



**AAGAM THE MOST PREFERRED BRAND
FOR FRP MANHOLE COVERS**

ABOUT AAGAM FRP PRODUCTS AND PLANT



AAGAM, the leading Brand is known for **High Quality FRP - Fiberglass Reinforced Polymer Products** in Indian Construction Industry manufactured by **AAGAM FRP Products Private Limited** since almost a decade. **AAGAM** is the preferred Brand among FRP Products Manufacturers by reputed Builders, Corporates and Government Bodies like City Corporations and Development Authorities. Since beginning with Hard & Continuous Research on FRP products by our Innovative Professional Engineers Team **AAGAM Products** are improved to the level and exceeding International Standards of Contemporary Products, helping Indian Companies touse our Indigenous products instead of importing.

With a State-of-the-Art manufacturing facility at Bidadi Industrial Area, Bangalore, spread on 2 Acres **AAGAM FRP Products Private Limited** equipped with Advanced Machinery, using the Highest Quality Resins & Fiberglass, committed to provide top-notch **FRP Products** that meet International Standards, while maintaining a safe and healthy work environment. The plant started with 35 employees, now providing employment for more than 200 employees, producing 10 Products per day to 300 products per day now.

AAGAM FRP products are engineered to withstand extreme weather conditions, harsh chemicals & Heavy Loads. **AAGAM** offers a comprehensive range of FRP products that include Perforated & Non-Perforated Manhole Chamber Covers for Sewage and Rain-storm Drains, Footpaths, Walkways; Surface Drain Channels to collect Rain Water, Waste water; Water Gully Covers for Storm Drains ; Gratings for Catch Basin Areas, Stairways, Decks ; Balconies, Customised Storage Tanks, Inspection Chambers, Customised Manhole Chambers, Planter Pots, Planter Boxes, Jalis (Mesh), Cages, FRP Safety Shields and more. Our team of experienced Engineers, Designers and Technicians work closely with Clients to understand their specific needs and provide cost effective and sustainable solutions.

AAGAM FRP Range of Products are manufactured confirming to International Standards like European Standard BSEN 124-5 : 2015, Australian Standard AS 3996, American Standard AASHTO M306 and Indian Standards BIS 1726: 1991 & BIS 12592:2002. We have a strong commitment for Quality, Safety, and Environmental Sustainability to meet Industry Standards. We continuously strive to improve our Processes and Technologies to deliver the best possible products and provide best services to our clients. Residential Projects & Commercial Buildings of reputed Builders, Corporate Companies & Government bodies.

Having sold more than 2,50,000 covers at **AAGAM**, we pride ourselves on our exceptional customer services, timely delivery and competitive price. We have served clients across India various Construction Projects, Food, Petroleum and Gas Industries, ucts and services, and how we can help you achieve your goals

If you are looking for reliable FRP solutions, **AAGAM** is the perfect partner for you. Contact us today to learn more about our products and services, and how we can help you achieve your goals.

We can also Customise our Products and develop New Products as per the required designs for all bulk requirements.



WORLD CLASS



AAGAM STANDARDS



CONTENTS IN THE CATALOGUE

AAGAM FRP MANHOLE COVERS	1
INNOVATIVE FEATURES OF AAGAM FRP MANHOLE COVERS	2
SIZE & PRODUCT CODE OF AAGAM FRP MANHOLE COVERS	3
AAGAM FRP GULLY COVERS	4
AAGAM FRP GRATINGS	5
AAGAM FRP RECESS COVERS	6
PROBLEMS ARISING OUT OF WRONG INSTALLATION	7
CORRECT WAY OF INSTALLATION-GUIDELINES	8
AAGAM FRP CHAMBERS	9
AAGAM FRP SURFACE DRAIN CHANNELS	10
AAGAM FRP JALI	11
AAGAM FRP PLANTER BOX	12
AAGAM FRP STORAGE TANK	13
AAGAM FRP TREE GRATINGS & FUNNEL GRATING	14
AAGAM FRP PULTRUSION PRODUCTS	15
COMPARISON CHART OF AAGAM FRP MANHOLE COVERS	16
RESEARCH & DEVELOPMENT & QUALITY CONTROL	17-18
AAGAM CUSTOMER TESTIMONIALS AND TEST CERTIFICATES	19
AAGAM FRP PRODUCTS LOAD TESTING	20
TECHNICAL SPECIFICATION OF AAGAM FRP PRODUCTS	21
ABOUT FRP INDUSTRY	22
AAGAM FACTORY & PRODUCTION TEAM AT BIDADI	23

AAGAM FRP MANHOLE COVERS

AAGAM FRP Fiberglass Reinforced Polymer Manhole Covers are a preferred alternative to traditional Concrete, Cast Iron and Ductile Iron Drain covers for several reasons. The main benefits of using Aagam FRP Manhole Covers:

- 1. Light Weight:** Aagam FRP Manhole covers are considerably lighter than Concrete, Cast Iron or Ductile Covers making them easy to handle for installation and maintenance
- 2. High Strength to Weight Ratio:** Aagam FRP products will weigh one seventh as much steel or Concrete and carry high Mechanical properties. While Tensile strength of Steel can vary from 483-690 Mpa the FRP will be from 483 to 4580 Mpa



- 3. Anti-slip properties:** Aagam FRP Manhole covers are manufactured with textured surfaces to provide an anti-slip surface, thus reducing the potential for slips and falls improving safety.

- 4. Corrosion resistant:** Aagam FRP Manhole covers do not rust, corrode or deteriorate due to exposure to the elements, chemicals or saltwater making them an ideal choice for areas that are prone to corrosion

- 5. Heavy Duty and Long Lasting:** AAGAM FRP Manhole covers are highly durable and can withstand heavy loads and impacts, without cracks and breakages. They have an average lifespan of up to 30 - 40 years, requiring less frequent replacements than traditional products



- 6. Cost-effective:** FRP Manhole covers are typically less expensive than traditional materials including Cast Iron and Ductile Iron covers. The cost savings combined with their durability and low maintenance requirements make FRP drain covers affordable and value worth.



