical	Isophthalic Resin		Vinyl Ester Resin	
	(%) Concentration	Temp. F/C	(%) Concentration	Temp. F/C
Acetic Acid	50	180/82	50	125/52
Aluminium Hydroxide	100	180/82	100	160/71
Ammonium Chloride	All	210/99	All	170/77
Ammonium Hydroxide	28	100/38	28	N/R
Ammonium Bicarbonate	50	160/71	15	125/52
Ammonium Sulphate	All	210/99	All	170/77
Benzene	N/R	N/R	N/R	N/R
Benzoic Acid	SAT	210/99	SAT	15/66
Borax	SAT	210/99	SAT	170/77
Calcium Carbonate	All	180/82	All	170/77
Calcium Nitrate	All	210/99	All	180/82
Carbon Tetrachloride	100	150/65	N/R	N/R
Chlorine - Dry Gas	-	210/99	-	140/60
Chlorine - Water	SAT	200/93	SAT	80/27
Chromic Acid	10	150/65	5	70/21
Citric Acid	All	210/99	All	170/77
Copper Chloride	All	210/99	All	170/77
Copper Cyanide	All	210/99	All	170/77
Copper Nitrate	All	210/99	All	170/77
Ethanol	50	100/38	50	75/24
Ethylene Glycol	100	200/93	100	90/32
Ferric Chloride	All	210/99	All	170/77
Ferrous Chloride	All	210/99	All	170/77
Formaldehyde	All	150/65	50	75/24
Gasoline	100	180/82	100	80/27
Glucose	100	210/99	100	170/77
Glycerine	100	210/99	100	150/66
Hydrobromic Acid	50	150/65	50	120/49
Hydrochloric Acid	37	150/65	37	75/24
Hydrogen Peroxide	30	150/65	5	100/38
Lactic Acid	All	210/99	All	170/77
Lithium Chloride	SAT	210/99	SAT	150/66
Magnesium Chloride	All	210/99	All	170/66
Magnesium Nitrate	All	210/99	All	140/60
Magnesium Sulphate	All	210/99	All	170/77
Mercuric Chloride	100	210/99	100	150/66
Mercurous Chloride	All	210/99	All	140/60
Niuckel Chloride	All	210/99	All	170/99
Nickel Sulphate	All	210/99	All	170/77
Nitric Acid	20	120/49	20	70/21
Oxalic Acid	All	210/99	All	75/24
Perchloric Acid	30	100/38	N/R	N/R
Phosphoric Acid	100	210/99	100	120/49
Potassium Chloride	All	210/99	All	170/77
Potassium Dichromate	All	210/99	All	170/77
Potassium Nitrate	All	210/99	All	170/77
Potassium Sulphate	All	210/99	All	170/77
Propylene Glycol	All	210/99	All	170/77

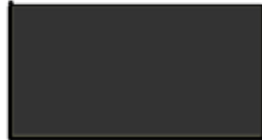


Chemical	Isophthalic Resin		Vinyl Ester Resin	
	(%) Concentration	Temp. F/C	(%) Concentration	Temp. F/C
Sodium Acetate	All	210/99	All	170/77
Sodium Bisulphate	All	210/99	All	170/77
Sodium Bromide	All	210/99	All	170/77
Sodium Cyanide	All	210/99	All	170/77
Sodium Hydroxide	25	180/82	N/R	N/R
Sodium Nitrate	All	210/99	All	170/77
Sodium Sulphate	All	210/99	All	170/77
Stannic Chloride	All	210/99	All	160/71
Sulphuric Acid	75	100/38	25	75/24
Tartaric Acid	All	210/99	All	170/77
Vinegar	100	210/99	100	170/77
Water - Distilled	100	180/82	100	170/77
Zinc Nitrate	All	210/99	All	170/77
Zinc Sulphate	All	210/99	All	170/77

