



TOPAZ

F R P

For all walks of life...



ABOUT US

We are proud to refer to more than 35 years of experience founded in 1986, in research & development, production & steady distribution of high quality & specialty Mosaic, Plain & Chequered Tiles, Interlocking Pavers Matt, Glossy & Shot Blast Pavers, Concrete Blocks in various sizes., Precast Concrete Cable Covers with ISI mark, Fly Ash Bricks in various sizes, Curb stones and many more products. Topaz is in approved list in MES (Maharashtra and Other States) Pune Cantonment Board and PMC from more than 20 years.

NOW, TOPAZ has entered a new market know as **TOPAZ FRP** and now TOPAZ FRP is the leading Manufacturer of FRP Manhole & Water Tank Cover and much more. Within a year, TOPAZ FRP has attained complete customer satisfaction & has emerged as one of the prominent name in the **FRP manhole cover , FRP moulded grating ,FRP heavy duty cover, FRP window shades, FRP Planters, FRP Doors** and many more. The Spirit and Philosophy of this young and fast paced company is fueled by creating a niche for innovation and creativity in the world of FRP Composites. Employees are encouraged to take risk, challenge convenient wisdom and create innovative FRP products. **TOPAZ** has it's own fleet of transportation which helps us to give timely delivery of materials.



WHAT IS FRP?

FIBRE-REINFORCED POLYMER (FRP)

Is a composite material made of a polymer matrix reinforced with fibers. The fibers are usually glass fibers, the polymer is usually an epoxy, vinylester or polyester thermosetting plastic, and phenol formaldehyde resins are still in use. FRPs are commonly used in the aerospace, automotive, marine, construction industries and ballistic armor.

COMPRESSION MOLDING - When the raw material containing reinforced fibers are compressed & molded at certain pressure & temperature the final outcome would be called a FRP molded product, which qualifies it as a fiber-reinforced polymer. More typically the polymer preform used in compression molding does contain reinforcing fibers.

ADVANTAGES AND LIMITATIONS - FRP allows the alignment of the glass fibers to suit specific design programs. Specifying the orientation of reinforcing fibers can increase the strength and resistance to deformation of the polymer. Glass reinforced polymers are the strongest and most resistive to deforming forces when the polymers fibers are being exerted with a parallel force.

& ADVANTAGES OF FRP FEATURES



HIGH LOAD RATING AND STRENGTH

Similar hardness in property as cast iron, but major advantages on stretch recovery and bend resistance. Less noise and lower vibration transmissions. Designed to meet and exceed A 15/B125 /C250/ 400/E 600/F900 loading rating, according to En 124: 1994

AGAINST THEFT AND SAFETY OPTIONS

Comparing with cast iron manhole cover, composite cover has zero the value and therefore not attractive to thieves, which reduce the potential accident and further maintenance cost caused by theft. Surface anti-slip thread guarantees safe road condition even in extreme weather. Locks are available as an option molded into the cover to improve security rate. Non-electricity conduction and non-heat conduction, UV resistance.

EASE IN INSTALLATION

Compared with cast iron manhole covers, composited covers are 45% lighter. Lighter weight allows ease of handling, more loading per vehicle and more convenient transportation. This allows for safe working conditions, where a SINGLE worker is enough for a complete installation without risk of injury. Easy handling and movement reduce maintenance cost.

DURABLE SERVICE LIFE

More than 25 years theoretical service life at usual road condition. Anti corrosion, dust and waterproof, well sealed prevent poisonous gases from leaking out. Higher and lower temperature tolerance.

FREE DESIGN

Composite material itself allows for innovative design features. Client logo and their own design is available as an option. Much more clear resolution ratio design than cast iron or of other material.

CARBON FOOTPRINT SAVING AND ENVIRONMENTAL CARE

Lower embedded energy carbon emission during manufacturing process than cast iron covers. New material, manufacturing technology and lean production help reduce carbon footprint.



