



**Aangi Advanced Composite**

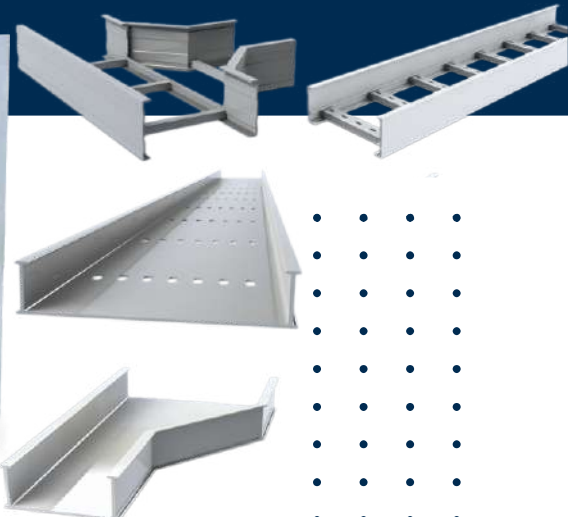
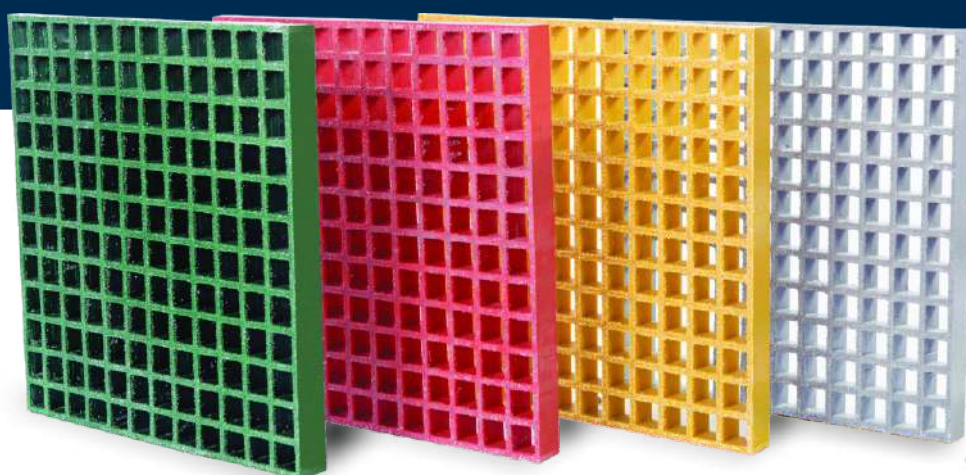
Trusted FRP/GRP Solutions

MANUFACTURING LONG LASTING,  
DURABLE AND SUSTAINABLE

**FRP PRODUCTS!**



**FIBRE  
REINFORCED  
PLASTIC**



# ABOUT AANGI

Aangi Advanced Composite Pvt. Ltd. is an emerging manufacturer of Fiberglass reinforced products (FRP) located at Ahmedabad, Gujarat (Western part of India).

Aangi is fortunate to own founders who have unparalleled experience of various industries in manufacturing segments. Apart from having a knack at engineering, they have always thrived to deliver sustainable and enduring solutions to their clients. They have worked on vital projects in various industries like pharmaceuticals, Chemicals, construction, Hospitals, plastic, textile and hospitalities.

As it is correctly said – Experience is the best teacher. This saying goes well on the Promoters of the company who have the first-hand experience in performing routine industry transactions. This on-field experience has given them food for thought. They have observed the difficulties and revenue losses to the clients due to the adverse effect of corrosion in various products.

To satiate this need of the clients they started searching for a material which is non- corrosive. Having a profound interest in technology, they came across composite materials - Fiberglass Reinforced Polymer (FRP). Fiberreinforced polymers are a category of composite plastics that solves the problem of corrosion and are specifically used to improve the strength and durability of the material. In addition to this FRP lightens the weight and is renowned for its precision engineering, definite tolerances, and streamlining of parts in both production and operation.

## MISSION AND VISION OF AANGI



### OUR MISSION

To create the most compelling composite company of the 21<sup>st</sup> century by driving the ultimate transformation towards composite – pultruded fiberglass material.