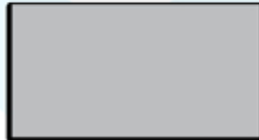
COLORS OPTIONS



White



Black



Gray



Orange



Yellow



Red



Green

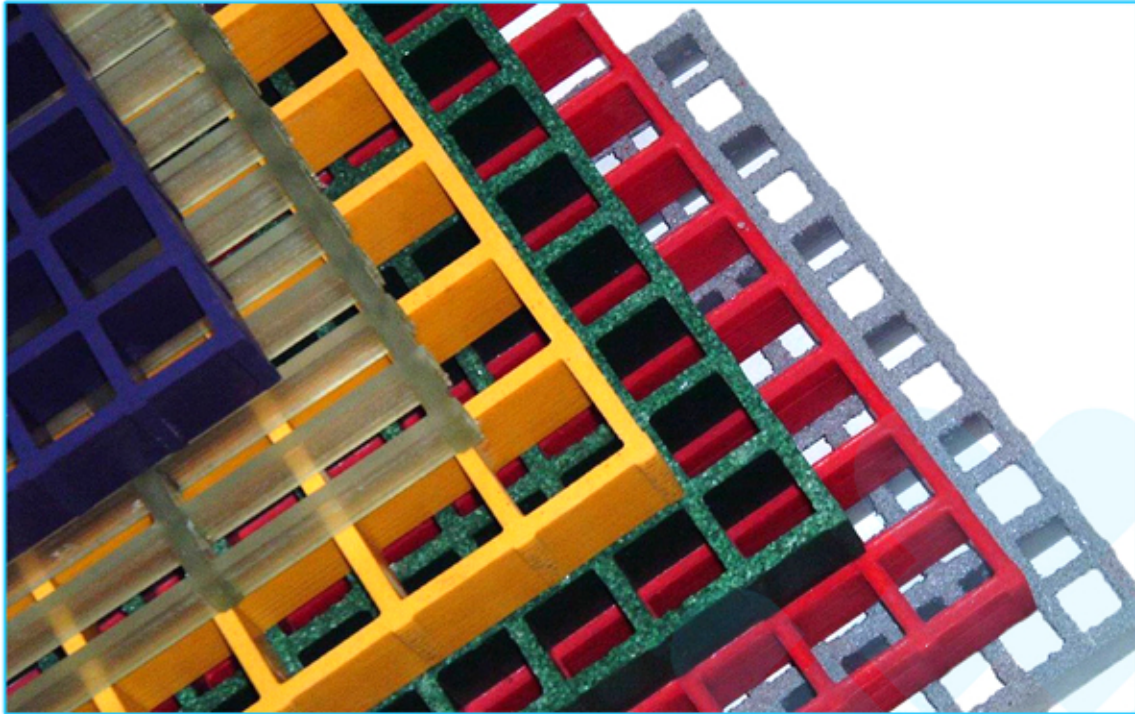


Blue

* An assortment of standard FRP Grating colors are available, including green, yellow, light gray and dark gray. Special colors include orange, red, and green. Custom colors are available for special order

