

Cable Trays Panels Industrial Products



Ladders Gratings



**GENERAL
COMPOSITES
PVT. LTD.**



The Fibreglass People

www.frpindia.com



TÜV NORD



FibrTuf
FRP PROFILES

Our Vision

"To expand our horizons

by way of promoting fibreglass composites as a better alternative to conventional materials like steel, wood and plastic,

for both conventional as well as creative applications that results in mutual benefits with our existing and prospective global partners".



Creating Benchmarks

From conglomerates in NORTH AMERICA to colossal brands in the FAR EAST, General Composites has been catering to organisations across diverse genres, with dedication and competence.

Thus providing its customers the very best in service, quality standards, business practices and market commitments.

A glimpse at its list of clients, reflects General Composites as a force to reckon with in the global industry for fibreglass.

GCPL

Quality that certifies Excellence ...

Employing the very best.

From in-depth planning at the blue print stage, to procuring advanced raw materials, until the final installation at its customers' sites, General Composites pays utmost importance to quality.

Presently General Composites showcases:

- One of the largest Pultrusion manufacturing facility in South Asia.
- The most extensive Pultruded GRP Cable Tray range in India.
- Operating on the guidelines of ISO 9000 standards.

This cutting-edge process is monitored by the best personnel in the business. A team of dedicated professionals at every rung who implement stringent quality control tests, stage after stage. The result is a list of reputed clientele: Corporates, Public Sector Enterprises and Multinationals across the globe, that speak volumes about General Composites and its abilities.

Fibreglass Composites - The material with an edge

A glance at the advantages of fiberglass composites over conventional materials clearly pronounces it as a winner. Take a look....

Advantages : • Corrosion Resistant • High Strength • Non-conductive • Electrically Insulating • Electromagnetic Transparency • Lightweight • Easy to Fabricate & Install • Dimensional stability • Flame Retardant • Weather Resistant

General Composites Pvt. Ltd. The Fiberglass People.

The story dates back to 1995. The year in which General Composites (P) Ltd. identified 'Fibreglass' as the material of the future and went ahead by revolutionizing its unique concept across the seven seas. Ever since, there has been no looking back.

One step led to another, and today, General Composites (P) Ltd. (GCPL) are better known as '[The Fiberglass People](#)', who have the machinery to manufacture the most exhaustive Pultruded Fiberglass range in Asia.

GCPL manufactures & sells its range of fiberglass composites under the brand name ***FibrTuf***

Quality that certifies Excellence ...

Here, There, Everywhere

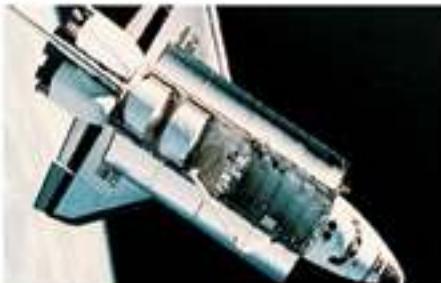
- Application Industries :**
- Refineries • Offshore Platforms • Oil & Gas Industry
 - Electricity Distribution • Power Plants • Aerospace & Aeronautical • Shipping
 - Leisure • Sports • Manufacturing • Construction • Effluent Treatment Plants
 - Outdoor Construction Panels...



Bridges



Hel Deck



Aerospace



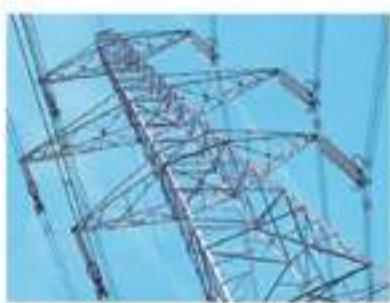
Offshore Platform



Refinery



Cooling Tower



Transmission Tower



Fenestrations



Chemical Plant



Modular Housing



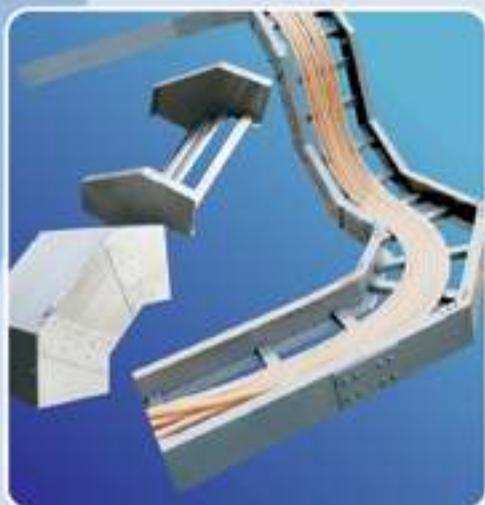
Columns & Trusses

GCPL

Quality that certifies Excellence ...