FEATURES & BENEFITS OF AAGAM FRP MANHOLE COVERS

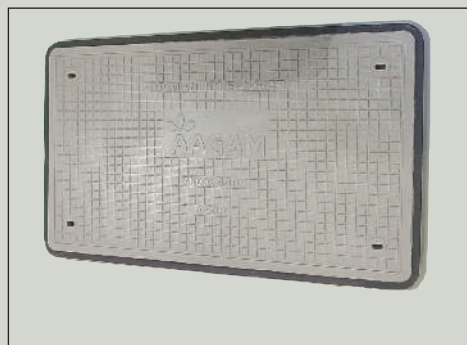
- Uniform Compact body structure
- High Strength to Weight ratio.
- Wide Range - For all Static and Dynamic loads from pedestrian walkways to Heavy Vehicle Loads - 0.5 Tons to 90 Tons and Wheel Loads upto 40 Tons.
- Decorative and Anti-slip surface finishes with rich impregnated colors.
- Come with round corners that prevent edge chipping &
- Non-skid surface finishes with better Aesthetics.
- Non-Corrosive, Non-Conductive, Non-Magnetic and Fire Retardant.
- No Air voids and internal fissures.
- Tough top surfaces with high Impact Strength.
- High Temperature withstanding from -40°C to +80°C
- Light weight, hence reduced injuries while handling and installation.
- Closed Key holes that block drain odour and dust falling inside.
- Firm and do not move - Locked into the installed place
- Precise Double Grooves preventing movement of cover.
- Withstand harsh corrosive environment.
- Minimal effects to ultraviolet radiation.
- No Scrap Value, hence eliminate theft of products.
- Reduce Maintenance cost and Save Energy

Lockable FRP Manhole Covers

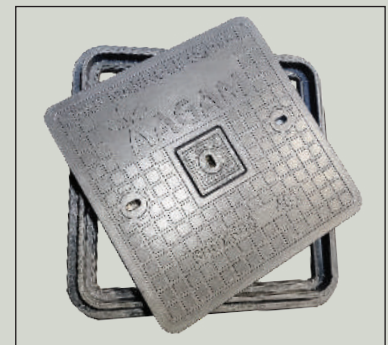


*available on request

Air & Vapour Tight Manhole Covers



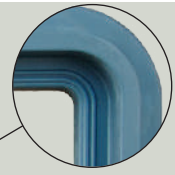
Covers with Service Lid



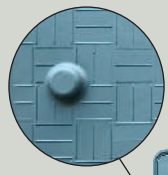
INNOVATIVE FEATURES OF AAGAM FRP MANHOLE COVERS

AAGAM FRP Manhole covers are the result of R&D process that has been incessantly going on for almost a decade. As a result, the present day Aagam FRP Manhole Cover has overcome the imperfections and drawbacks of traditional manhole covers like concrete, CI/DI Manhole Covers It has now emerged with several unique features which gives it a distinctive place in today's competitive market. Our in-house CAD/CAM Centre enable us to come up with designs that are aesthetically superior and user friendly.

Dual Perfect Grooves to avoid movement of cover



Closed Key Hole to avoid dust and water getting inside

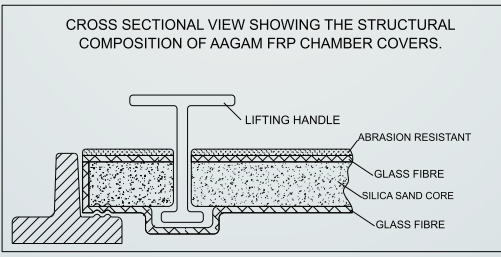


Air & Vapour Tight Property

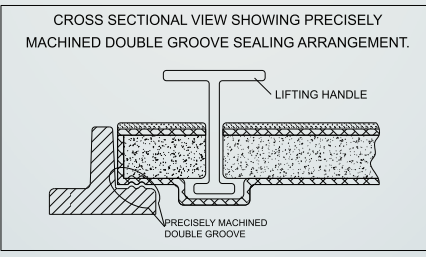
The Covers are supplied on request with a sealant material like rubber / insulator to achieve Air and vapour tightness thereby preventing from dust and moisture entering into the chamber.



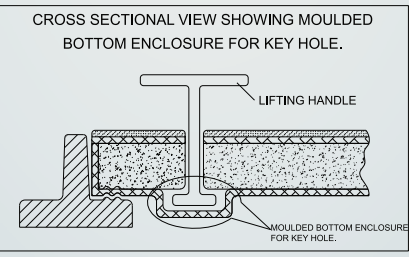
CROSS SECTIONAL VIEW SHOWING THE STRUCTURAL COMPOSITION OF AAGAM FRP CHAMBER COVERS.



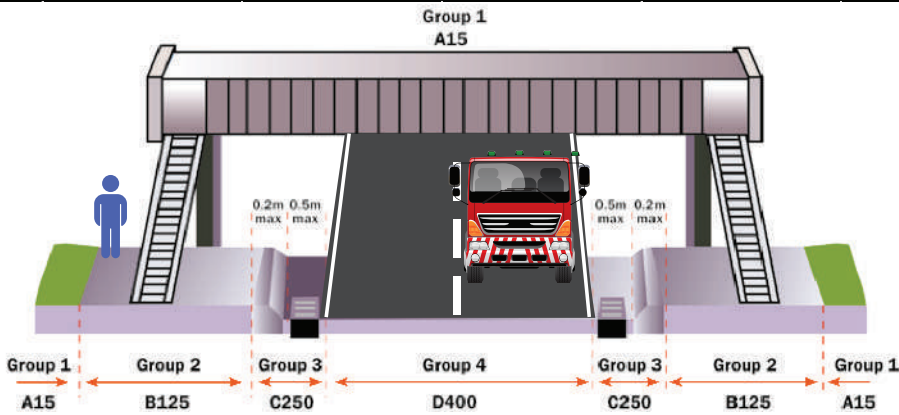
CROSS SECTIONAL VIEW SHOWING PRECISELY MACHINED DOUBLE GROOVE SEALING ARRANGEMENT.



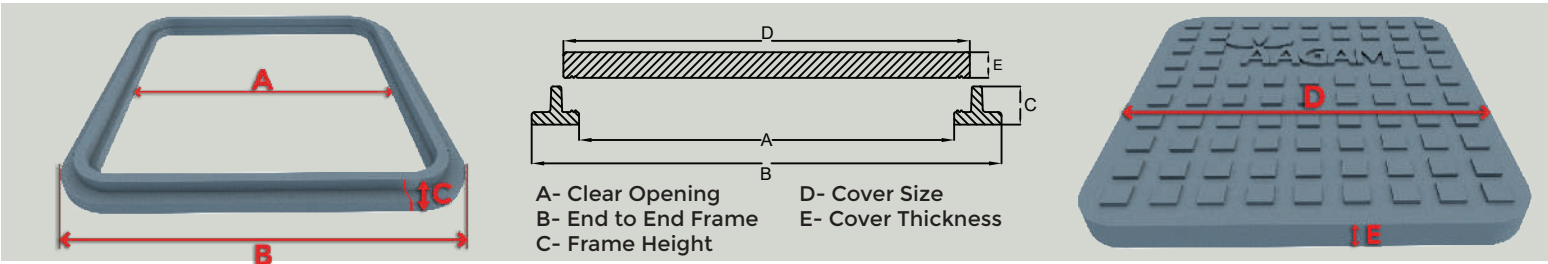
CROSS SECTIONAL VIEW SHOWING MOULDED BOTTOM ENCLOSURE FOR KEY HOLE.