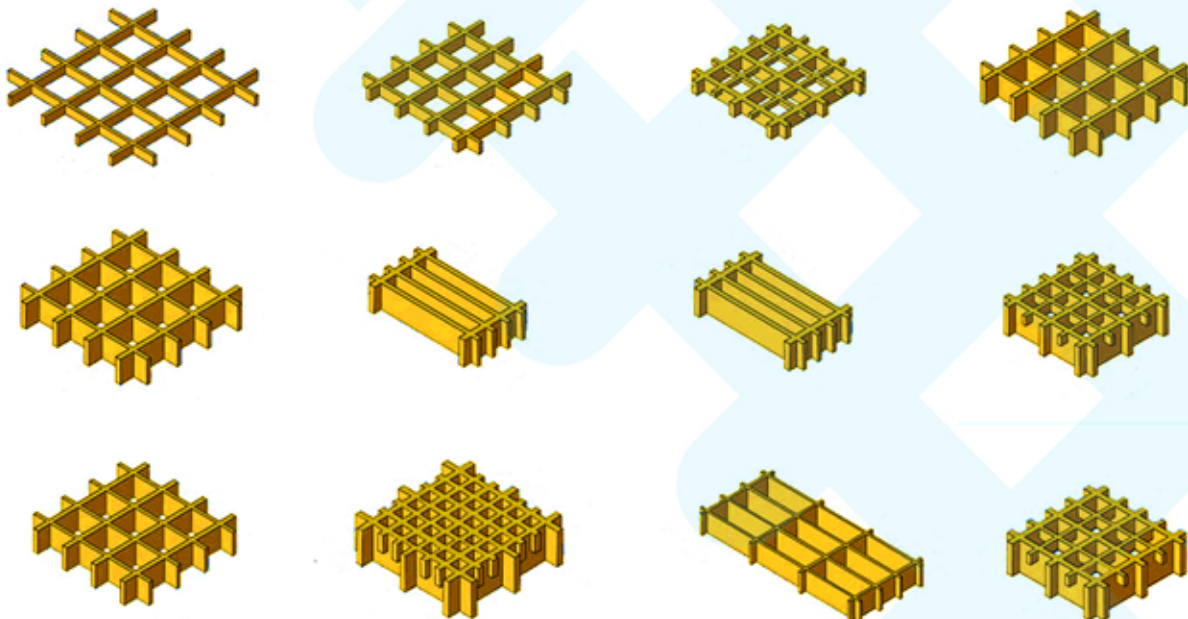


FRP MOLDED GRATING



Magic molded grating is a one-piece (integral), reinforced polyester or vinylester (FRP), grating, available in standard panels and sizes. It is manufactured by interweaving continuous, thoroughly-wetted, fiberglass strand with thermosetting resin systems. Standard panels are available in three resin system.

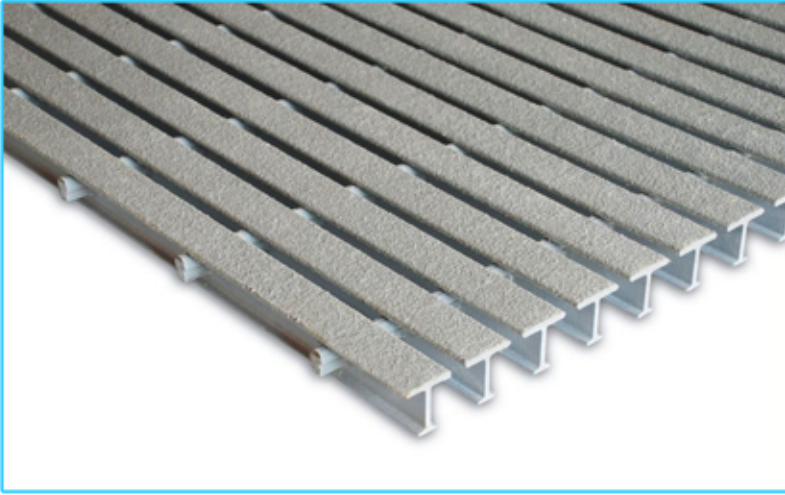
Part of Molded Grating Profiles *



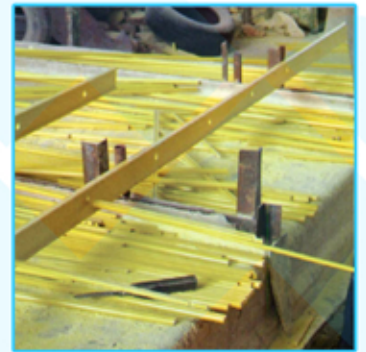
* Please sent email or visit our website for FRP grating sepcifications