Reinforcing with reliability.

The fact that more than a million meters of FibrTuf GRP Cable Trays have been installed across the globe, reinforces on the strength(s), competence & capabilities of GCPL.



FibrTuf Cable Trays in every imaginable form

General Composites (P) Ltd., showcases the most extensive range of Cable Support Systems in ASIA. GCPL manufactures some of the largest Cable Trays/Ducts on Planet Earth.

FibrTuf GRP Cable Support Systems are available in a choice of Polyester and Vinyl Ester Resin Matrix. All products have a minimum glass content of 60%, are flame retardant as per IS 6746 / UL94 V0 / ASTM E 84; with a flame spread index less than 25 (as per ASTM D-635) and Limiting Oxygen Index greater than 30 (as per ASTM D 2863). FibrTuf Cable Support Systems and accessories are UV resistant, and adhere to the high quality internationally followed specifications of NEMA-FGI-19XX, ADMA-OPCO, ONGC FS 40005, EIL, MECON, KPG, WORLEY, VALDEL, UHDE..

GRP Cable Support Systems offer the following configurations:

- Solid Bottom or Ventilated / Perforated Channel Type
- Ladder Type
- Cable Ducts
- Accessories like Bends, TEES, Reducers etc...
- Splicing / Coupling options
- Covers for Straight Runs
- Hold down Clamps



FibrTuf Solid Bottom / Perforated Channel type Cable Trays

Solid Bottom Trays are supplied as straight channels of desired width, with Splicing holes. Perforated or ventilated trays are supplied in Drilled / Perforated channels. The standard Drilling/Perforation is of 8mm for all widths. The perforations are staggered at 150mm lengthwise and a minimum of 25mm crosswise. Available in widths of 50mm to 900mm, are designed for standard support spans of 1500mm to 3000mm. Perforated or Solid Bottom Channel type trays are offered in varying Collar heights and thicknesses as per the type and Size of Cable routing. The chart below showcases standard configurations available Ex-Stock.

Product Code	Inside Width	Load Design	Material Choice
PT - 50	50 mm	10 to 30 kg/mtr.	Polyester / Vinyl
PT - 75	75 mm	12 to 36 kg/mtr.	Polyester / Vinyl
PT - 100	100 mm	15 to 45 kg/mtr.	Polyester / Vinyl
PT - 150	150 mm	18 to 54 kg/mtr.	Polyester / Vinyl
PT - 200	200 mm	25 to 75 kg/mtr.	Polyester / Vinyl
PT - 300	300 mm	30 to 90 kg/mtr.	Polyester / Vinyl
PT - 450	450 mm	40 to 120kg/mtr.	Polyester / Vinyl
PT - 500	500 mm	45 to 135 kg/mtr.	Polyester / Vinyl
PT - 600	600 mm	50 to 150 kg/mtr.	Polyester / Vinyl

GCPL is open to developing Special Custom sizes to suit specific requirements and specifications of our valued customers.



FibrTuf Ladder Type Constructions

Ladder Trays are fabricated by assembling various combinations of different cross sections of Pultruded GRP as side runners & rungs. The rungs are mechanically fastened and Epoxy bonded for good strength, withstanding UDL, Point Loads, Side Loads and enhanced Torsional Rigidity.

Ladder trays are available in a host of configurations, depending on the valued customers' requirements for Side Runner Height and Thicknesses, with a variety of combinations of Rung Dimensions, thicknesses and Rung spacing.

Ladder tray configurations are manufactured to exacting international standards of NEMA FG1 / ADMA OPCO / WORLEY / VALDEL / UHDE / KVAERNER and other reputed international consultants' design and specifications specific to the needs of the project.

