



MANUFACTURER OF FRP - COMPOSITE FIBERGLASS PRODUCTS

PULTRUDED SECTIONS • MOULDED GRATINGS • CABLE TRAYS • RAILINGS • FENCING
PULTRUDED STRUCTURES • MANHOLE COVERS • PLANTERS • ROOFTOP WALKWAY

www.tribenfiber.com

ABOUT US

We, TRIBENI TECHNOCOM LIMITED, part of Tribeni Group of companies is one of the oldest corporate business house of India, diversified and excelled in an array of businesses ranging from Textiles, Yarn, Import export, Transportation and many more. With more than 40 years of experience now we are one of the leading manufacture of Fiberglass composite products offering cost effective solutions to various industries.

VISION

To be the leading innovator in the field of FRP (Fiberglass Reinforced Plastic) manufacturing, specializing in pultruded sections and gratings. We aim to set industry standards for quality, sustainability, and technological advancement, delivering high-performance solutions that enhance the safety and efficiency of industrial operations

MISSION

At Tribeni Technocom Limited, our mission is to lead the manufacturing of high-quality FRP (Fiberglass Reinforced Plastic) pultruded sections and gratings, providing innovative and sustainable alternatives to traditional steel solutions. We are committed to delivering products that not only ensure superior performance and durability but also promote environmental stewardship by being maintenance-free and corrosion-resistant.

CERTIFICATIONS AND PRODUCT STANDARDS



WHAT IS FRP?

FRP is a composite material that consists of a polymer matrix and reinforcing fibers, typically glass or carbon. This unique blend offers an effective alternative to traditional materials like wood, steel, or aluminum, which can degrade over time. FRP is renowned for its strength, lightweight nature, and corrosion resistance, making it a prime choice for many applications.

WORRIED ABOUT CORROSION INSIDE YOUR PLANT?

The main problem which industries faces is corrosion and the maintenance cost attached with it. Our fiberglass products are a composite consisting of fiberglass threads and mats and a resin – typically polyester, this results in a combination of a corrosion-resistant and light weight, perfect for bearing constructions for industrial purposes and building.

OUR PRODUCT RANGE

FRP PULTRUDED SECTIONS

FRP RAILINGS

FRP CABLE TRAYS

FRP FENCINGS

FRP PLANTERS

FRP MANHOLE COVERS

FRP WALKWAYS

FRP CUTOMIZED STRUCTURAL PRODUCTS

FRP MOULDED GRATINGS

FRP PULTRUDED GRATINGS



FRP PULTRUDED SECTION

FRP Pultruded Profiles are manufactured by pultrusion process, (raw materials pulled through a resin bath and pre forming die) and Contain up to 65-70% glass fibers which guarantees a high mechanical Resistance. Pultruded profiles can be manufactured in standard & customized shapes suiting different applications.

APPLICATIONS

COOLING TOWER STRUCTURES
OIL & GAS
MARINE/ OFFSHORE & ONSHORE
MINING
CHEMICAL PLANTS
ARCHITECTURAL
WASTEWATER & WATER TREATMENT
INDUSTRIAL PLATFORMS/STAIRCASE
OTHER INDUSTRIAL APPLICATIONS

BENEFITS



Corrosion
Resistance



Lightweight



Electrical
Insulation



Maintenance
Free



Ease of
Installation



Mass
Colouring



Radio
Transparency

PROFILE TYPE	A (mm)	B (mm)	T(mm)
SQ SECTION	44	44	04
SQ SECTION	50	50	04/05/06
SQ SECTION	75	75	04/06
SQ SECTION	80	80	04/06/08
C section	50	25	04
C section	50	40	05
C section	80	30	04
C section	100	30	04/06
C section	100	50	06
C section	150	30	04/06
C section	180	60	06
L Angle	30	30	04/05
L Angle	35	35	03
L Angle	40	40	04/06
L Angle	50	50	04/06
L Angle	75	75	06
REC	60	30	04
REC	80	30	04
REC	50	25	03/04/05

NOTE: The Profiles Sizes Indicated Are Routinely Used. For Complete List/Customization, Contact Our Team.