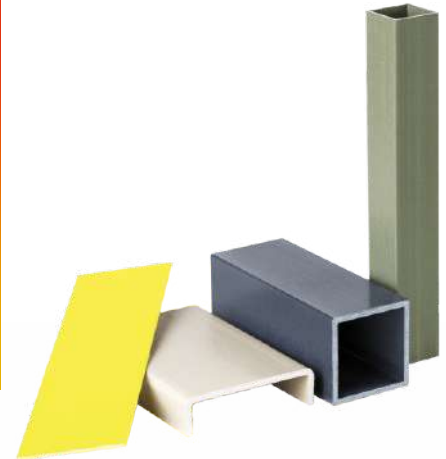
### OUR VISION

To accelerate the world's transition to sustainable, enduring and durable Fiber glass products.



# DESCRIPTION OF BUSINESS

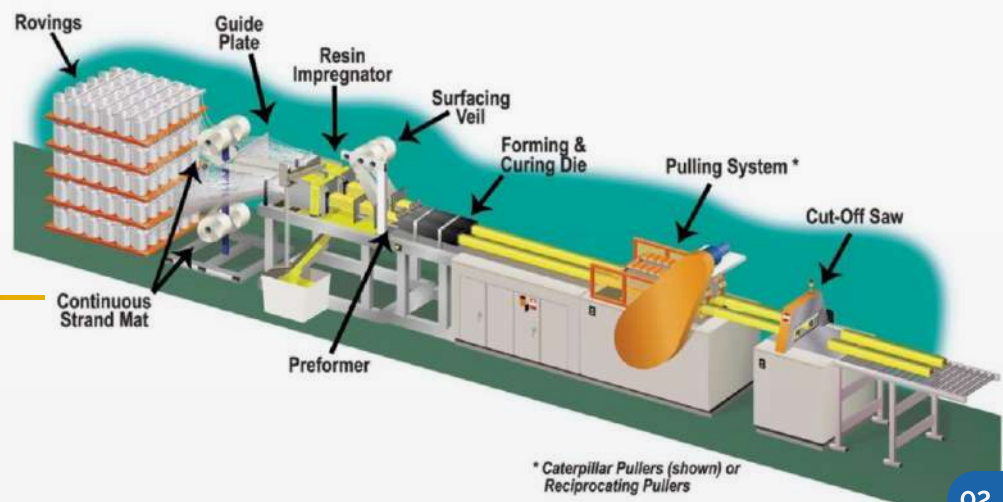
Our arrival into the composite market was made after analyzing demand for anti-corrosive solutions in heavy industries like aerospace, automobile, marine, Defence, construction industries, pharmaceutical, chemical, solar and cooling tower industries. We came to the conclusion that composites like FRP is the need of the hour. It has a high resistance property to many corrosive elements and is versatile in nature. In the long term, FRP solutions provide financial sustainability as it has no maintenance cost. We aspire to spread our wings to serve not only Indian but also to overseas clients. We are fully equipped to cater to all the needs of our international clients.



## Manufacturing Process At Glance...

- Pultrusion is the continuous process by pulling resin-rich reinforcements through a heated steel die to form profiles of constant cross-section of continuous length.
- Pultrusion gets its name from the method by which the profiles are made. Resin rich reinforcements are literally pulled by the puller. The puller is made up of pulling pads, which grip the product, and a drive system that keeps the puller along with product moving. The puller is located just before the cut off saw.
- The process starts with the reinforcements (unidirectional glass roving called fibers) that runs along the length of the profile. Then, the fiberglass mat is added, which is multidirectional reinforcement.
- Next, the glass reinforcement is “wet-out” with a thermoset resin, typically polyester or inylester. Finally, just before all the material is pulled into the heated die, the surface veil may be added to enhance the surface appearance of the final product.
- Next in the process is the curing of the composite. The curing or hardening occurs while the wet out reinforcement is being pulled through the heated die. The heat from the die causes the resin to cure by the time the part exists the die, a hard part in the exact die shape with reinforcements laminated within.
- The puller then pulls the product exiting the die to the cut off saw, which cuts it to the desired length.