AS 3996 Table Load of Classification							
	Load Class A 10kN Extra Light Duty	Load Class B 80kN Light Duty	Load Class C 150kN Medium Duty	Load Class D 210kN Heavy Duty	Load Class E 400kN Extra Heavy Duty	Load Class F 600kN Extra Heavy Duty	Load Class G 900kN Extra Heavy Duty
	Typical Uses						
	Footways and areas accessible only to pedestrians & pedal cyclists	Footways that can be mounted by vehicle or livestock, and light tractor paths	Malls and pedestrian areas open to slow moving commercial vehicles	Carriageways of roads and areas open to commercial vehicles	General docks and aircraft pavements	Docks and aircraft pavements subject to high wheel load	Docks and aircraft pavements subject to very high wheel loads
	Approximate wheel load						
Equivalent DIN 19580 / EN 14333 / EN 124	330kg	2,670kg	5,000kg	8,000kg	13,700kg	20,000kg	30,000kg
	Class A	Class B		Class C	Class D	Class E	Class F
Equivalent AAGAM Grades	15 kN	125 kN		250 kN	400 kN	600 kN	900 kN
	2.5 T	5 T - 10 T	12.5 T - 20 T	25 T	40 T	60 T	90 T
Grade	Light Duty	Medium Duty	Heavy Duty	Heavy Duty	Extra Heavy Duty	Extra Heavy Duty	Extra Heavy Duty
Application	Footways, Cyclists and Two Wheeler accessible areas	Heavy Two Wheeler, Cars accessible Areas	Light Commercial Vehicles	Heavy Commercial Vehicles	Heavy Commercial Vehicles	Heavy Commercial Vehicles	Heavy Commercial Vehicles



SIZE & PRODUCT CODE OF AAGAM FRP MANHOLE COVERS



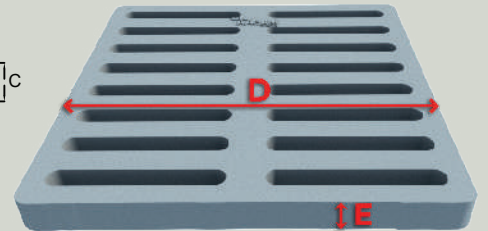
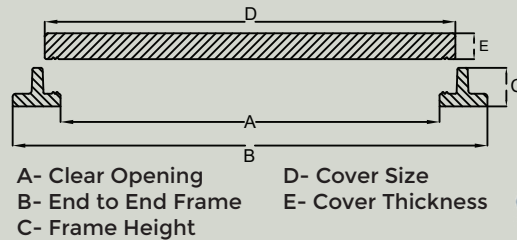
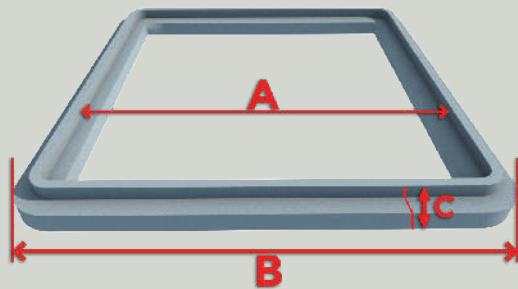
SQUARE MANHOLE COVER							
Size	Product Code	Tonnage	A Clear Opening	B End to End Frame	C Frame Height	D Cover Size	E Cover Thickness
300x300	MC300-0.5T	0.5	300x300	384x384	26	324x324	10
300x300	MC300-2.5T	2.5	300x300	412x412	29	340x340	15
300x300	MC300-5T	5	300x300	412x412	29	340x340	15
300x300	MC300-10T	10/12.5	300x300	430x430	51	340x340	15
300x300	MC300-20T	20/25	300x300	430x430	51	340x340	15
450x450	MC450-0.5T	0.5	450x450	535x535	28	474x474	12
450x450	MC450-2.5T	2.5	450x450	588x588	46	494x494	25
450x450	MC450-5T	5	450x450	588x588	46	494x494	25
450x450	MC450-10T/12.5T	10/12.5	450x450	594x594	61	494x494	40
450x450	MC450-20T/25T	20/25	450x450	594x594	61	494x494	40
450x450	MC450-40T	40	450x450	594x594	61	494x494	40
550x550	MC550-0.5T	0.5	550x550	650x650	31	586x586	15
600x600	MC600-2.5T	2.5	600x600	736x736	51	644x644	30
600x600	MC600-5T	5	600x600	736x736	51	644x644	30
600x600	MC600-10T/12.5T	10/12.5	600x600	751x751	61	650x650	40
600x600	MC600-20T/25T	20/25	600x600	751x751	61	650x650	40
600x600	MC600-40T	40	600x600	751x751	61	650x650	40
750x750	MC750-2.5T	2.5	750x750	885x885	50	790x790	30
750x750	MC750-5T	5	750x750	885x885	50	790x790	30
750x750	MC750-10T/12.5T	10/12.5	750x750	895x895	60	800x800	40
750x750	MC750-20T/25T	20/25	750x750	895x895	60	800x800	40
750x750	MC750-40T	40	750x750	905x905	70	810x810	50
900x900	MC900-2.5T	2.5	900x900	970x970	45	944x944	25
900x900	MC900-5T	5	900x900	970x970	45	944x944	25
900x900	MC900-10T/12.5T	10/12.5	900x900	970x970	45	944x944	25
900x900	MC900-20T/25T	20/25	900x900	970x970	45	944x944	25
900x900	MC900-40T	40	900x900	990x990	50	954x954	30
1000x1000	MC1000-2.5T	2.5	1000x1000	1140x1140	50	1040x1040	30
1000x1000	MC1000-5T	5	1000x1000	1140x1140	50	1040x1040	30
1000x1000	MC1000-10T/12.5T	10/12.5	1000x1000	1150x1150	60	1050x1050	40
1000x1000	MC1000-20T/25T	20/25	1000x1000	1150x1150	60	1050x1050	40
1000x1000	MC1000-40T	40	1000x1000	1160x1160	70	1060x1060	50
RECTANGULAR MANHOLE COVER							
450X300	RMC450X300-2.5T	2.5	450X300	580X340	36	491X341	20
600X300	RMC600X300-2.5T	2.5	600X300	720X420	31	640X340	15
600X300	RMC600X300-20T/25T	20/25	600X300	720X420	46	640X340	30
600x450	RMC600X450-2.5T	2.5	600x450	725x575	41	634x484	20
600x450	RMC600X450-5T	5	600x450	725x575	41	634x484	20
900x450	RMC900X450-2.5T	2.5	900x450	1031x581	46	940x490	25
900x450	RMC900X450-5T	5	900x450	1031x581	46	940x490	25
900x450	RMC900X450-10T/12.5T	10/12.5	900x450	1031x600	61	948x498	40
900x450	RMC900X450-20T/25T	20/25	900x450	1050x600	61	948x498	40
900x450	RMC900X450-40T	40	900x450	1050x600	61	948x498	40
900x600	RMC900X600-2.5T	2.5	900x600	1036x736	51	940x640	30
900x600	RMC900X600-5T	5	900x600	1036x736	51	948x648	30
900x600	RMC900X600-10T/12.5T	10/12.5	900x600	1045x745	61	948x648	40
900x600	RMC900X600-20T/25T	20/25	900x600	1045x745	61	948x648	40
900x600	RMC900X600-40T	40	900x600	1045x745	61	948x648	40
900x750	RMC900X750-10T/12.5T	10/12.5	900x750	1054X904	61	950x800	40
1400x760		40	1400x760	1569x929	71	1458x818	50
CIRCULAR MANHOLE COVER							
450 DIA	CC450-2.5T	2.5	450 DIA	495 DIA	41	495 DIA	20
450 DIA	CC450-5T	5	450 DIA	495 DIA	46	495 DIA	25
600 DIA	CC600-2.5T	2.5	600 DIA	640 DIA	41	640 DIA	20
600 DIA	CC600-5T	5	600 DIA	647 DIA	50	647 DIA	29
600 DIA	CC600-10T/12.5T	10/12.5	600 DIA	650 DIA	61	650 DIA	40
600 DIA	CC600-20T/25T	20/25	600 DIA	650 DIA	61	650 DIA	40
900 DIA	CC900-20T/25T	20/25	900 DIA	955 DIA	61	955 DIA	40
1060 DIA	CC1060-40T	40	1060 DIA	1127 IDA	81	1127 IDA	60