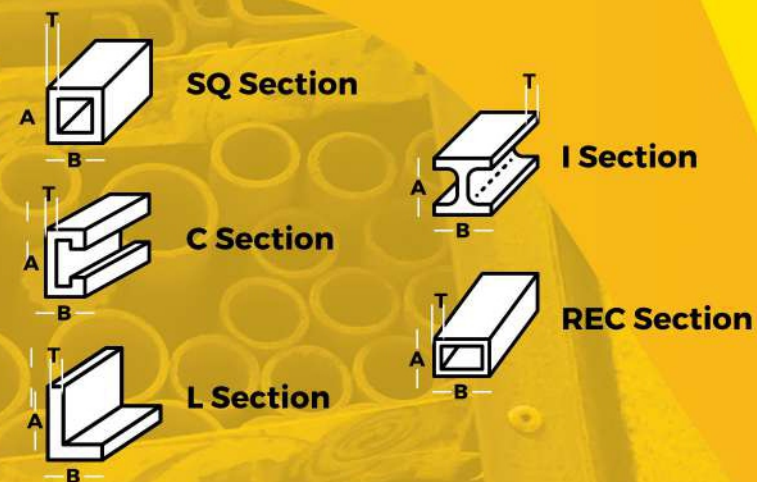
Mechanical Properties

Mechanical Properties	ASTM	UNITS	VALUE
Tensile Strength	D-638	Mpa	207
Tensile Modulus	D-638	Gpa	17.2
Compressive Strength	D-695	Mpa	207
Compressive Modulus	D-695	Gpa	17.2
Flexural Strength	D-790	Mpa	206
Flexural Modulus	D-790	Gpa	12.4
Modulus of Elasticity E	Full Section	Gpa	19.3

NOTE: The values above indicated are average values and can change depending on the beam section, type of reinforcement and resin matrix.

STANDARD SECTIONS

Tribeni standard sections sizes almost includes all the sizes required for small to medium structural construction. Below is a sectional diagram for different Section.



Physical Properties	ASTM	UNITS	VALUE
24 Hours Water Absorption	D-570	% max	0.45
Density	D-792	g/cm3	1.72-1.94
Coefficient of Thermal Expansion	D-696	10-6 in/in/°	8
Electrical Properties	ASTM	UNITS	VALUE
Arc Resistance LW	D-485	Seconds	120

Polyester and Vinyl Ester Fire Retardant Structural Profiles

Flammability Properties	ASTM	UNITS	VALUE
Tunnel Test	E-84	Flame Speed	25 max
Flammability	BS4/5/6 D-635		Non burning



FRP PULTRUDED RAILING SYSTEM

How is Tribeni FRP Pultruded Railing manufactured?

The handrail system components are manufactured with the pultrusion process (raw materials pulled through a resin bath and pre forming die) and contain up to 70% to 60% fibreglass which guarantees remarkable mechanical properties. The internal composition of continuous directional glass fibers, determines an exceptional resistance to impact and fatigue (permanent deformations do not occur in case of accidental over load which is a great benefit).

Design & Standards

- Tribeni FRP Railings are expertly crafted in accordance with IS 4912 standards, ensuring exceptional quality and safety.
- Our standard design features vertical posts standing at 1100 mm, with a maximum spacing of 1500 mm between posts for optimal stability. This design includes essential components such as a top rail, mid rail, and toe guard for added protection.
- Additionally, we offer the flexibility to customize FRP railings using a variety of profiles to meet specific project requirements, allowing for tailored solutions that enhance both functionality and aesthetics.



**Corrosion
Resistance**



Lightweight



**Electrical
Insulation**



**Maintenance
Free**



**Ease of
Installation**



**Mass
Colouring**



**Radio
Transparency**

BENEFITS

Installation

- EASY TO INSTALL ●
- PAINTING IS NOT REQUIRED ●
- MAINTENANCE FREE ●
- LONG LIFE ●

Colour options

- STANDARD COLOUR YELLOW
- CUSTOM COLOUR ON DEMAND

Tested

TRIBENI RAILING RESIN SYSTEMS ARE TESTED
AND CERTIFIED ACCORDING TO ASTM OR IS
STANDARDS.