## FRP PULTRUSION PROCESS



# Advantages of FRP Products



## REAL-WORLD PROBLEMS WE FACE...



## REAL-WORLD SOLUTIONS WE PROVIDE...



# FRP vs Traditional Materials

	FRP	STEEL	TIMBER	ALUMINIUM
Corrosion Resistance	High	Low	Low	Medium
Strength	High	High	Low	High
Weight (Example)	Low (10 kg)	High (40 kg)	Medium (14 kg)	Low (15 kg)
Electrical Conductivity	Low	High	Moderate	High
Thermal Conductivity	Very Low	High	Low	High
EMI/RFI Transparency	Yes	No	Yes	No
Fabrication	Easy	Easy	Easy	Moderate
Life Cycle Cost	Low	Moderate	High	Moderate
Environmental Impact	Low	High	Low	High
Finishing & Color	Available in any color	Silver	Brown	Silver

## OUR PRODUCT RANGE

### FRP Pultrusion

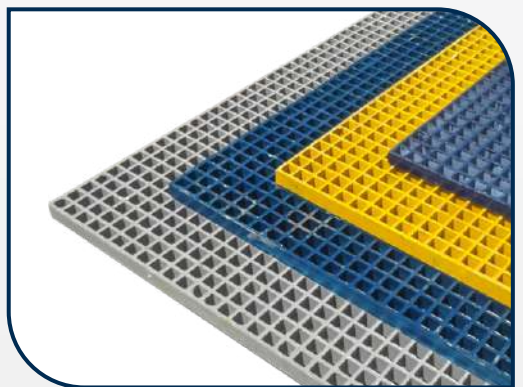
Fiberglass Reinforced Polymer (FRP) pultrusion provide long-lasting performance in highly corrosive environments. Pultrusion is a method for the production of fiber-reinforced composite structures. It facilitates high-performance composites to commercial use. Apart from this it also offers lightweight and high dielectric strength benefit as compared to traditional construction material.



### FRP/GRP Gratings

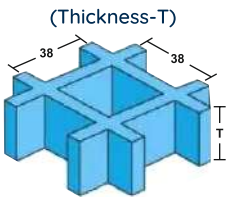
FRP Gratings is the result of a combination of a matrix of resin and fiberglass. It has low installation and maintenance costs as compared to steel. It is suitable for ventilation and natural lights. The major benefits associated with it is - they are non-resistant to chemicals, self-extinguishing and UV stabilized which assures better performance as compared to conventional metals especially steel. Moreover, they are easy to assemble and has a high loadbearing capacity.

Aangi Pultruded Gratings offers the customer options such as the selection of bar spacing (which creates varying open space in the grating or grid), bar shape, cross-rod placement, custom fabrication, custom resin or colour. FRP Gratings is available in Moulded as well as Pultruded structures.



## FRP Moulded Grating

The finished product is available in several panel thicknesses and lengths/widths. Bespoke sizes are available on request.



Depth (mm)	Thickness (mm) (Top/Bottom)	Mesh Size (mm)	Panel Size available (mm)	Weight (kg/m <sup>2</sup> )	Open Rate(%)
20	5/6.5	38x38	1220x3660	9.8	68%
25	5/6.5	38x38	1220x3660	12.3	68%
30	5/6.5	38x38	1220x3660	14.6	68%
38	5/7	38x38	1220x3660	18	68%

## ADVANTAGES:

- Anti-Slip Surface
- Concave/Meniscus Surface
- Covered Surface

## FRP Pultruded Grating

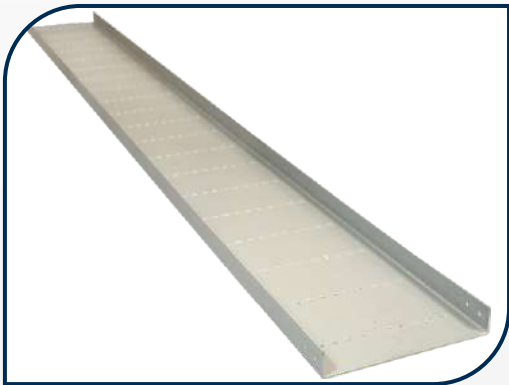
Depth	Bearing Bars Per Metre	Bearing Bars Centers (mm)	Weight (kg/m <sup>2</sup> )	Open Area(%)
25mm	23	40	12.7	60
38mm	23	40	17.5	60

## FRP Cable Trays

FRP cable trays are made using high quality pultruded material which can withstand any environment or chemicals. These are generally used for the installation of power cables and control cables. Other features that make FRP cable trays unique and more reliable are its fire redundant, lightweight, strength and durability characteristics. It is available with & without covers.