All Ladder Tray constructions are designed for the designated UDL with a factor of safety 1.5 to 2.0. Further, a Point load of 70 kgs at the centre span is considered for design purpose.

Product Code	Width	Side Runner Ht.	Rung Width	Design Load UDL	Material
LT 100	100 mm	75 / 100 / 150	50 / 35	30 to 90 kg./ mtr	Polyester / Vinyl
LT 150	150 mm	75 / 100 / 150	50 / 35	30 to 90 kg./ mtr	Polyester / Vinyl
LT 200	200 mm	75 / 100 / 150	50 / 35	30 to 90 kg./ mtr	Polyester / Vinyl
LT 250	250 mm	75 / 100 / 150	50 / 35	30 to 90 kg./ mtr	Polyester / Vinyl
LT 300	300 mm	75 / 100 / 150	50 / 35	45 to 135 kg./ mtr	Polyester / Vinyl
LT 400	400 mm	75 / 100 / 150	50 / 35	45 to 135 kg./ mtr	Polyester / Vinyl
LT 450	450 mm	75 / 100 / 150	50 / 35	45 to 135 kg./ mtr	Polyester / Vinyl
LT 500	500 mm	75 / 100 / 150	50 / 35	45 to 135 kg./ mtr	Polyester / Vinyl
LT 600	600 mm	75 / 100 / 150	50 / 35	60 to 180 kg./ mtr	Polyester / Vinyl
LT 750	750 mm	75 / 100 / 150	50 / 35	75 to 225 kg./ mtr	Polyester / Vinyl
LT 900	900 mm	75 / 100 / 150	50 / 35	90 to 270 kg./ mtr	Polyester / Vinyl

All Ladder tray configurations are designed for support span of 3000mm. Ladder Trays with Support Spans up to 6000mm can also be customized for special applications.

FibrTuf Cable Ducts (Heavy Duty Cable Support Systems)

GCPL is proud to be the only manufacturer on the globe to have designed, developed, manufactured and supplied GRP Cable Ducts to our valued customers. Cable Ducts, like Ladder type Cable Trays, are also available in a variety of configurations, depending on the Cable Fill volume desired and the expected Cable Loads. FibrTuf GRP CABLE DUCTS FOR CABLE LOADS UPTO 1000 Kg/mtr, have been designed, developed and successfully supplied by us. In contrast with Metallic Ducts, which require frequent painting, other routine maintenance expenses, and many a time have to be replaced after a 10-15 year life cycle, FibrTuf Cable Ducts OUTPERFORM conventional Metallic Ducts in corrosive environments, whereby no replacement is needed for FibrTuf Cable Ducts in the entire life cycle of the plant / refinery / offshore installation.

Product Code	Width	Side Runner Ht.	Design Load	Material Bearing UDL
CD 450	450 mm	200 / 300 / 400	400 to 1200 kgs./ mtr	Polyester / Vinyl
CD 600	600 mm	200 / 300 / 400	450 to 1350 kgs./ mtr	Polyester / Vinyl
CD 750	750 mm	200 / 300 / 400	500 to 1500 kgs./ mtr	Polyester / Vinyl
CD 900	900 mm	200 / 300 / 400	750 to 2250 kgs./ mtr	Polyester / Vinyl
CD 1000	1000 mm	200 / 300 / 400	800 to 2400 kgs./ mtr	Polyester / Vinyl
CD 1200	1200 mm	200 / 300 / 400	1000 to 3000 kgs./ mtr	Polyester / Vinyl

FibrTuf Cable Support System Accessories

- 15 Deg., 30 Deg., 45 Deg., 60 Deg., 75 Deg. & 90 Deg. Horizontal Bends & Vertical Inward/Outward Risers.
- 3 Way TEES (Horizontal & Vertical)
- Reducers/Expanders (Concentric, LHS, RHS).
- 4-way Crosses (Horizontal & Vertical)
- Pultruded FRP Coupler Plates with SS joining Hardware
- GRP & Stainless Steel Coupler / Splicing plates
- GRP & Stainless Steel Expandable Coupler / Splicing Plates
- Horizontal & Vertical Moulded GRP Flexible angle Splicers / Couplers.
- GRP Covers for Solid Bottom / Perforated, Ladder Type & Cable Ducts.
- GRP CLAMPS for locking Cable Trays in position with supports.