COMPARISON

TOPAZ FRP MANHOLE COVERS	CI / DI MANHOLE COVER
Free from fear of theft as the material is non reprocessible and has no resale value.	Heavily prone to theft as material is reprocessible & has high resale value.
High service life (min. 30 years) as it does not corrode and has high impact resistance.	Low service life as it corrodes with the service conditions & has low impact resistance.
Easy to handle due to light weight.	Difficult to handle due to heavy weight.
No risk on injury due to light weight.	High risk on injury due to heavy weight.
Does not rust due to chemicals / sewage / rain water.	Gets rusted due to chemicals / sewage / rain water.
No additional cost to be incurred for the corrosion resistant plate which is required below the cover to protect the cover from corrosion.	Additional cost to be incurred for the corrosion resistant plate which is required below the cover to protect the cover from corrosion.
High on aesthetics due to varied colors available.	Low on aesthetics.
The covers are self pigmented and do not require expensive epoxy painting for protection throughout its life.	The covers regularly need expensive epoxy painting to be conducted for protection.
The pigments are inbuilt in the material and UV stabilizing. Hence there is no peeling / fading of the colours due to sunlight.	The epoxy painting peels over a period as it is a secondary process.
Locking arrangement if required is available to avoid displacement of covers due to back pressure in low lying areas.	
Good resistance to extreme temperature (100 C to +80 C.)	



SQUARE

MANHOLE COVER



CLEAR OPENING	
SIZE (MM)	SIZE INCH(“)
300MM X 300MM	12” X 12”
450MM X 450MM	18” X 18”
600MM X 600MM	24” X 24”
750MM X 750MM	30” X 30”
900MM X 900MM	36” X 36”
1000MM X 1000MM	40” X 40”
1200MM X 1200MM	48” X 48”

GROUP	TRAFFIC DESCRIPTION	CLASS	PROOF LOAD KN
1	Area which can only be used by pedestrians.	A15 ELD 2.5T	15KN 25 KN
2	Suitable for use in light vehicle movement.	LD 5T	50 KN
3	Suitable for use in service lane, parking, etc.	B125 MD 12.5	125 KN 100 KN
4	Gully tops for curb side of roads.	C250 HD 25T	250 KN 200 KN
5	Carriageways of roads, hard shoulder & parking areas.	D400 EHD 40T	400 KN 350 KN
6	Areas for imposing high wheel loads e.g. docks & aircraft hangar.	E600	600 KN

All sizes available from 2.5 tons to 40 tons

We also custom make different sizes as per your requirements.

COMPLIES WITH EN124.2015



RECTANGLE

MANHOLE COVER



CLEAR OPENING	
SIZE (MM)	SIZE INCH(“)
450MM X 600MM	18" X 24"
450MM X 900MM	18" X 36"
600MM X 900MM	24" X 36"
600MM X 1200MM	24" X 48"
900MM X 1200MM	48" X 36"

All sizes available from 2.5 tons to 40 tons
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COMPLIES WITH EN124.2015



CIRCLE

MANHOLE COVER



CLEAR OPENING	
SIZE (MM)	SIZE INCH(“)
560MM ROUND	22” ROUND
600MM ROUND	24” ROUND
900MM ROUND	36” ROUND

All sizes available from 2.5 tons to 40 tons
We also custom make different sizes as per your requirements.
COMPLIES WITH EN124.2015



TANK COVER

OVERHEAD

WATER TANK COVER



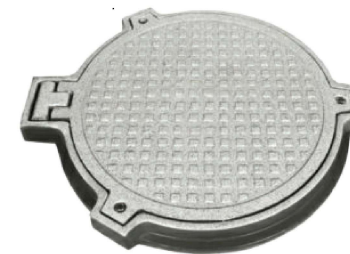
COMPOSITE "OVER HEAD WATER TANK" COVER WITH FRAME (HINGE & LOCKING ARRANGEMENT)

SIZE (MM)	SIZE INCH(“)
600MM ROUND	24" ROUND
600MM X 600MM	24" X 24"
600MM X 900MM	24" X 36"