AAGAM FRP GULLY COVERS

AAGAM FRP Gully covers exceed conventional solutions in strength and durability, a light weight alternative to Concrete & Cast Iron / Ductile Iron Covers, suitable for medium and heavy vehicle movement for commercial ways, Rain-storm drains, Surface Drains, cross overs, Walkways and Footpaths.



- Uniform Compact body structure
- High Strength to Weight ratio.
- Wide Range - For all Static and Dynamic loads from pedestrian walkways to Heavy Vehicle Loads – 0.5 Tons to 90 Tons and Wheel Loads upto 40 Tons.
- Decorative and Anti-slip surface finishes with rich impregnated colors.
- Round corners prevent edge chipping. Non-skid surface with better Aesthetics
- Non-Corrosive, Non-Conductive, Non-Magnetic and Fire Retardant.
- No Air voids and internal fissures.
- Tough top surfaces with high impact strength.
- High Temperature withstanding from -40°C to +80°C
- Light weight, hence reduced injuries while handling and installation.
- Firm and do not move – Locked into the installed place
- Withstand harsh corrosive environment.
- Minimal effects to ultraviolet radiation.
- No Scrap Value, hence eliminate theft of products.
- Reduce Maintenance cost and Save Energy

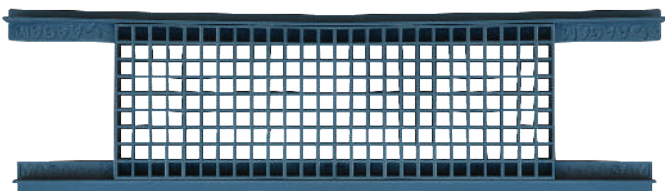
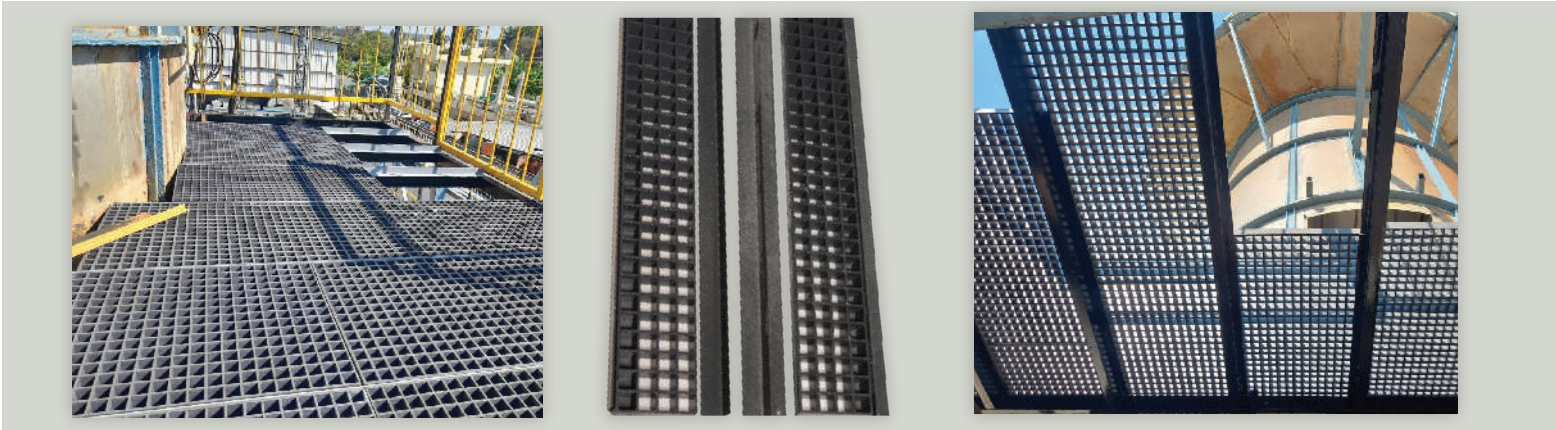