- Ladder-type
- Perforated type &
- C - Type

options are available in cable trays. FRP Cable trays are attractive in design, elegant and lighter in weight than Steel Cable trays. It meets the requirements of NEMA (National Electric Manufacturers associations) and UL (Underwriters Laboratories, Inc).



## TECHNICAL SPECIFICATION

Side	FRP Pultruded 'C' , 'E' & 'I' Section
Rung	FRP Sq. Hollow tube/Unistrut/Flat
Length of Cable Trays	2 mtr, 3 mtr & 6 mtr
Width of Cable Trays	100/150/300/450/600/750/900 (in MM)
Rung Spacing	250mm / 300 mm
Radius Fittings	300mm / 600 mm
Material of Side Rail and Rung	Corrosion Resistance Polyester-Isophthelic / Vinyl ester, Flame Retardant UV stabilized resin system and Glass fiber (Min glass content 50 to 60%)

## APPLICATIONS

- ➔ Chemical plants
- ➔ Power plants
- ➔ Effluent Treatment plant
- ➔ Offshore/Onshore Platforms
- ➔ Paper Plants
- ➔ HVAC Application
- ➔ Refineries and etc...

## FEATURES / ADVANTAGES

- ➔ Corrosion resistance
- ➔ Fire Retardant
- ➔ Light Weight
- ➔ Good UV Stabilities
- ➔ Long Life
- ➔ High Impact Strength & durable
- ➔ Non-magnetic
- ➔ Non-conductive (Electrical & Thermal)
- ➔ Non-cracking
- ➔ Non-sparking
- ➔ Chemical Resistance
- ➔ Interlocking assembly's
- ➔ Low maintenance cost

# FRP/GRP Pultruded Custom Sections & Profiles

Aangi Pultruded structural shapes are a product of a combination made from Fiberglass reinforcements and thermosetting resin system. We are producing more than 150 Standard and custom Pultruded shapes having Surface veil to provide corrosion and UV resistance. Aangi can design & offer pultrusions for different applications and environments as per your requirements.

Aangi standard Pultruded products meet and/or exceed the mechanical and physical properties as per CTI 137 and BS EN 13706 (E 17). Products can be manufactured upon request to meet BS EN 13706 (E 23).

These sections are widely used in Cooling Tower applications and solar projects.



## FRP Manhole Covers

We provide FRP manholes covers of all shapes and sizes. The covers would be non-corrosive and weatherproof. We also make stylish covers which can be used in multiplexes and in sophisticated companies.



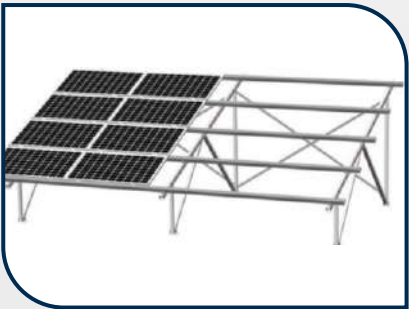
## FRP Rooftop Walkway

This system is used to save staff members from any kind of dangerous fall. Due to unfriendly weather conditions chances of slips increases on rooftops. We present you with the quality which is non-slippery, weather-resistant, fire-resistant, non-corrosive and has a long life. It is useful for the rooftop solar application also.



## FRP Solar Stand

- ✓ Can withstand strong winds & rain load
- ✓ UV resistance
- ✓ Sturdy & Lite weight construction
- ✓ Easy to install on factory sheds, inclined roofs, RCC roofs etc
- ✓ Highly durable and corrosion resistant
- ✓ Project-specific customization
- ✓ No maintenance cost



# FRP Cooling Tower-In product Section with Visuals

Aangi follows CTI 137 standard for composite products and components used for erecting Cooling Towers.

We have a range of products/components being used in various cooling tower applications are...

- ✓ Pultruded Structural Framing Material
- ✓ Pultruded Deckings
- ✓ Pultruded Stairways & Handrails
- ✓ Safety Cage Ladders
- ✓ Cladding
- ✓ Partition wall
- ✓ Walkway Gratings

Each Pultruded FRP member is pre-fabricated as per drawings and shipped to site for a ready installation.