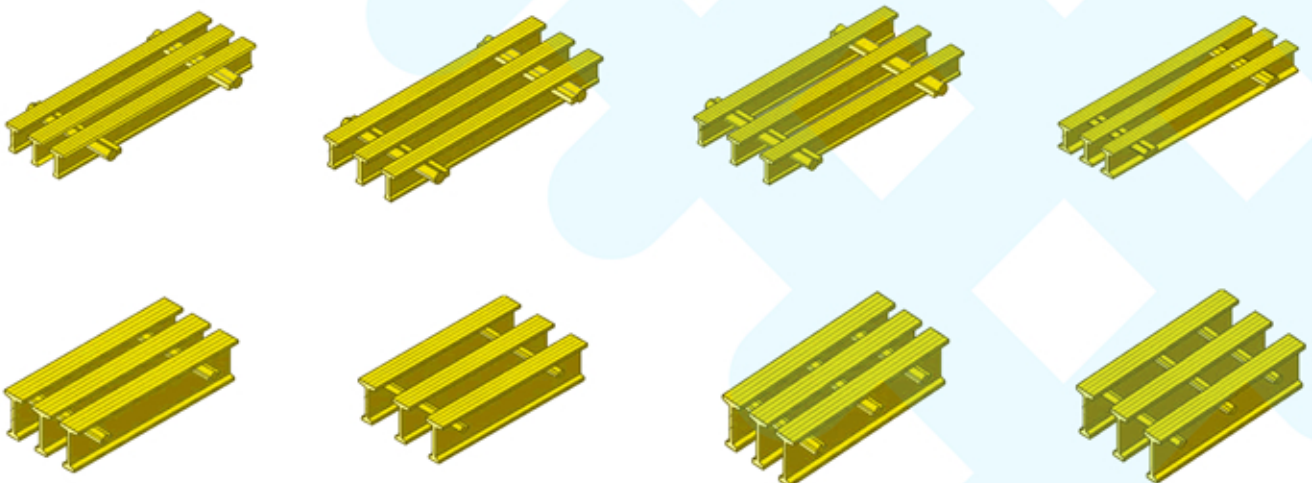
FRP PULTRUDED GRATING



Magic pultruded grating is the result of a continuous molding technique in which glass roving, glass matting and a synthetic surface veil are literally pultruded simultaneously through a flame-retardant polyester or vinylester resin bath. It also features a two-part mechanical locking cross-rod, which increases the support and stability of the grating under extreme loads. The patented flush-top design of the cross-rods and bearing bars also enhance the unidirectional strength and provide easy fabrication and installation. Pultruded grating provides the capability to support heavier loads and longer spans when compared to molded grating of similar depth and weight.



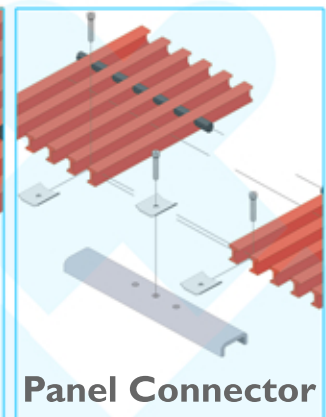
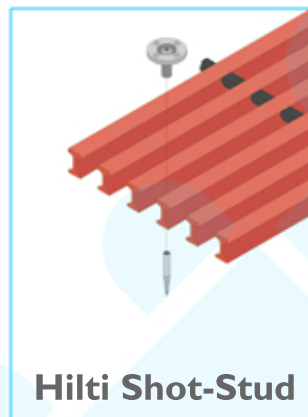
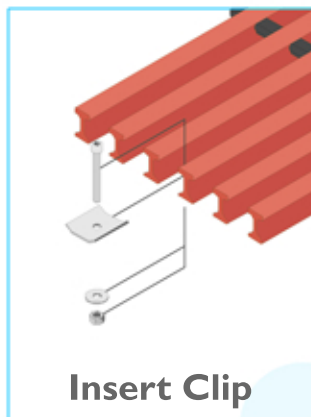
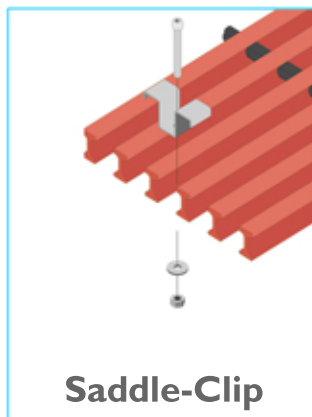
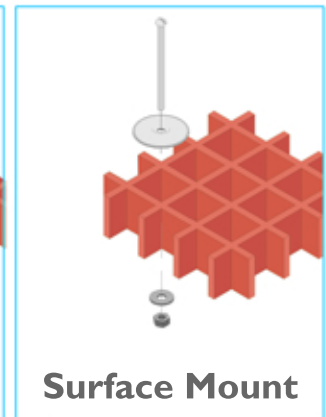
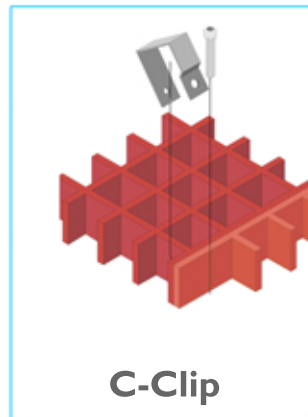
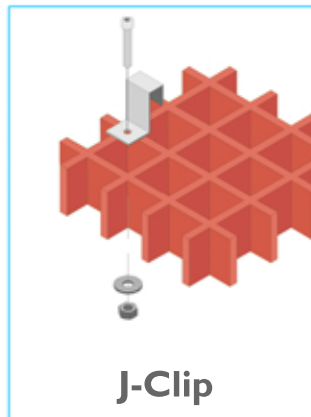
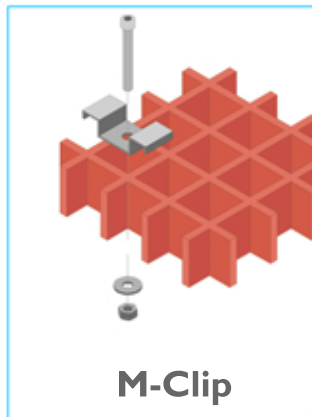
Part of Pultruded Grating Profiles *