SIZE	PART CODE	TONNAGE	A Clear Opening	B End to End Frame	C Frame Height	D Cover Size	E Cover Thickness
300x300	GC300-2.5T	2.5	300x300	412x412	33	340x340	20
300x300	GC300-5T	5	300x300	412x412	33	340x340	20
300x300	GC300-10T/12.5T	10/12.5	300x300	414x414	40	340x340	30
300x300	GC300-20T/25T	20/25	300x300	414x414	40	340x340	30
300x300	GC300-40T	40	300x300	414x414	40	340x340	30
450x450	GC450-2.5T	2.5	450x450	612x612	50	527x527	30
450x450	GC450-5T	5	450x450	612x612	50	527x527	30
450x450	GC450-10T/12.5T	10/12.5	450x450	612x612	61	527x527	40
450x450	GC450-20T/25T	20/25	450x450	612x612	61	527x527	40
450x450	GC450-40T	40	450x450	612x612	61	527x527	40
600x600	GC600-2.5T	2.5	600x600	776x776	50	680x680	30
600x600	GC600-5T	5	600x600	776x776	50	680x680	30
600x600	GC600-10T/12.5T	10/12.5	600x600	776x776	61	680x680	40
600x600	GC600-20T/25T	20/25	600x600	776x776	61	680x680	40
600x600	GC600-40T	40	600x600	776x776	61	680x680	40
600x300	GC600X300-2.5T	2.5	600x300	776x462	50	680x380	40
600x300	GC600X300-5T	5	600x300	776x462	50	680x380	40
600x300	GC600X300-10T/12.5T	10/12.5	600x300	776x462	60	680x380	40
600x300	GC600X300-20T/25T	20/25	600x300	776x462	60	680x380	40
600x300	GC600X300-40T	40	600x300	776x462	70	680x380	40
600X500	GC600X500-25T	25	600X500	774X674	61	680X580	40
900X450	GC900X450-5T	5	900X450	1064X614	61	960X510	40
900X450	GC900X450-20T/25T	20/25	900X450	1064X614	61	960X510	40
900X600	GC900X600-5T	5	900X600	1072X772	51	980X680	30
900X600	GC900X600-20T/25T	20/25	900X600	1083X783	61	980X680	40
600 DIA WGC	GC600 Dia-40T	40	600 DIA	755 DIA	61	660 DIA	40

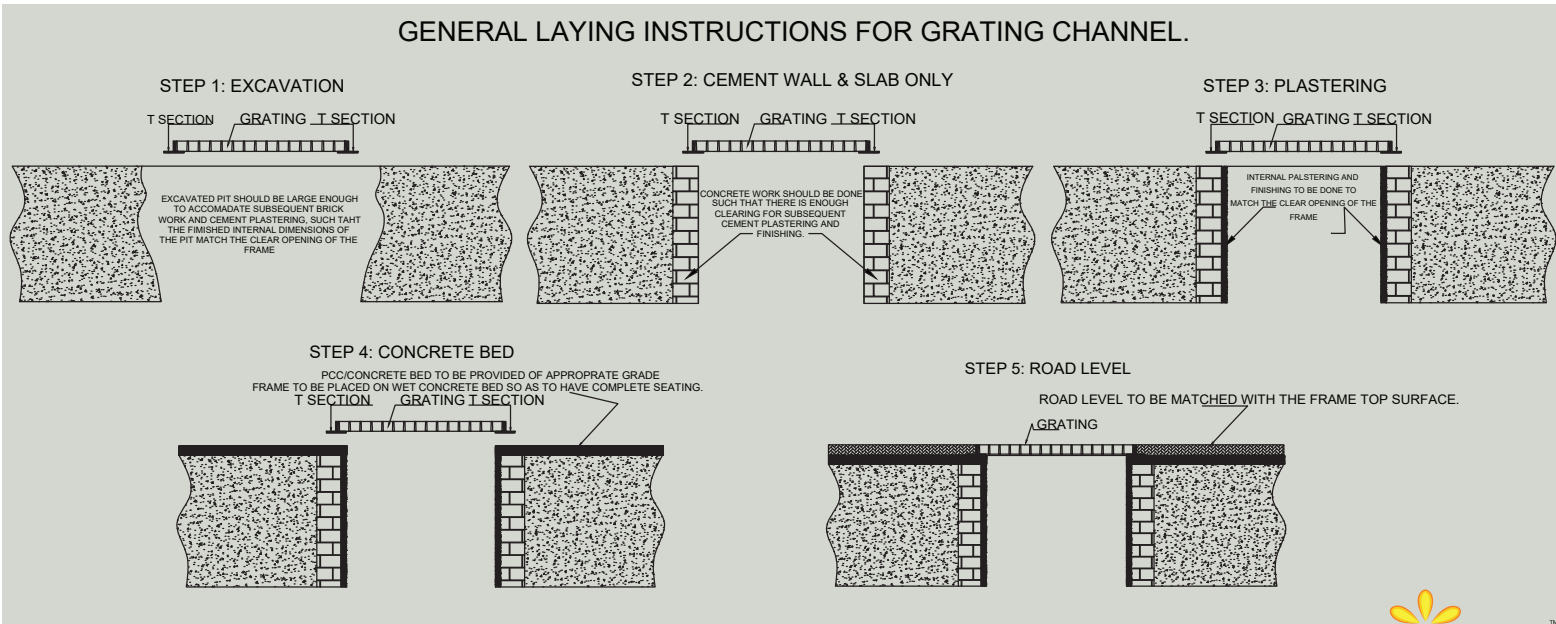
AAGAM FRP GRATINGS

AAGAM FRP Gratings are non-slip gratings, made of Fiberglass Reinforced Polymer. They are commonly used in a wide variety of applications ranging from residential to commercial and industrial buildings including walkways, platforms, protective shieldings, machinery housings, raised doors, stairways, decks, patios, balconies, cages and fences. They can also be used in wet areas like swimming pools & industries at chemical spillage areas of production & washing areas.

AAGAM FRP Gratings are light weight, non-corrosive, non-magnetic, high mechanical properties, durable and offer excellent traction making them an ideal choice for outdoor applications such as pedestrian walkways and landscape features. They are low-maintenance with low co-efficient of friction making it the perfect choice for wide range of applications. **AAGAM FRP** Gratings are also ideal for residential gardens as it provides a safe, non-slip surface for walkways, paths and decks.