Where Can You Use FRP Railings ??

- 1 COMMERCIAL & INDUSTRIAL STAIRCASES
- 2 WALKWAYS SIDES
- 3 PLATFORMS
- 4 ON HEIGHTED STRUCTURES
- 5 PETROLEUM/CHEMICAL TANK
- 6 CETP/WTP/SEWAGE TANKS

RAILING COMPONENTS



**Ergonomic
Hand Rail**

68 X 60 MM



50 X 50 MM Profile

50 X 50 MM



Knee Rail

30 X 24 MM



Base Plate

100 X 150 MM



**KICK PLATE
(TOE GUARD)**

100 X 15 MM

FRP CABLE TRAY



Corrosion
Resistance



Fire Retardant
As per ASTM E 84.



High
Mechanical
Strength



Non Conductive
& Non Magnetic



UV
resistant



Long
service life



Less Installation time
compared to metal cable trays

STANDARDS

- IS 6746 - 1994
- NEMA FG-1 1984-1993 (Current Issue) Specification
- Fiberglass Tray System Loading Characteristics
- UL 94 Flame Retardant (Low Flammability/v0)

EFFECT OF TEMPERATURE

Strength properties of fiberglass are reduced when exposed to elevated temperatures. Working loads shall be reduced based on following

Temp In F	75	100	125	150	175	200
Approx % Of Strength	100	90	78	68	60	52

PERFORATED (Channel type) CABLE TRAYS COMES IN THE FOLLOWING STANDARD SIZES:

WIDTH (A) MM	B (COLLAR) (MM)	C (THICK) (mm)
50	25	4
50	50	3
50	40	5
80	30	4
100	50	3
100	30	4/6
150	40	4/6
150	50	3
200	50	3
300	50	3
400	50	3

NOTE: THE ABOVE SIZES ARE FOR REFERENCE PURPOSE,
FOR CUSTOM SIZES PLEASE CONTACT TRIBENI

Perforated Type Cable Tray (Channel Type)

Ladder Type Cable Tray (Fabricated using Pultruded Sections)

Note: Cover options for both the types of cable trays is available.

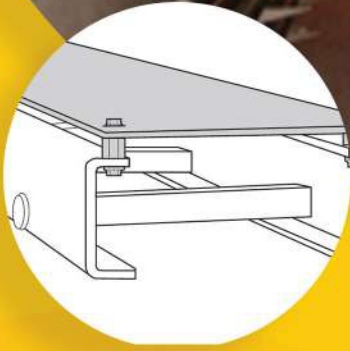
Comparison between F.R.P & Metal

Description	F.R.P.	Metal
Corrosion Resistant	Extremely Superior	Weak
UV Stabilized	Good	Good
Weight Criteria	Its density is 1.9, which is very light weight and can be shifted without heavy machines	Heavy Weight (Need Heavy tools to move goods)
Electrical Insulation	Non conductive	Conductive
Risk Of Cable Damage	Very Low due to less hardness of Edges	High due to sharp edges
Static Charge	Anti-static, zero charge	Weak, can generate charge
Specific Gravity (g/cm ³)	1.8-1.9	7.8
Acid	Excellent	Poor
Chemical Plants (S.Acid/Caustic Soda,phenol,Methanol	Excellent	Poor
Industrial Environment Life Expectancy	Very Long	Short



FRP CABLE TRAY SUPPORT SYSTEMS

We have ready frp brackets which can be used for pipes, cable trays and cable mountings. Custom cut length is possible as per site requirements. These brackets are easy to install which reduces labor cost.



FLAT TYPE



C TYPE

LADDER TYPE CABLE TRAY

The design of the side profile & Rungs holding the side profiles combines great strength with light weight: Ladder trays are produced to NEMA standard, excellent strength properties under high loads.