Note: All bends are of Miter Type, with GRP or SS Mitering plates. Moulded Bends can also be supplied, albeit with a substantial lead time for deliveries. Bends are available in various Radii of curvature (eg. 300mm, 450m, 600mm, 750mm, 900mm) Standard Inside Radius of curvature for all bends is 300mm.

FibrTuf Testing & Inspection

Stringent check on Pultruded Composite FibrTuf GRP Cable Trays and accessories is conducted as per NEMA-FG1 specifications, by way of the following:

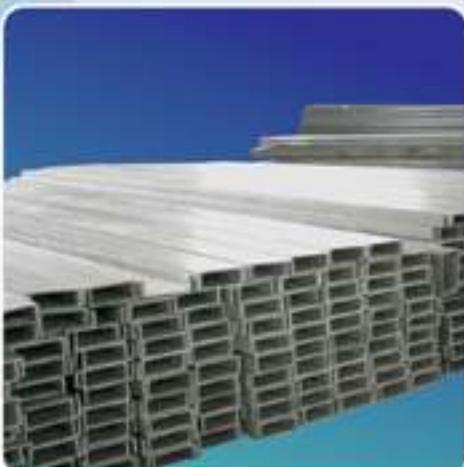
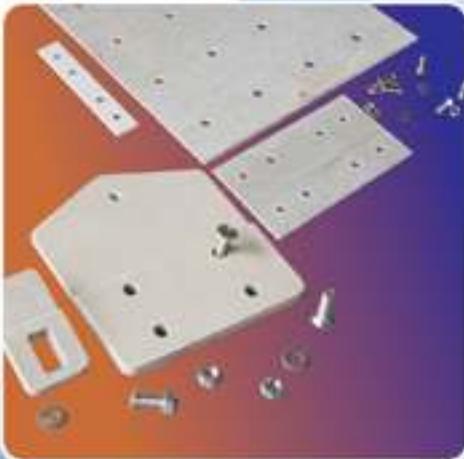
Destruction Load Test: All sizes are tested for breaking load, to understand the performance of the material until mechanical failure, and compare it with theoretical calculated values of failure loads, and material characteristics. Data is recorded for analysis of material behaviour, and development of improved designs.

Deflection Test: This test examines the maximum deflection in the tray, given the loading conditions, deflection should be minimum and in accordance with NEMA-FG1, so as to maintain the aesthetics of the tray. The percentage recovery of the tray is evaluated and confirmed to be greater than 99%.

Glass Content : Samples of material are tested for glass content ratio in the Fibreglass Pultruded Composite material profiles. The minimum glass content should be 60%, for use in assembly of Cable Support Systems.

Flame Retardency Test: The trays are checked for surface burning as per ASTM E- 84 / UL 94 V0 / ASTM D-635 / IS-6746 standards. Material should cease to burn (self extinguish) within 5 - 10 seconds of removal of flame. The flame spread index must be minimum possible but not over 25. The limiting oxygen index test as per ASTM D 2863 is carried out to confirm LOI value to be greater than 30.

FibrTuf Cable Trays and accessories are evaluated to confirm compliance with the above routine tests, which can be witnessed by our Valued Customers or their Third Party representatives.



The *FibrTuf* Series



FibrTuf Structural Shapes

Make very good alternative materials over steel profiles like I-Beams (ISMB), Channels (ISM), Angles (ISMA), Box Sections, etc; thus providing an ideal solution for corrosion problems faced in industrial environments, with conventional materials.

FibrTuf often outlasts steel 20 to 1 times and it is a long term investment, where frequent painting or replacement costs are unacceptable.

Applications: Columns, Trusses, Purlins, Walkways, Platforms, Structural Supports, Standard Steel replacement Structural Members, Custom profiles.



FibrTuf Panels & Sheets

Are manufactured for various Industrial, Commercial and Creative usages.

Available in widths of 50mm to 1100 mm, these panels offer excellent weather resistance, corrosion resistance, Electrical Insulation, Thermal Insulation properties.