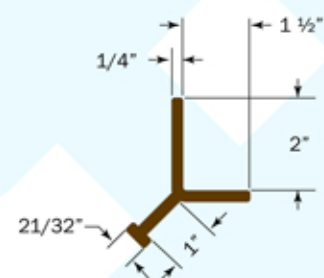
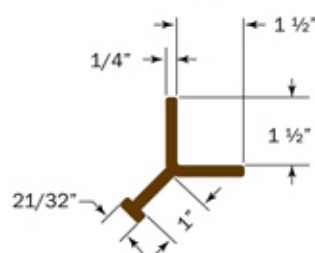
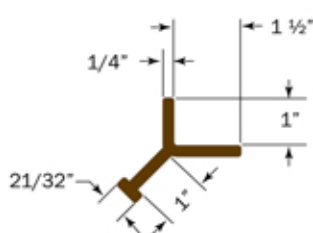
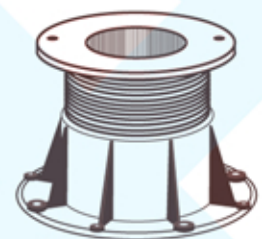
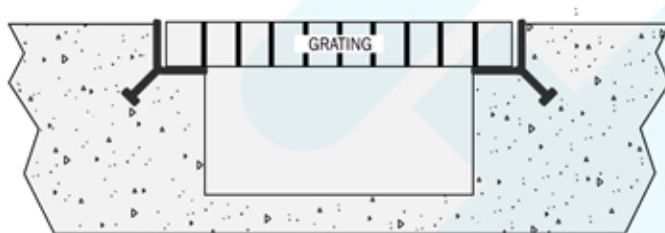
* Please sent email or visit our website for FRP Grating sepcifications



FASTENERS



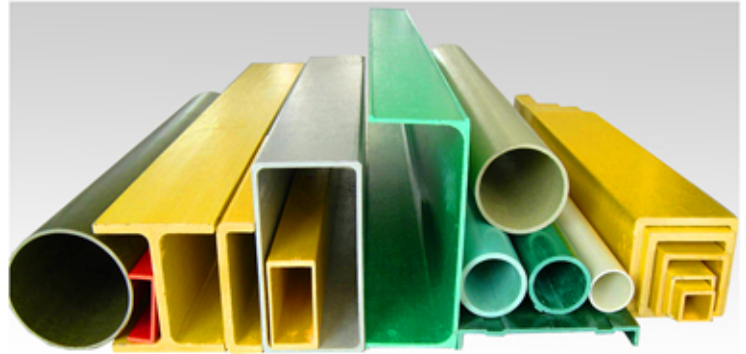
EMBEDMENT ANGLE & PEDESTALS















FRP STRUCTURAL SHAPES

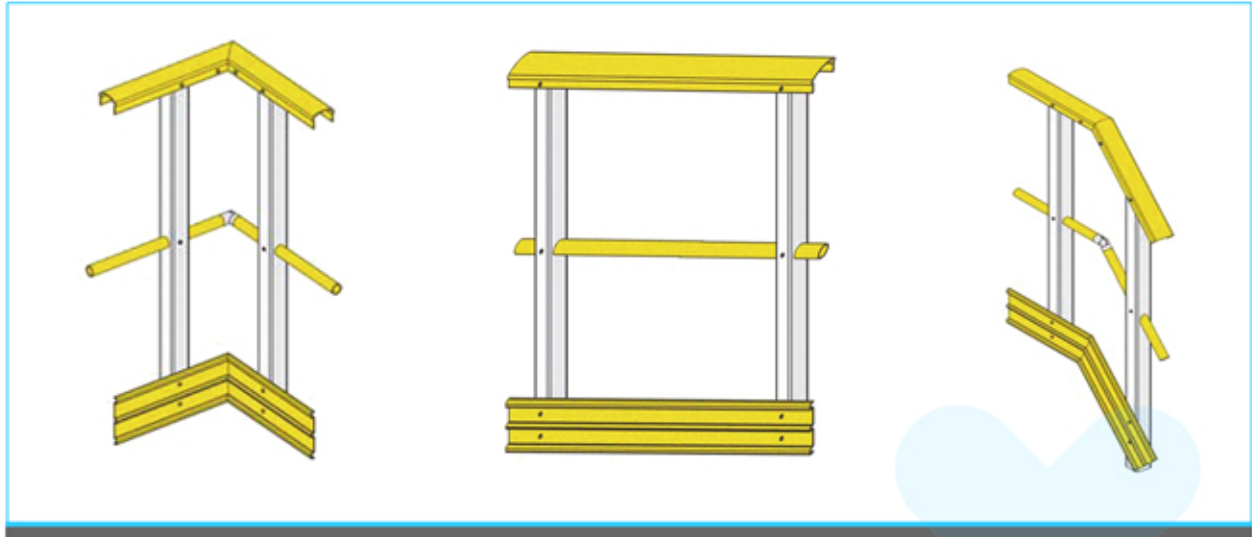
Magic structural shape is a proprietary combination of fiberglass reinforcements and thermosetting polyester or vinyl ester resin systems. It is produced in more than 100 standard shapes and all shapes have a surface veil to protect against glass fibers penetrating the resin surface in service and to increase corrosion and UV resistance.