WIDTH MM	CHANNEL HEIGHT MM	THICKNESS MM
350	100/150	4/6
400	100/150	4/6
450	100/150	4/6
500	100/150	4/6
600	100/150	4/6
750	100/150	4/6
950	100/150	4/6
1200	100/150	4/6

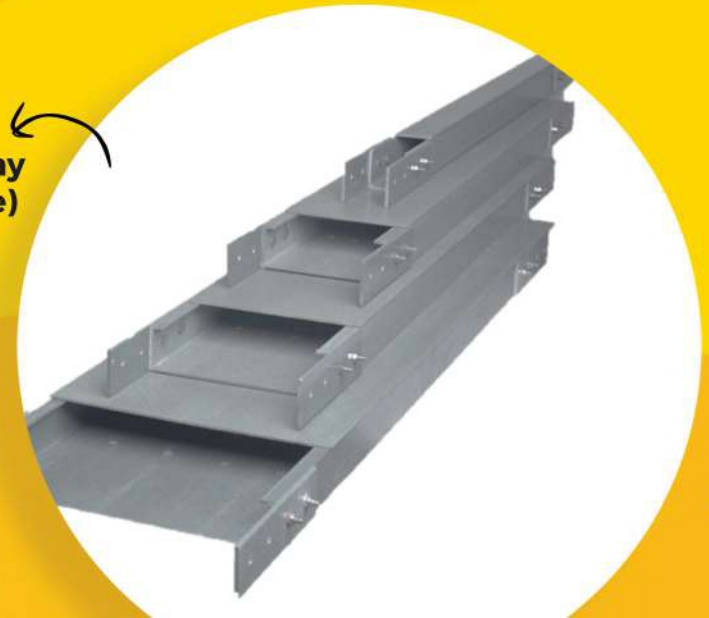
LADDER TYPE CABLE TRAY ACCESSORIES :

ACCESSORIES INCLUDES (COUPLER PATES,BENDS,REDUCERS,TEES
CROSS SECTION AND FIXTURES)

**Ladder Type Cable Tray
(Fabricated using Pultruded Sections)**



**Perforated Type Cable Tray
(Channel Type)**



FRP PULTRUDED & MOLDED GRATING

Tribeni moulded fibreglass grating is a one piece reinforced polyester or vinyl ester grating available in standard panel and sizes. It is manufactured by interweaving continuous truly vetted fibreglass trend with thermosetting resin systems.

Savings on labour and equipment often make the total installed cost of Tribeni FRP products comparable to that of steel. Combining these installation savings with low maintenance, long life and worker safety, Tribeni products offer a life cycle cost that is significantly lower than that of metallic products.

Resin System

Resin Type	Resin Base	Flame Spread Rating ASTM E84
Type V	Vinyl Ester	Class 1, 25 or less
Type IFR	Isophthalic Polyester	IS 6746 Low Flammability 25 or less
Type I	Isophthalic Polyester	NON FR

Comparison between F.R.P VS METAL/G.I GRATINGS

Description	F.R.P.	Metal
Corrosion Resistant	Extremely Superior	Weak
UV Stabilized	Very Good	Good
Weight Criteria	very light weight	Very Heavy-
Transportation Cost	Low cost	High
Installation Time	15-20 Minutes/panel	45-50 minutes/Panel
Labor Cost	Low cost It requires Foreman, unskilled worker.	High, It requires welder, crane & equipment operator
Specific Gravity (g/cm ³)	1.8-1.9	7.8
Acid	Excellent	Poor
Chemical Plants (S.Acid/Caustic Soda,phenol,Methanol	Excellent	Poor
Industrial Environment Life Expectancy	Very Long	Short



Corrosion
Resistance



High Strength
to Weight Ratio



Slip
Resistant



Electrically & Thermally
Non Conductive



Low
Maintenance



Impact
Resistant



Fire
Retardant



Low Install
Costing

Combining unmatched corrosion resistance with strength, long life and safety. Tribeni moulded
Grids are lightweight and easy to fabricate

