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**EVERLAST**   
Composites LLP.  
An ISO 9001:2008 Company

**Born Tough**  
**Born to Lead**

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Composites LLP.

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# technology changes daily **our values never do...**

Everlast Composites LLP has been in the business of manufacturing FRP/GRP Composite Manhole Covers, FRP Gratings and Sections since 2008.

Our products have a reputation for durability, so much so that customers often remark that they are of the "Fit it, Forget it" kind! We pioneered FRP Composite Manhole Covers in India and have even been conferred with the prestigious National Award for Technology Innovation (2010-2011) and JEC Asia Innovation Award, Singapore (2013) for the same. Everlast have been exporting manhole covers mainly to Africa and Middle East countries.

The Everlast brand of FRP Composite Manhole Covers have been approved by National & International Government Authorities. They are preferred by the foremost realty majors, road works and infrastructure companies in India.

## Product List

- FRP Manhole Covers & frames
- FRP Underground Tank Covers
- FRP Overhead Tank Covers
- FRP Gully Gratings
- FRP Mesh Gratings
- FRP Channel Drain Grating (Heavy Duty)
- FRP Water Tight Covers
- FRP Pultruded Profiles & Duct fins



# Manhole Covers & Gully Gratings

Designed to last:

Cross-section of the cover

Everlast brand FRP Covers and Gratings are manufactured using the best quality materials and state-of-the-art technology. Each product is rigorously tested to adhere to exacting quality standards:

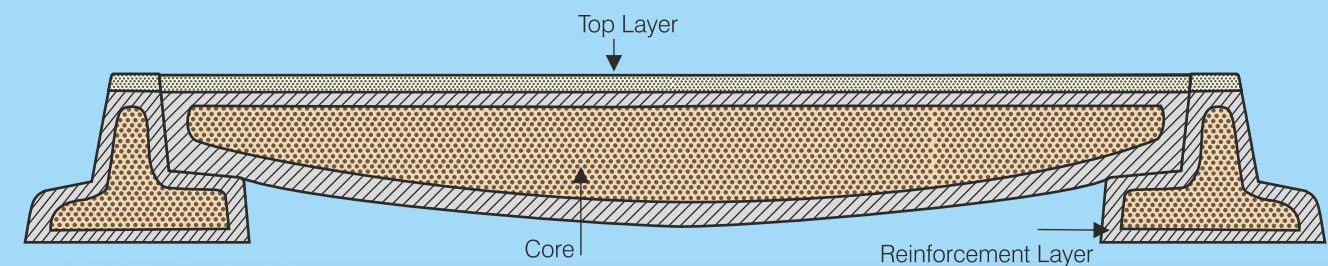
These products offer the following advantages:

Feature	Advantage	Your Benefit
Zero Scrap Value	Burglar-proof	No cost incurred on replacements
High Strength to Weight Ratio	Light in Weight, i.e. Easy to Handle	Save on labour & transportation costs
Granite Finish	Abrasion resistant Good aesthetic value	No costs included on beautification and long lasting
Weather Resistant	Corrosion free	No costs incurred on maintainance
Acid/Alkali Proof	Erosion free	Long lasting - More savings

**Top Layer:** This layer consists of a mixture of UV Stabilized resin, quartz and corundum crystals in specific proportion to achieve a decorative granite finish. The quartz and the corundum crystals provide high abrasion resistance.

**Reinforcement Layer:** This layer consists of multiple layers of fiberglass reinforcement depending on the loading capacity of the cover. This is the most important layer as it provides the required load-bearing strength to the product. This sustains the tensile load applied on the cover.

**Core:** The core of the product consists of a specially formulated mixture of resin and polymer concrete. This provides rigidity and bears the compressive load applied on the cover.



## Comparison between FRP-CI-RCC:

No Comparison, actually!