## FRP Louvres

They are built, keeping in mind the amount of smoke and polluted air coming out of louvres. The material is corrosion free and chemical-free. Apart from this it can also withstand extreme environments and is free from regular maintenance. It is widely used in the residential and commercial building structure as a replacement of Aluminium or MS louvers. Due to its inherent lightweight property, it can help to minimize building load requirement as well.



## FRP Signage

Our expert team take special care in designing signage and delivering a quality product which is corrosion-free and can withstand any type of environment. Its maintenance-free nature will reduce the cost of the company.



## FRP Handrails

Our expert team take special care in designing signage and delivering a quality product which is corrosion-free and can withstand any type of environment. Its maintenance-free nature will reduce the cost of the company.



# FRP Fencing

We have designed the product which is nonconductive and non-magnetic in nature. These features will help to create protection around any electrical equipments like Transformer or DG set.

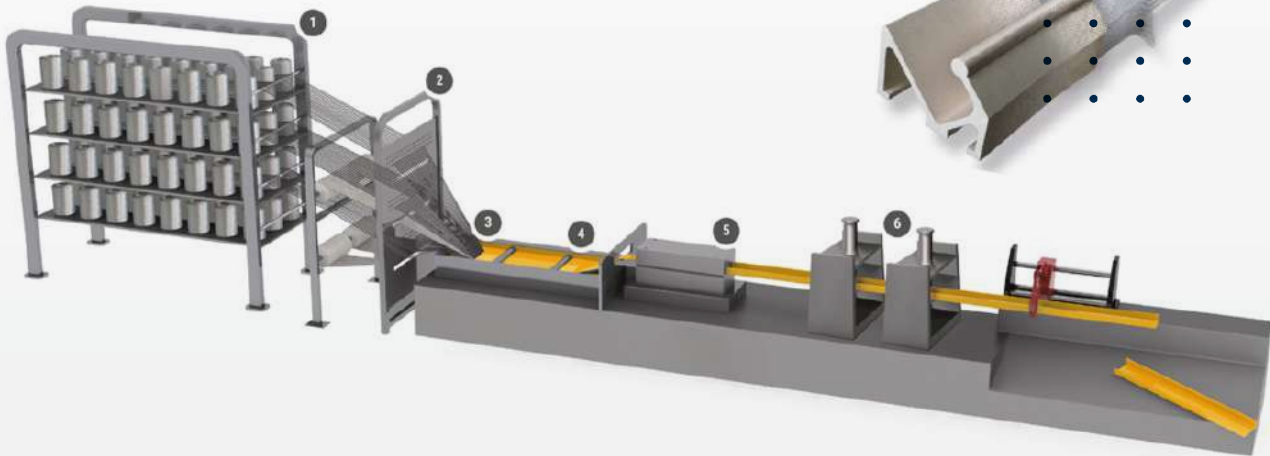
Aangi is fully equipped to provide you with your own designed fencing system on a turnkey basis. Since it is totally non-magnetic and radio transparent, FRP Fencing is also very suitable for use in airports or radio stations, where interference to RF signals is a concern.



## QUALITY MANAGEMENT

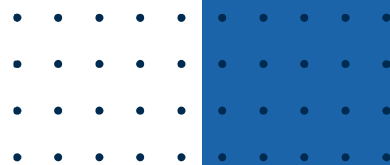
We started the business to provide better quality products to our clients. Thus when the questions of quality arise, we make sure to follow zero defect process. Our Research & Development team is making a constant effort towards improving the quality and adding more features to the products we supply to our clients.

Our quality management team cross-checks every product being delivered to our Client which assures the longevity and durability of the product. Each of our products needs to undergo basic testing of the features that we claim to be present in our product. Both internal and external audit takes place at regular intervals. All the safety and environmental norms are being followed religiously at Aangi.



Some Important Areas of FRP Application are,

- ✓ Automotive Industry
- ✓ Construction Field
- ✓ Consumer Goods
- ✓ Power Industry
- ✓ Protective Equipment
- ✓ Marine Infrastructure



# Aangi Advanced Composite

Trusted FRP/GRP Solutions

Company's Goal is to deliver the right product at the right time and at the right price to the clients. With this aim in mind, we have forayed into FRP business to provide longlasting, durable and sustainable products.

## Contact Us



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