PRODUCT RANGE

MODEL NO	DEPTH(MM)	MESH SIZE (MM)	RIB THICKNESS (MM)	PANEL SIZE (MM)	U.D.L LOAD KG/m2	Recommended Usage
TTL.SM.15	15	38 X 38	5/7	1220 X 3660/4000	150	Extra Light Duty Extra light traffic areas
TTL.SM.25	25	38 X 38	5/7	1220 X 3660/4000	250	Normal Pedestrian load- Light Traffic areas
TTL.RM.25	25	38 X 75	5/7	1220 X 3660	250	Normal Pedestrian load
TTL.SM.30	30	38 X 38	5/7	1220 X 3660	350	Stair treads, Medium traffic
TTL.SM.38	38	38 X 38	5/7	1220 X 3660	550	Heavy Duty areas
TTL.SM.50	50	50 X 50	5/7	1220 X 3660	750	Extra Heavy Duty areas

Fixing of FRP Gratings with any type of structures is done using Stainless Steel clamps which are available with us.



MENISCUS SURFACE

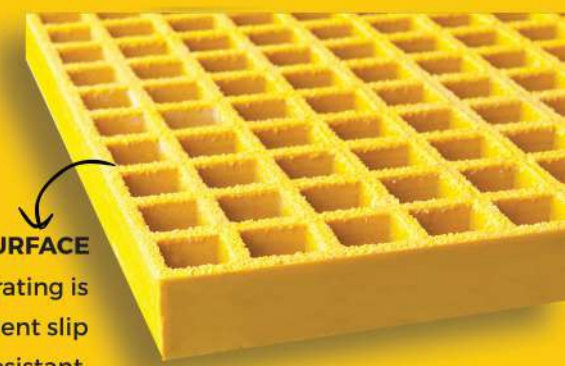
The top grating surface is concave in shape and provides superior slip resistant. Widely Used In oily or wet conditions. This is the standard surface option for all type of molded gratings.



GRATING WITH CHEQUERED PLATE OPTION

GRITTED SURFACE

The top surface of grating is gritted, and provides excellent slip resistant.



PULTRUDED FIBREGLASS REINFORCED PLASTIC GRATING

Due to the specific construction and the use of a high glass percentage (approximately 65-70%), pultruded Fibreglass Reinforced Plastic (FRP) pultruded grating is high in strength. pultruded Fibreglass Reinforced Plastic grating is therefore widely applied in applications that require high strength and at a large span (from 1 to 2 metres).

Load Table for Pultruded Grating

Size	Gap	UDL	Application
I- 25	40 mm C to C	300Kg/ M.Sq	Pedestrian Load, Stair Treads, Trench or pit covers withstanding human load etc.
I-38	40 mm C to C	500Kg/ M.Sq	Ramp covers, Trench withstanding vehicular load. Heavy duty walkway etc.

NOTE: GAP BETWEEN LOAD BEARING CAN VARY AS PER CUSTOMER DEMAND.



TRIBENI FRP MANHOLE COVERS

FRP / GRP MANHOLE COVERS INDIA



Light
Weight



Any Color
Available



Long
Lasting



Anti
Corrosive

ELD (Extra light Duty) 2.5 Ton

Recommended for residential and institutional complexes, areas with light motor traffic. Also used for inspection chambers

LD (light duty) 5 Ton

Recommended for service lanes roads on pavements, areas where medium duty vehicular traffic

HD (Heavy Duty) 25Ton

Recommended for commercial areas, bus terminals, city roads where heavy duty vehicular traffic of loads between 15- 25 ton

EHD (Extra Heavy Duty) 40Ton

Recommended for extra heavy duty vehicular traffic areas, in commercial warehouse, industrial areas where heavy vehicles with load around 11 – 15 tons heavy trucks, trailers.