Parameter	RCC	CI	EVERLAST
Thermal Expansion	Slight	High	Almost Nil
Corrosion Resistance	Low	Medium	High
Life Span	Low	Moderate	High
Strength / Weight Ratio	Very Low	Moderate	Very High
Cost	Low	Moderate	Comparable to CI
Scrap Value	Low	High	Zero
Colour Range	Concrete Grey	Black / Metallic	Range Available
Finishing	Not Applicable	Rough	Granite Finish
Logo Embossing	Not Available	Not Available	Possible
Custom Design	None Available	Not Available	Possible
Locking System	None	None	Available
Handling	Very Difficult	Difficult	Easy

## Sizes and Load Capacities:

Bring it on!

**LD-2.5 (2.5 Tons):** Suitable for use within residential and institutional complexes/areas with pedestrian but occasional light motor vehicle traffic. These covers are also used for Inspection chambers.

**LD-5 (5 Tons):** Suitable for use in areas with Light Motor Vehicle (less than 3 Tons) traffic e.g. underground parking or parking decks in residential areas.

**MD-10 (10 Tons):** Suitable for use in service lanes/roads, on pavements with medium weight motor vehicle traffic, including for car parking areas.

**HD-20 (20 Tons):** Suitable for use in institutions, Commercial areas, carriage ways, city trunk roads, bus terminal and other areas with heavy duty motor vehicle traffic (wheel loads between 5-10 tonnes), and where the manhole chambers are located in-between the pavement and the middle of the road.

**EHD-35(35 Tons):** Suitable for use in carriageways in commercial areas, Industrial parks, Port terminals, warehouses, godowns and other areas where frequent loading and unloading of trucks and trailers is common, with vehicular traffic having wheel loads up to 11.5 tons (irrespective of the location of the manhole chambers).

**Manhole Covers & Frames, Gratings confirming to EN124:1994 and IS1726:1991 are available in following clear opening sizes(in mm) for load capacities from 1.5 Ton to 40 Ton**

	Dia 530	Dia 560	Dia 600	Dia 750	Dia 900
<b>Circular</b>					
<b>Square</b>	300 x 300	450 x 450	600 x 600	900 x 900	1000 x 1000
<b>Rectangular</b>	450 x 600	450 x 900	600 x 900	900 x 1200	
<b>Gratings with Frame</b>	450 x 450	500 x 600	600 x 600	600 x 1200	
<b>Gratings without Frame</b>	295 x 525	375 x 500	450 x 450	500 x 550	

Dia 600mm Water Tight Underground Tank Covers available for load capacities from 5 Ton to 40 Ton. Overhead Tank Covers are also available in Dia 450mm, Dia 530mm and Dia 600mm.

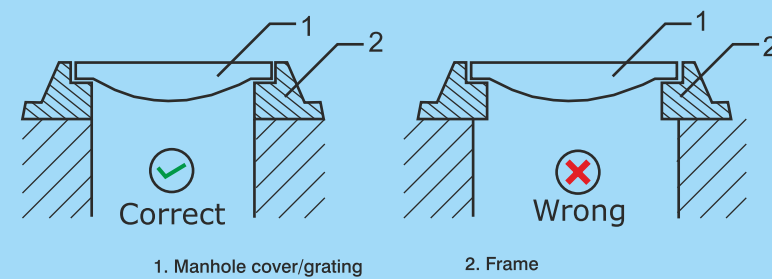


## Size selection, Handling & Installation:

## Installations:

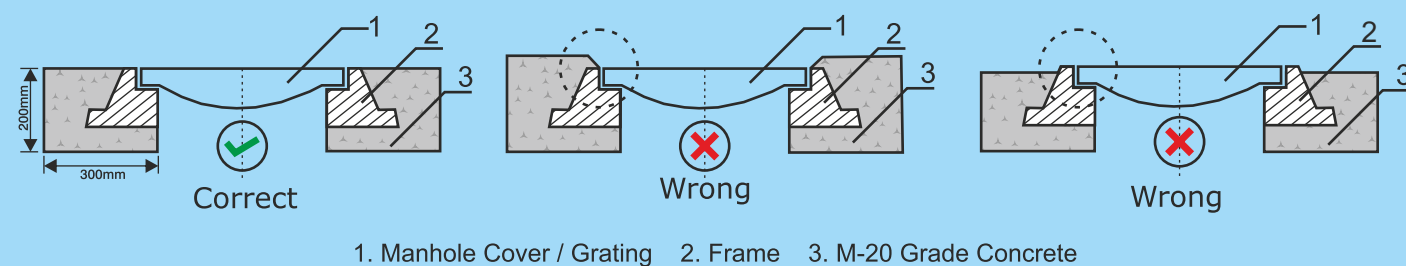
### The Perfect Fit...