Applications: High Voltage Electrical Insulations, Manhole/Hand hole Covers (25 MT UDL Capacity), Building Claddings, Partition Walls, Modular Housing Construction Panels, Decorative Laminates.

FibrTuf Gratings

Offers the right and SAFE solution to the perennial issues faced in highly corrosive Industrial environments. Pultruded Gratings are manufactured by assembly of Pultruded I-Beams (Load Bearing Members) & Pultruded Cross Rods (Cross Locking Members). The distance between I-Beams is 40mm, whereas the gap between the Cross Rod varies as per the load requirement of the application. FibrTuf gratings are available in Polyester & Vinyl Ester grade Resin matrix, as per the application.

Applications: Effluent Treatment Plants, Refineries, Chemical Plants, Petrochemical Plants, Railroad, Pulp & Paper Plants, Food & Beverage Industry, Power Plants, Marine & offshore installations.



Product Code	I - Beam Size	Cross Rod Distance	Recommended Load
GR 2530	25 mm	300 mm	300 kg / Sq.mtr.
GR 2520	25 mm	200 mm	400 kg / Sq.mtr.
GR 2515	25 mm	150 mm	400 kg / Sq.mtr.
GR 2510	25 mm	100 mm	750 kg / Sq.mtr.
GR 4030	40mm	300 mm	750 kg / Sq.mtr.
GR 4020	40mm	200 mm	1000 kg / Sq.mtr.
GR 4015	40mm	150 mm	1500 kg / Sq.mtr.
GR 4010	40mm	100 mm	2500 kg / Sq.mtr.
GR 4004	40mm	40 mm	5000 kg / Sq.mtr.

FibrTuf Handrail Systems

Manufactured using Pultruded fibreglass reinforced Polyester or Vinyl Ester resin, FibrTuf Handrail systems are well-armed for all types of abuse. Also, they are designed to be electrically non-conductive and meet various safety standards. Typical Handrail comprises: *Vertical Posts *Top Handrail *Middle Strength members & *Foot strips.

Applications: Effluent Treatment Plants, Refineries, Chemical Plants, Petrochemical Plants, Railroad, Pulp & Paper Plants, Food & Beverage Industry, Power Plants, Marine & offshore installations.



The *FibrTuf* Series



FibrTuf Electrical Insulation Material

Flats, Rods, Dog Bones, Corner Pieces, End Pieces, Cross Arms for Electrical Distribution etc., are manufactured by Pultrusion having a glass content of min. 65%. These are available in Choice of Matrix as per application viz. Polyester, Vinyl & Epoxy. These products offer excellent mechanical strength coupled with Medium to Heavy electrical insulation properties, for Indoor & outdoor usage.

Applications: Dry type transformer spacers, Reactor internals, Bus bar supports, Pole line hardware, 11KV/33KV Cross Arms & other electrical insulation requirements.



FibrTuf Custom Pultrusions

General Composites has the largest range of Pultrusion Moulds & Toolings and Engineering design expertise. Hence it can match all specifications in terms of size, shape, resin matrix & type of reinforcement designs. Custom Pultrusions upto 1200 mm width and 250 mm height can be developed and manufactured with competence.

Some of our Custom Designed and manufactured products in the past:
Fibreglass Utility Manholes for 25 MT load capabilities.
Hybrid composite Helidecks for Marine applications

FibrTuf Consumer Product Range

Although conventionally used in Industrial applications, FibrTuf is increasingly gaining acceptance in the Commercial and Consumer product range. From simple Tent Poles to complex Fenestrations, we at GCPL are always striving to develop new products for our valued customers.

Applications: Door Frames, Window Lineals, Tent Poles, Site Offices, Furniture, Kitchen Cabinet, Storage Racks, Garden Tool Handle Cores etc.....is limited to your imagination.



FibrTuf Ladders

FibrTuf ladders are made up of Pultruded Fibreglass Channel Side Rails and Fibreglass or Aluminium Steps, as per the customers' choice. Available in lengths upto 35 feet (10 metres), FibrTuf ladders have been in use for the last nearly one decade and still performing well. They are available in a choice of colours as per our valued customers' request. Standard colours are Yellow, Blue, Red and Steel Grey.

Applications: Cat ladders with or without cage, Standalone ladders with Top working platform, Wall supported Ladders, Stairways for Process Plants, Extendable Ladders for Electrical maintenance.