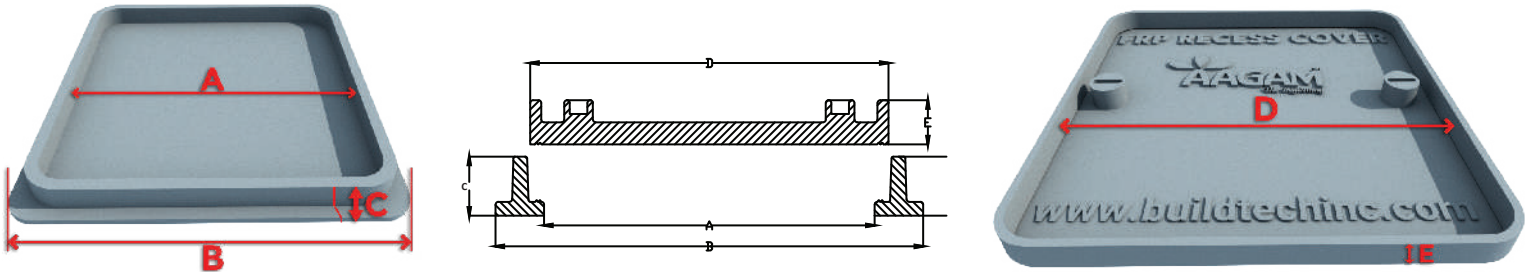
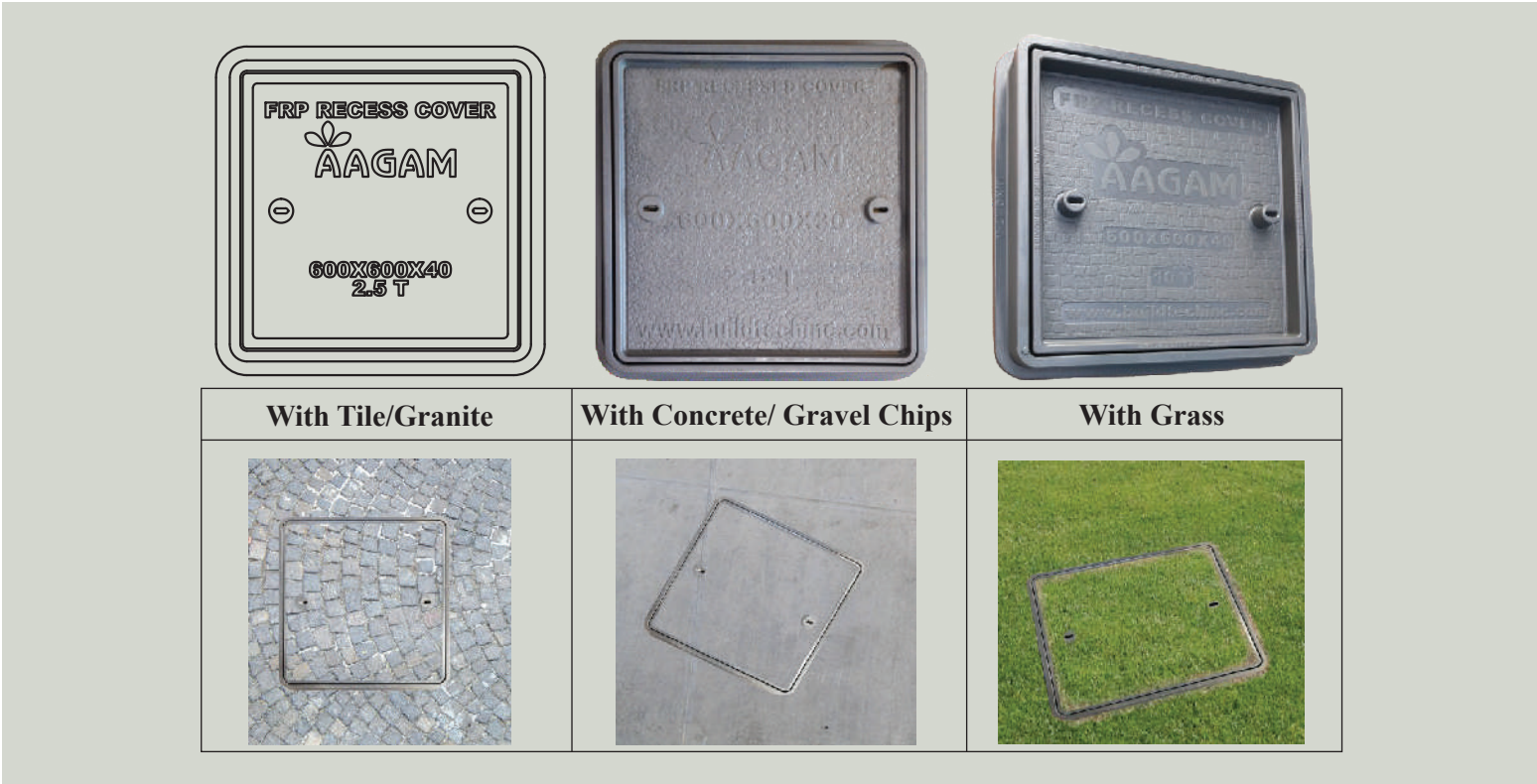
LENGTH	WIDTH	THICKNESS	PART CODE
1000	148	40	GRT 148-40
1000	219	40	GRT 219-40
1000	538	40	GRT 538-40
1000	254	40	GRT 254-40
1000	290	40	GRT 290-40



AAGAM FRP RECESS COVERS

AAGAM FRP Recess Covers are simple and easy to install, providing an aesthetically pleasing look to complement the visual aspect of paving products, ideal for filling with gravel or bark chips and also for lawn and garden areas to replace the artificial look of drain covers.

AAGAM FRP Recess Covers are ideal for areas that require a high level of durability and safety. Unlike traditional materials such as steel and concrete, **FRP** Recess Covers do not rust or corrode, which makes them ideal for use in areas that are exposed to water and other corrosive substances. They are also easy to install and maintain which reduces downtime and maintenance costs.



SQUARE RECESS COVER							
SIZE	PART CODE	TONNAGE	A Clear Opening	B End to End Frame	C Frame Height	D Cover Size	E Cover Thickness
300x300	RC300-2.5T	2.5	300x300	425x425	72	336x336	57
300x300	RC300-5T	5	300x300	425x425	72	336x336	57
450x450	RC450-2.5T	2.5	450x450	616x616	82	494x494	65
450x450	RC450-5T	5	450x450	616x616	82	494x494	65
600x600	RC600-2.5T	2.5	600x600	765x765	85	645x645	65
600x600	RC600-5T	5	600x600	765x765	85	645x645	65
600x600	RC600-10T/12.5T	10/12.5	600x600	775x775	107	650x650	80
750x750x40	RC750-40T	40	750x750x40	935x935x40	120	810x810x40	100

PROBLEMS ARISING OUT OF WRONG INSTALLATION

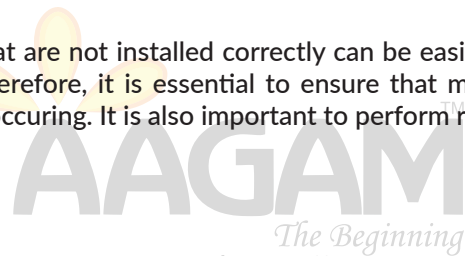
Manhole Covers are an essential component of infrastructure that provide access to underground utility systems such as Sewer lines, Electrical Cables and Pipelines. Proper installation of Manhole Covers is crucial to ensure the safety of the public and the integrity of the infrastructure. Here are some problems that can occur due to the wrong installation of Manhole Cover.