AVAILABLE IN 500 KGS

UNDER GROUND

WATER TANK COVER



COMPOSITE "UNDER GROUND" TANK COVER WITH FRAME(WATER & AIR TIGHT WITH DOUBLE SEAL & EPDM RUBBER RING) (HINGED TYPE OPENING)

SIZE (MM)	SIZE INCH(“)
560MM ROUND	22" ROUND
600MM ROUND	24" ROUND
600MM X 600MM SQUARE FRAME & ROUND COVER	24" X 24"

AVAILABLE FROM 2.5 TO 40 TONS
Double seal with EPDM

WATER TIGHT & AIR TIGHT | CORROSION RESISTANCE | LIGHTWEIGHT



RECESS COVER

Recessed manhole covers are utilized within paved area in order to hide inspection chambers, manhole and access fittings. When aesthetic value is required, Recessed manhole covers are vital when compared with regular manhole covers normally employed in modern construction.

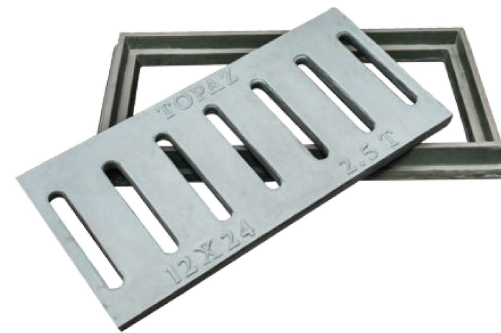
RECESS MANHOLE COVER WITH FRAME (65MM DEPTH)	
SIZE (MM)	SIZE INCH(“)
450MM X 450MM	18” X 18”
450MM X 600MM	18” X 24”
600MM X 600MM	24” X 24”
450MM X 900MM	18” X 36”
600MM X 900MM	24” X 36”
RECESS MANHOLE COVER WITH FRAME (32MM DEPTH)	
600MM ROUND	24” ROUND
558MM X 558MM	22” X 22”
600MM X 600MM	24” X 24”



All sizes available from 2.5 tons to 40 tons
We also custom make different sizes as per your requirements.



GRATINGS



WATER GULLY COVER i.e. GRATING WITH FRAME (SET) & WITHOUT FRAME (ONLY GRATING)	
SIZE (MM)	SIZE INCH(“)
600MM ROUND	24" ROUND
450MM X 450MM	18" X 18"
600MM X 600MM	24" X 24"
900MM X 900MM	36" X 36"
300MM X 600MM	12" X 24"
500MM X 600MM	20" X 24"
450MM X 900MM	18" X 36"
600MM X 900MM	24" X 36"

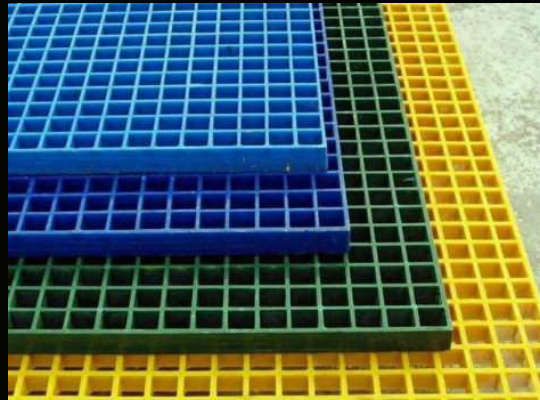
DESIGNED FOR A STRONGER AND EASIER DRAINAGE SOLUTION

- Withstand Heavy Automotive Vehicle Load
- High Corrosion Resistance
- Zero Thermal Expansion
- Zero Scrap Value
- Longer Life
- High Water Flow
- Available in all standard sizes and colours.