- Size mentioned on the cover/technical sheet/price list is clear opening size.
- Clear opening of the frame should not be smaller than the size of the chamber on all sides/edges.
- Shape of the clear opening should be same as shape of chamber.
- If possible, chamber opening must be designed after consideration of standard clear opening sizes available.



### Installation instructions: Fit it. forget it...

- Prepare the concrete bed after considering the height of the frame.
- The frame should be completely embedded in a minimum of M-20 Grade Concrete
- The level of the concrete bed must be flat so that entire frame is uniformly supported
- In case a section of frame is not supported with solid ground, a RCC beam (min M-20 grade) not less than 100 mm in height must be installed for resting below unsupported section.
- A frame should be allowed to set in concrete for a minimum time of 48hrs before its use.



# Mesh Gratings

Everlast brand FRP Gratings combines high chemical and corrosion resistance along with high durability and long life. These gratings have established a reputation for reliable performance even in the most demanding operating environments where traditional wood, concrete or metallic products deteriorate rapidly.

Everlast FRP moulded gratings are available in three resin variants namely Isothalic, Vinyl & Orthophthalic and four products variants namely Plain surface, Grit Surface, Check plate Cover & Grit Cover.

**These products offer the following advantages:**

- Anti-corrosion & Anti-ageing
- Light weight & easy to handle
- Long product life & Maintenance free
- Non-conducting & chemical resistant
- Slip resistant
- Fire Retardant

**Applications:**

- Chemical & Petroleum Plants
- Architecture & Construction industry
- Food & Beverage plants
- Walkways, Footbridges & Staircases
- Oil & Gas, Offshore rig, Power plants
- Water treatment plants & water pools
- Operating platforms & trench covers
- Ramp, Scaffold, Railway footpaths & many more...

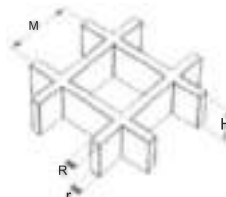


**Type of Gratings**

- Plain surface: Anti-skid plain surface
- Grit surface: Extra Anti-skid silica gritted surface
- Check plate cover: Covered Check plate design for walkways, ramps etc...



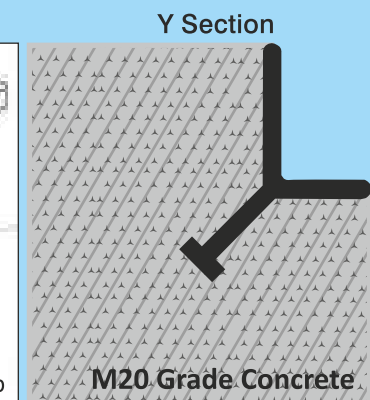
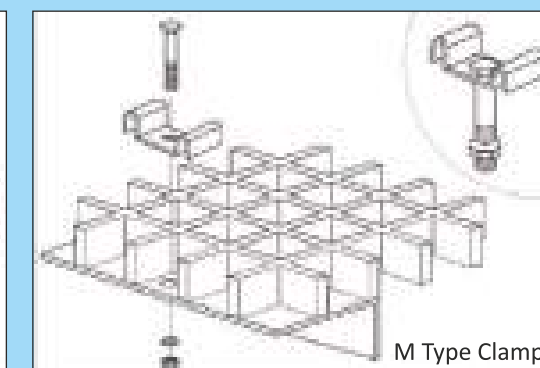
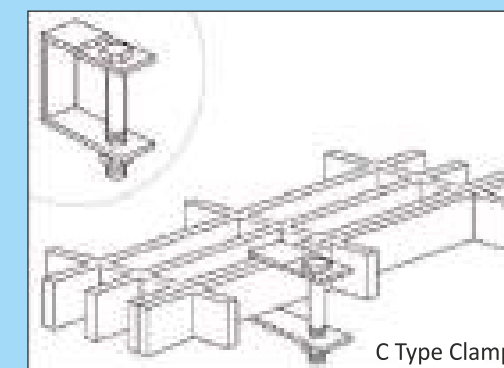
**Moulded Gratings Dimentions**