Injuries: If a manhole cover is not installed correctly, it can become loose or dislodged, creating a hazard for pedestrians, bicyclists and motorists. People can trip over the cover or vehicles can drive over it causing damage to the cover and cause accidents.

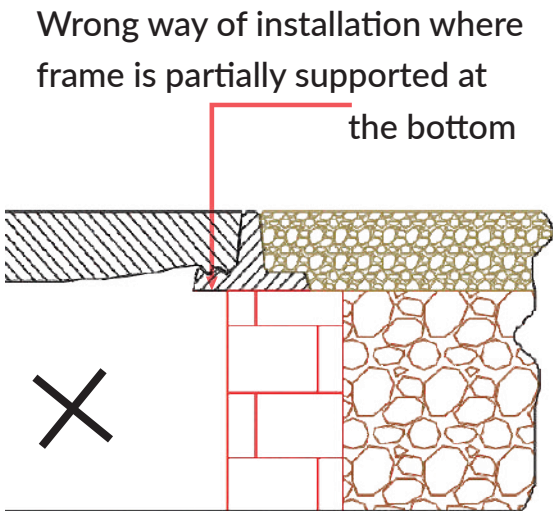
Water damage: If a manhole cover is not installed properly, it can allow water to seep into the infrastructure below, causing damage to pipes and cables. This can result in costly repairs and even lead to service disruptions.

Air Pollution: Improper installation of manhole covers can lead to air pollution, especially in areas where the infrastructure below carries gases or chemicals. Loose or poorly sealed manhole covers can allow these substances to escape into the atmosphere, creating health hazards for nearby residents.

Theft and Vandalism: Manhole Covers that are not installed correctly can be easier to steal or vandalize, which can lead to replacements and service disruptions. Therefore, it is essential to ensure that manhole covers are installed correctly and securely to prevent these problems from occurring. It is also important to perform regular inspections and maintenance.

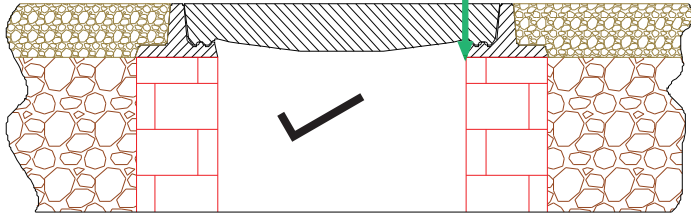


Wrong way of installation



CORRECT WAY OF INSTALLATION-GUIDELINES

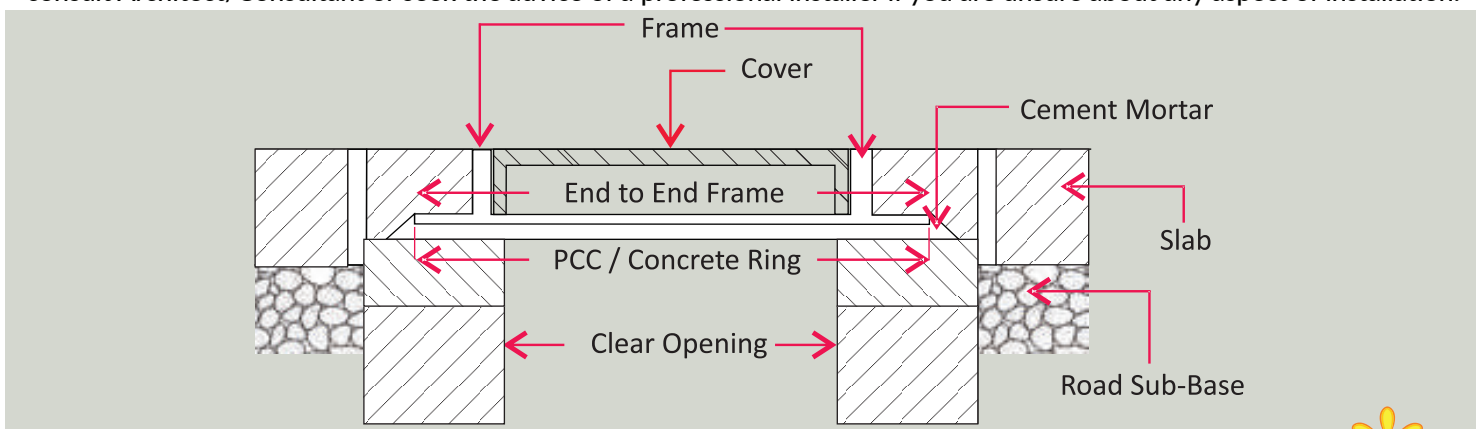
Where the frame is fully supported at the bottom by solid work/concrete seating bed



INSTALLING FRP MANHOLE COVERS

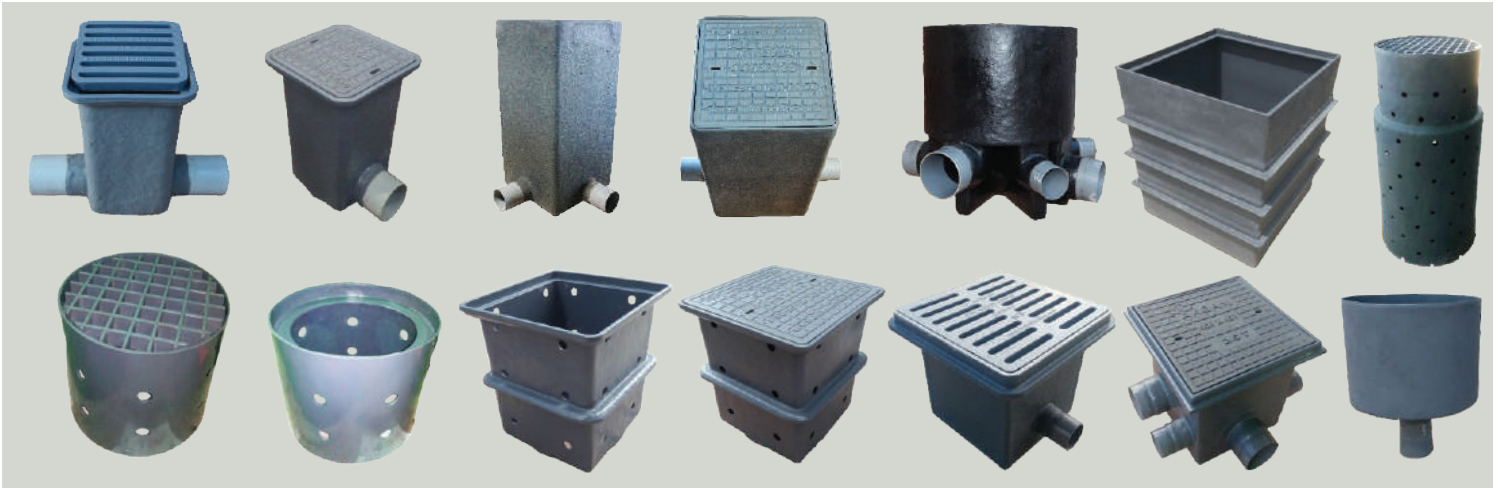
- Prepare appropriate height of bricks/concrete seating bed over which frame to be installed.
- When adjusting the height of cover by more than 40mm a concrete ring can be used.
- Spread 20-60 mm fine layer of cement mortar bed, install the frame with full contact and align at the correct height.
- The frame must always be in full contact with the mortar bed and capable of bearing weight. If the substructure is not executed correctly, subsequent traffic load will cause loosening, early wear, rattling and even breakage of cover.
- Clean the frame and cover contact surfaces completely and no mortar residues must be left over to avoid uneven levels of cover
- Allow mortar dry completely and frame to set. Wait for the mortar to dry according as per weather conditions.
- Close the cover and check that it is correctly supported on the frame.