Certifications

By Whomsoever it may Concern

They do state that Nitril General Composites Limited had been approached without the realisation of a prototype structure, which was found to be helical in bending. The structure has been replaced from purchased composite sections manufactured at General Composites Ltd, and has been successfully tested by under static loading and field conditions.

The following table summarizes the main features and performance metrics of the three selected models.

This is to certify that Mr. Ganesh Chaturvedi, General Composites Pvt. Ltd., Mumbai, has successfully demonstrated composite material engine (ST707) as per ATRM-420-8-2007 & dimensions of 500mm width as per IS-107502 for CRDCC's PFM Project of aircraft.

The above material was used for sample fabrication of substrate for composite materials in the platform & the item was supplied by DRAGOCS. The material supplied was of excellent quality, especially custom made to our application requirements & also the delivery was met with promptness. The above material was supplied against our order No PDD0040000000444555C and 10/2009.

We're looking forward to placing several contracts for winter insulation requirements & also we are known as placing orders for cable trays, covers & related products. Insulations material get specifically manufactured by M/s. General Composites. Plz. visit us at these all the business.

हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
HINDUSTAN PETROLEUM CORPORATION LIMITED

ANSWER 3. 1000 cm³ = 1000 ml = 1 litre

**RECEIVED DIRECTOR, F.B.I. WASH. D.C. (64-21462) 25-7-1968. BUREAU, BALTIMORE, NO. 60000 AND
FBI-BALTIMORE. TELEPHONE 301-549-7371. DATE TELETYPE NUMBER
2000.**

111

December 1965 (1999)

2023年中考語文總分考前突破題型訓練題(五) 附答案

www.ncbi.nlm.nih.gov

—In addition that Mr. Vassallo's Committee (Pvt. 1) M. Wm. D. has

range of heavy-duty, home-maintenance performed and ladder-type scaffolding used in conjunction with a Tradey Scaffery.

90% were nonadherent or noncompliant with (11,16-18) and 21,17,22,23,24. The average reported gap for these items is 5 minutes from stand carry times for lead, business and domestic.

and the same safety equipment was used and interconnected with every branch of the supply as per AS/NZS E-60074. All index was required to be taken E.I. The above specifications were submitted by M/s. General Contractors Pvt. Ltd.

There are still good qualities and important qualities and the performance is still satisfactory. We shall be very interested in placing repeat orders.

Conseguemos respostas FHL, LAR, BSC e as respectivas suas filhas.

and their success their success

GPL



OUR BUSINESS ASSOCIATES

Valued Customers / EPC Contractors / End Users / Consultants / Third Party Inspection Agencies:

- HYUNDAI HEAVY INDUSTRIES (KOREA)
- JOHNSON MATTHEY CHEMICALS LTD. (UK)
- ADYARD ABU DHABI LLC (ABU DHABI)
- OIL & NATURAL GAS CORPORATION (ONGC)
- J. RAY McDERMOTT
- HONEYWELL
- INDIAN NAVY
- HINDUSTAN PETROLEUM CORPORATION LTD. (HPCL)
- RELIANCE INFOCOMM LTD.
- THE GREAT EASTERN SHIPPING CO.LTD. (GESCO)
- LARSEN & TOUBRO (L&T)
- BHARAT HEAVY ELECTRICALS LTD. (BHEL)
- HIGH POLYMER LABS LTD.
- KOCHI REFINERIES LTD. (KRL)
- BRIDGE & ROOF CO. (I) LTD. (B&R)
- INDIAN RAILWAYS
- VEDANTA (STERLITE GROUP)
- NELCO
- SIEMENS
- EMERSON LTD.
- HIND RECTIFIERS LTD.
- HINDUSTAN ZINC LTD.
- FURNACE FABRICA
- MECON
- ENGINEERS INDIA LTD.
- UHDE LTD.
- KVAERNER POWERGAS LTD.
- WORLEY
- VALDEL (JOHN BROWN)
- ADMA OPCO
- BUREAU VERITAS (BV)
- DET NORSKE VERITAS (DNV)
- CERTIFICATION ENGINEERS INDIA LTD. (CEIL)

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