DRAWING	THICKNESS (H) mm	MESH SIZE (M)	RIB THICKNESS (r-R) (min-max) mm	OPEN AREA (%)	WT PER SQ. MTR. kg/Sqm	SHEET SIZE (mm x mm)
	25	38 x 38	5 - 7	68	11.9	1220 x 4006
	30		5 - 7		14.1	
	38		5 - 7		19	
	50	50 x 50	5 - 8	78	20.4	1220 x 4023

**SS Fixing Clamps for FRP Gratings**

Fixing Clamps are required during installation of gratings. Two types are available based on location and type of joining required.

\*SS Clamps will have to purchased separately from other suppliers.



This is used for the connecting sides of two panels of gratings to ensure the integrated function in one body.

This is used for positioning and connection of gratings & supporting materials

'Y' Section also made using FRP is used for fabricating the frame for moulded gratings. Alternately, this section can also be embedded in concrete (see diagram) for open drains. Frames made using 'Y' angle have a longer life span as compared to simple concrete, MS, SS and CI angles.

# Tank Covers

## Underground tank Covers/Watertight covers/STP tank covers

Everlast Composites LLP is a reputed and government approved manufacturer of FRP products is proud to introduce an innovative new product range - FRP Tank Covers, Underground tank Covers/ Watertight covers / STP tank covers.

These products are manufactured and tested under strict international standards ensuring highest quality and to provide maximum protection against ingress of dust, corrosion, insects and other pollutants into your water tanks/chambers

Basically covers required for this application should be water tight as ground water shouldn't ingress and contaminate the water inside. In case of STP tank covers, these covers should be airtight as foul smell shouldn't come out. This is possible only when covers are positively locked which create pressure on high quality, speciality designed rubber sealing profile placed in a groove provided in the frame. Please refer drawing which shows this arrangement in detail. As these covers are on ground level, as required, they are manufactured in 2.5, 5, 10, 20 and 40 ton load capacities.