MANHOLE COVER SIZES

MM	Inches	Load Capacity
Dia 560 Air Tight		Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
Dia 600 Air Tight		Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
900 x 1200 Air Tight	36 x 48	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
450 x 600 Air Tight	18 x 24	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
450 x 900 Air Tight	18 x 36	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
300 x 300 Air Tight	12 x 12	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
450 x 450 Air Tight	18 x 18	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
600 x 600 Air Tight	24 x 24	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton
600 x 900 Air Tight		
600 x 600 Perforated	24 x 24(Storm Water)	Eld-2.5Ton , LD-5Ton, HD-25 Ton, EHD- 40Ton

RECESS COVER

Sizes	Load Capacity
300 X 300	LD-5Ton 10 Ton , HD-25 Ton
450 X 450	LD-5Ton, 10 Ton, HD-25 Ton, EHD- 40Ton
600 X 600	LD-5Ton, 10 Ton, HD-25 Ton, EHD- 40Ton

**Tribeni manhole covers are
fully traffic tested**

FRP PRODUCTS FOR SOLAR PROJECTS

FRP WALKWAY – PRODUCT SIZE

Description	Mesh Size (mm)	Colour
15 x 310 x 3660 x 5/6.5 mm	38 x 38	Yellow
15 x 270 x 3660 x 5/6.5 mm	38 x 38	Yellow
25 x 310 x 3660 x 5/7 mm	38 x 38	Yellow
25 x 270 x 3660 x 5/7 mm	38 x 38	Yellow
25 x 310 x 3660 x 5/7 mm	38 x 75	Yellow
Fixing Clamp - M type		s.s 304
Connecting Clamp - C type		s.s 304



FRP ROOFTOP RAIL

FRP Rooftop Railing are used in solar Rooftop project for Safety purpose. It consist of Square tube (Post) Mid Rail (Knee Rail) and Shoes. It comes in different Height: 300,450,600,900,1000 mm as per project requirement.



FRP SECTIONS FOR FABRICATIONS.

FRP (Fiber Reinforced Polymer) pultruded sections are lightweight and high-strength composite materials increasingly used in construction due to their unique benefits. These sections are particularly suitable for industrial sheds, staircases, and access platforms.

Industrial Sheds:

- **Durability:** Highly resistant to corrosion, chemicals, and moisture, ensuring longevity without rust.
- **Lightweight:** Easier handling and installation, lowering labor costs.
- **Design Flexibility:** Customizable for specific structural needs.
- **Thermal Insulation:** Better insulation than metal, contributing to energy efficiency.

Access Platforms

- **Structural Integrity:** High strength-to-weight ratio for heavy load support.
- **Ease of Installation:** Faster construction with minimal disruption.
- **Corrosion Resistance:** Suitable for industries like water treatment without degrading.
- **Noise Reduction:** Helps lower noise levels in the environment.

Overall, FRP pultruded sections provide significant advantages such as durability, lightweight construction, customization options, and resistance to environmental factors. They enhance performance and safety, making them a strong choice for modern industrial projects requiring high structural integrity and resilience.

Staircases

- **Safety:** Can feature anti-slip surfaces and are non-conductive.
- **Customizability:** Available in various shapes and sizes for specific requirements.
- **Aesthetic Appeal:** Offered in different colors and finishes.
- **Environmental Resistance:** Withstands chemical spills, making them ideal for industrial settings.



FRP PLATFORM



FRP SHEDS



FRP STAIR CASE





FRP FENCING

Our Fiber Reinforced Plastic (FRP) Fencing is an ideal choice for those seeking lightweight, corrosion resistant, and durable fencing solutions, especially in challenging environments like seashores and marine settings. Engineered for strength and longevity, FRP fencing offers various types to cater to diverse needs

Square Mesh Fencing



Pultruded Fencing



Customized Fencing



Applications

Electrical Transformer Covering:
Provides a reliable barrier ensuring safety and security around electrical installations.

Farmhouses and Agricultural Areas: Ideal for protecting livestock and crops while maintaining aesthetic appeal.

Coastal Properties: Withstanding saltwater exposure, FRP fencing is perfect for beachfronts, marinas, and coastal developments.

Industrial Settings: Effective in securing machinery and sensitive areas, especially in environments prone to moisture and corrosion.

CUSTOMIZED FRP PRODUCTS



Stair Treads



Chequered plates



Planters

OUR GROUP OF COMPANIES



**Tribeni
Processors
(P) Ltd.**
(Dyeing House)

**Tribeni
Worldwide
Pvt. Ltd.**

ASAR Graceful Lifestyles



**Artisian and
Nirman Studio**
(Film Studio)

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