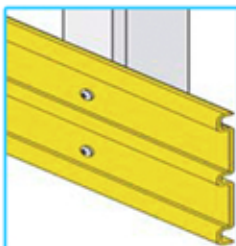
					
	Round Tubes	Square Tubes	Round Bar	Channel	Wide Flange Beams
Size (in.)	1 x 1/8 1 1/2 x 1/8 1 1/2 x 1/4 2 x 1/4	1 x 1/8 1 1/2 x 1/8 1 1/2 x 1/4 1 3/4 x 1/8 1 3/4 x 1/4 2 x 1/8 2 x 1/4 3 x 1/4 4 x 1/4 4 x 3/8	1/8 3/16 1/4 5/16 3/8 1/2 5/8 3/4 1 1 1/4 1 1/2	2 x 9/16 x 1/8 3 x 7/8 x 1/4 4 x 1 1/8 x 1/4 6 x 1 5/8 x 1/4 6 x 1 11/16 x 3/8 8 x 2 3/16 x 3/8 10 x 2 3/4 x 1/2	3 x 3 x 1/4 4 x 4 x 1/4 6 x 6 x 1/4 6 x 6 x 3/8 8 x 8 x 3/8 8 x 8 x 1/2 10 x 10 x 1/2 12 x 12 x 1/2
					
	Tread Cover	Toe Plate	Square Bar	I-Beams	Leg Angles
Size (in.)	10 x 6 x 1/8 10 x 9 x 1/8 10 x 12 x 1/8	4 x 1/2 x 1/8 6 x 1/2 x 1/8	1 x 1 1 1/4 x 1 1/4 1 1/2 x 1 1/2	4 x 2 x 1/4 6 x 3 x 1/4 6 x 3 x 3/8 8 x 4 x 3/8 8 x 4 x 1/2 10 x 5 x 3/8 10 x 5 x 1/2 12 x 6 x 1/2	1 x 1/8 1 1/2 x 3/16 1 1/2 x 1/4 2 x 1/4 3 x 1/4 3 x 3/8 4 x 1/4 4 x 3/8 4 x 1/2 6 x 1/2



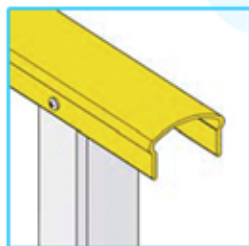
FRP HANDRAIL SYSTEMS



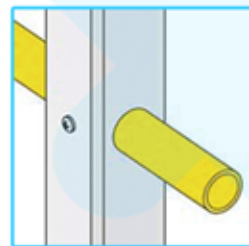
FRP handrails are railing systems used in commercial and industrial applications for guardrails, stairrails and platform/walkway handrails. Magic handrails systems are particularly well-suited to corrosive environments like those found in industrial, chemical and wastewater treatment plants as well as commercial structures with urban and salt air corrosion.