**100% Be Assured**

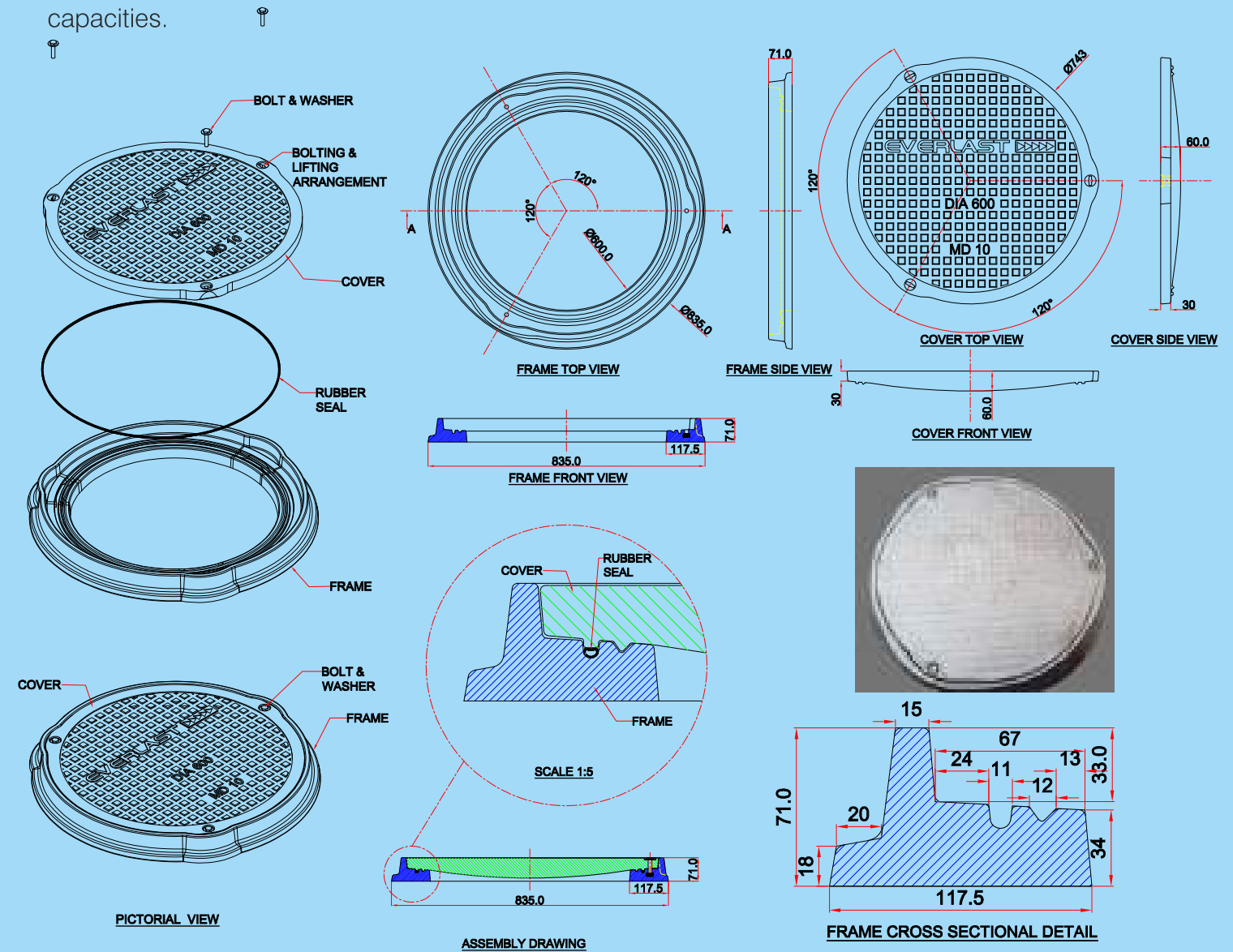
- |              |                                     |                    |                                     |
|--------------|-------------------------------------|--------------------|-------------------------------------|
| • Strength   | <input checked="" type="checkbox"/> | • Aesthetics       | <input checked="" type="checkbox"/> |
| • Safety     | <input checked="" type="checkbox"/> | • Durability       | <input checked="" type="checkbox"/> |
| • Mosquitoes | <input checked="" type="checkbox"/> | • Theft            | <input checked="" type="checkbox"/> |
| • Rain       | <input checked="" type="checkbox"/> | • Acids & Alkalies | <input checked="" type="checkbox"/> |
| • Dust       | <input checked="" type="checkbox"/> | • Corrosion        | <input checked="" type="checkbox"/> |

100% Compatible with HDPE, GI, Masonary, Ferrocement tanks and Inspection Chambers

### Technical Specifications of Everlast Brand FRP/GRP Circular Water Tank Covers

Everlast Brand Details	Size (mm)	Size (Inches)	Max Load (Kg)	Cover		Frame			
				Cover Size	Border Height	Inner Size	Outer Size	Base Width	Total Height
Tank Covers	Dia 600	24	300	Dia 640	20	Dia 600	Dia 680	40	25
	Dia 530	21	300	Dia 570	20	Dia 616	Dia 530	43	25
	Dia 455	18	300	Dia 495	20	Dia 541	Dia 455	43	25

\*All sizes are in mm unless otherwise mentioned



# Pultruded profiles & Duct fins

Everlast Composites LLP's pultruded profiles provide an unique and unmatched combination of corrosion resistivity, high strength, thermal and electrical non-conductivity, dimensional stability and light weight. These sections are virtually maintenance free and perform superior to traditional materials like steel, aluminum or wood in many industrial applications. These sections are manufactured in various profiles like Angles, Channel, 'I'Beam, Wide Flange Beams, Round/Rectangular tubes and solid rods, Concrete embedment angles etc. We can also manufacture custom profiles in pultrusion\*