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MOULDING GRATING



FRP STAIR TREDS

- Slip Resistant
- Corrosion Resistant
- Easily Fabricated
- Low Maintenance
- Low Installation Cost
- Long Service Life

FRP CHEQUERED GRATINGS

- Uniform texture and excellent quality
- Anti - skid property
- Minimum maintenance
- Fire Resistance
- Impact resistance
- Nil Ignition Source
- Thermally / Electrically Non - Conductive

ADVANTAGES	USAGE
Corrosion Resistant	Residential & Commercial Buildings
Bi-directional Strength	Chemical Plants
Slip Resistant	Refinery
Low Maintenance	Food & Pharma Industries
High Strength to Weight Ratio	Mining
Fire Retardant	Air & Water Pollution Control Plants
Lightweight	Swimming Pools
Impact Resistant	Walkways & Bridges
Long Service Life	Fencing & Signboards
Superior Ergonomics	Loading Platforms
Electrically and Thermally Non-Conductive	Mezzanine Floors
Low Installation Cost	Trench Covers
Available in Many Sizes and Colours	General Manufacturing Industries



WIDTH		LENGTH							
Holes	Width	Holes	Length	Holes	Length	Holes	Length	Holes	Length
1	45	1	45	32	1263	63	2482		
2	82	2	82	33	1300	64	2519		
3	160	3	160	34	1339	65	2557		
4	197	4	197	35	1377	66	2595		
5	236	5	236	36	1415	67	2634		
6	273	6	273	37	1454	68	2671		
7	311	7	311	38	1492	69	2710		
8	350	8	350	39	1530	70	2747		
9	387	9	387	40	1568	71	2786		
10	425	10	425	41	1606	72	2824		
11	463	11	463	42	1649	73	2863		
12	501	12	501	43	1681	74	2900		
13	540	13	540	44	1720	75	2939		
14	578	14	578	45	1758	76	2976		
15	615	15	615	46	1796	77	3015		
16	654	16	654	47	1834	78	3053		
17	691	17	691	48	1872	79	3091		
18	730	18	730	49	1910	80	3129		
19	767	19	767	50	1948	81	3167		
20	805	20	805	51	2024	82	3205		
21	844	21	844	52	2062	83	3243		
22	881	22	881	53	2100	84	3280		
23	920	23	920	54	2139	85	3319		
24	958	24	958	55	2176	86	3357		
25	996	25	996	56	2215	87	3395		
26	1034	26	1034	57	2257	88	3433		
27	1073	27	1073	58	2291	89	3472		
28	1111	28	1111	59	2329	90	3510		
29	1149	29	1149	60	2366	91	3548		
30	1187	30	1187	61	2405	92	3585		
31	1225	31	1225	62	2444	93	3624		



PLANTERS



48" x 18" x 12"



48" x 48" x 24"



18" x 18" x 18"



60" x 12" x 12"



48" Dia



24" Dia



96" x 18" x 18"



24" x 24" x 24"

All sizes available from 2.5 tons to 40 tons
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TESTING

GC TESTING

Gas chromatography (GC) is a common type of chromatography used in analytical chemistry for separating and analyzing compounds that can be vaporized without decomposition. Typical uses of GC include testing the purity of a particular substance, or separating the different components of a mixture (the relative amounts of such components can also be determined). HP runs all resin and release agents through GC to analysis priority and is the only player in the industry to carry out this practice. This helps us to control the quality of raw material that is used in our final product.



TENSILE TESTING

Tensile testing, also known as tension testing, is a fundamental materials science and engineering test in which a sample is subjected to a controlled tension until failure. Properties that are directly measured via a tensile test are ultimate tensile strength, breaking strength, maximum elongation and reduction in area. Here as well we use it to test the strength of all our fiber mat raw material and HP is the only one in this industry to follow this practice.

LOAD TESTING POST PRODUCTION

STRONG DRAIN FRP/GRP/COMPOSITE Manhole covers are tested for load bearing and permanent set as per BSEN 124:19991 and 1726. BSEN 124 is a testing code world wide for Manhole covers in cast iron, ductile iron and other materials also. Permanent set is a multiple loading test to determine the permanent deformation in cover after multiple loading within a short time as specified in the code.