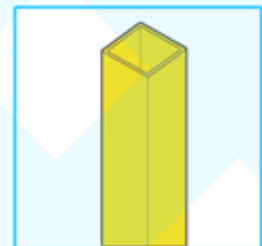
Toe Plate



Handrail



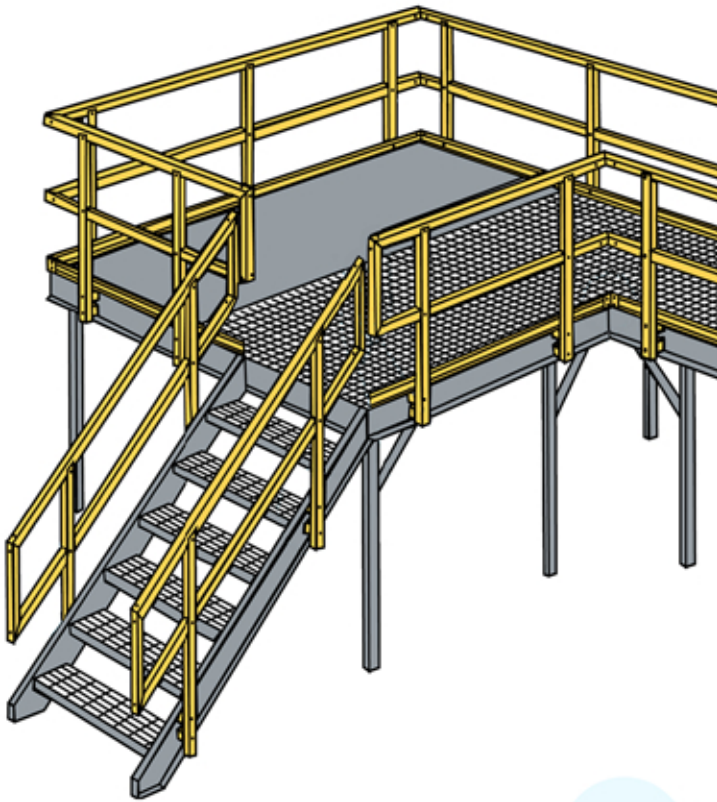
Knee Rail



Post

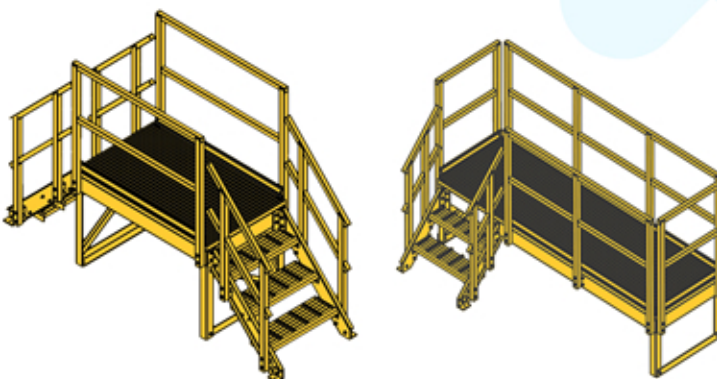
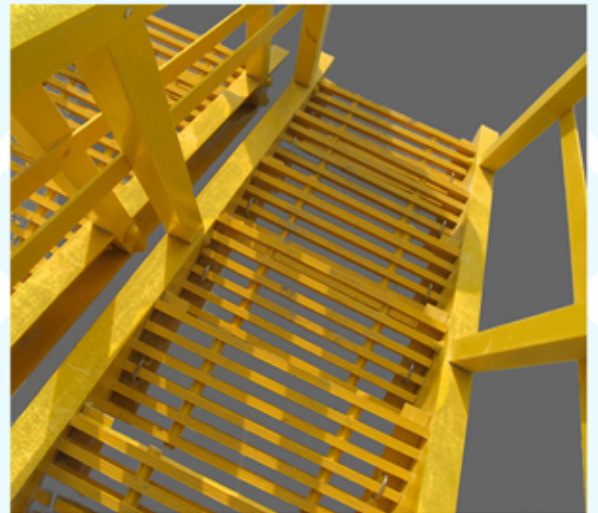


FRP PLATFORM SYSTEMS



Magic offers portable platforms and other types of surfaces that can be customized to any application and to support a wide variety of weights and loads. Designed with ease of modular assembly on-site in mind, these fiberglass structural fabrications offer strength, adaptability and corrosion resistance. The lightweight characteristics of structural fiberglass saves on site assemble.

Access & Workstation Platforms
Fixed Access Ladders
Pedestrian Access Ramps
Up and Over Ladders
Ship Style Ladders
Stairways
Hand Railing
Inspection & Maintenance Platforms
Walkways
Edge Protection Handrailing





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