Mechanical Properties	Pultruded FRP	Rigid PVC	Mild Steel	Stainless Steel	Wood
Tensile Strength (N/mm <sup>2</sup> )	382	44	340	340	80
Flexural Strength (N/mm <sup>2</sup> )	468.3	70	380	380	12
Flexural Modulus (N/mm <sup>2</sup> )	22489	2400	196000	196000	700
Izod Impact (Kg.m/cm)	2.15	0.09	1.5	0.53	-


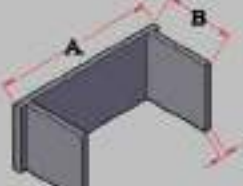

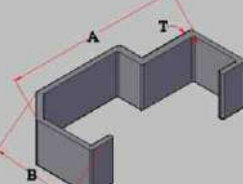

## Applications:

- Walkways & Bridges
- Electrical Insulating Sections
- Cooling Tower Sections
- Cable Tray Systems
- Maintenance Platforms
- Pipe and Equipment Racks
- Tank Loading Platforms
- Trash and Bar Screens
- Decks
- Ladders and Hand Rails
- Fencing & Signboards
- Buildings and Sheds
- Mezzanines
- Booths
- Baying Platforms


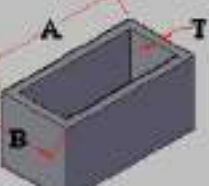
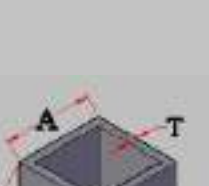
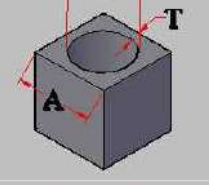





# Currently developed Pultruded profiles

Profile	A	B	T	Wt*/ RMT
	75	30	3	0.82
	75	30	4	1.02
	75	30	5	1.25
	100	50	8	2.95
	200	50	8	4.25
	62	28	2.5	0.65
	84	30	4	1.07
	100	50	3	1.11
	100	60	2.5	1.45
	100	100	8	4.2
	50	50	5	0.98

\*Weight as per Theoretical Calculations

Profile	A	B	T	Wt*/ RMT
	50		3	0.88
	50		5	1.42
	16		3	0.23
	38			2.22
	100	50	3	1.65
	75	50	3	1.3
	50	25	3	0.72
	50	50	6	1.95
	50	50	5	1.66
	50	50	3	0.98
	40	40	5	1.4
	40	40	3	0.83
	30	30	3	0.56
	25	19	3	0.34
		50	38	6
25		38	5	0.99

\*Weight as per Theoretical Calculations

# Pultruded profiles Duct fins & its Applications



FRP foot over bridge structure



FRP Pultruded Gratings



FRP decorative fencing



FRP Pultruded Railing



FRP Industrial Platforms



FRP Industrial Platforms



FRP Pultruded Staircase

## Applications:

### Key Characteristics

- **Maximum Corrosion Resistance:**  
Responsible for Enhancing the life of the product in harsh environments subject to extreme corrosive conditions in industries.
- **High Strength and Light Weight:**  
This property of FRP allows dependable support to applied loads providing higher strength to weight ratio as compared to any other material.
- **Thermal & Electrical Non-Conductivity:**  
Very essential characteristics ensuring highest safety standards for the personnel working there.
- **Dimensional Stability:**  
The product is so designed which maintains cross-section of shapes based on low co-efficient of thermal expansion.
- **Electromagnetic transparency:**  
The products does not interfere with the transmission of radio and microwave frequencies.

Sizes are available:

- Rectangular Section  
100 x 50 x 3 mm  
75 x 50 x 3 mm  
25 x 50 x 3 mm
- Square Section  
50 x 50 x 3 mm  
40 x 40 x 3 mm
- L Angle (For Fixing)  
50 x 50 x 5 mm

Note: Any new section can be developed, depending upon the quantity.



## Installations:

Everlast : Meritorious Performance



WINNER OF  
NATIONAL AWARD  
For  
INNOVATION 2010 -11



WINNER OF  
**JEC**asia2013

INNOVATION  
AWARD for

60 Ton Load capacity Manhole Cover with Frame &  
40 Ton Load capacity Grating.