It is important to note that the specific installation process may vary depending on the type of load. It's always suggested to consult Architect/Consultant or seek the advice of a professional installer if you are unsure about any aspect of installation.



AAGAM FRP CHAMBERS

AAGAM FRP Chambers and Manholes are durable and manufactured as per custom designs with required Length, Height, Width, Dia, Inlets and Outlets, Size/Location/Type of Pipe as per requirement for various applications that saves construction time, installation time and cost.



SPECIAL FEATURES OF AAGAM FRP CHAMBERS:

- Customised FRP chambers to suit various required applications - Custom length, width & height and specific inlet/outlet dimensions.
- Compared to rigid materials like RCC/ Brick work chambers FRP chambers are at less risk of getting cracks, collapses and leakages.
- Ready-made chambers, hence no curing required. Easy to Handle and Easy to Install
- Good resistance to any kind of water and harsh chemicals.
- Free from formation of fungus. Free from Rodent Bites.
- Extended inlet & outlet pipes are sealed completely to avoid any leakages.

Range of Sizes (In mm): 225x225, 290x290, 365x365, 440x440, 590x590, 990x990, 300 Dia, 450 Dia and 600 Dia with various heights from 300mm to 2000mm with options of bottom closed/opened with closed covers/perforated covers with or without inlets and outlets.

Type & Applications: Sub-soil Drainage Chambers, Sewage Chambers, Communication Chambers, Catch Basin Chambers, Rain Collection Drains, Perforated Chambers for rain water and Silt traps, Earth Pit chambers with bottom openings, specialised chambers with outlet at the bottom.

GENERAL INSTRUCTIONS FOR INSTALLING CHAMBERS:

- The general dimensions of the excavation should be at least 300mm wider than each side of the FRP chamber. These dimensions should enable secure access for connection of pipes, back filling and compaction with appropriate equipment.
- Place the FRP chambers on the prepared compacted PCC bed and connect inlet pipes and outlet pipes.
- The back filling should be carried out in accordance with the rules of good practice, in successive compacted layers of 300mm. Back fill can be done appropriate to the application, ensuring it is free from stones greater than 40mm, lumps of clay greater than 100mm, timber or other material for sound compaction.
- The appropriate height of bricks/concrete seating bed (150mm thick PCC) to be laid or a concrete ring can be used to the required height prior to the positioning of the FRP frame and cover. Make sure the frame will be supported completely on the Concrete bed and no gaps at the bottom to avoid any load pressure on the walls of FRP Chambers
- Use appropriate capacity of Manhole Covers to distribute load away from FRP Chamber

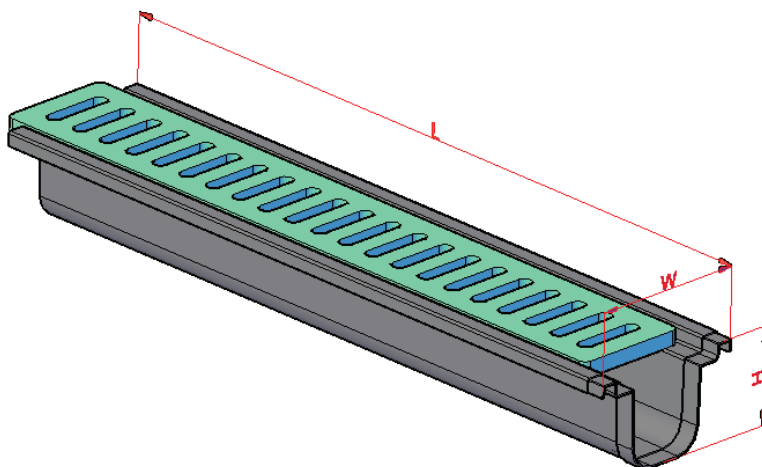
AAGAM FRP SURFACE DRAIN CHANNEL

AAGAM FRP Drain Channels are designed to collect and direct water or other liquids away from a specific area. The channels are made of fiberglass reinforced polymer which is highly durable and resistant to corrosion, chemicals and UV radiation. They are used in residential, industrial and commercial buildings where there is a need for an efficient and reliable drainage system. They can be used to collect waste water, rain water, car wash water and direct them to a designated collection point. **AAGAM FRP drain channels** are available in specific sizes. They are light weight and easy to install. They are also resistant to fungus and bacteria, making them ideal for use in areas with high moisture or exposure to chemicals. Additionally they are low maintenance, making them cost-effective solution for drainage needs.

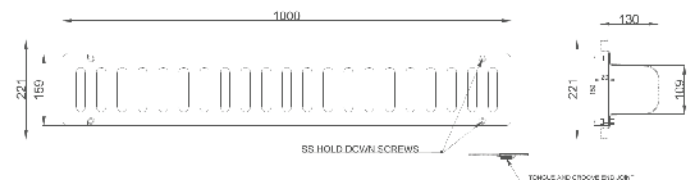


SALIENT FEATURES OF AAGAM FRP DRAIN CHANNELS

- Smooth, non porous internal surface for easy flow of water preventing algae.
- Tongue and groove arrangement for easy installation
- No air voids and internal fissures
- Non-skid surface
- Suitable to harsh corrosive environments and chemical spillages.
- Non-Corrosive, Non-Conductive, Non-Magnetic and Fire Retardant
- No Scrap Value, hence eliminate theft of covers.
- Can be designed to take loads from pedestrian walkways to Heavy Vehicle movements
- Temperature withstanding from -40°C to +80°C.
- Reduce Maintenance cost and Save Energy.



TYPICAL DRAIN CHANNEL WITH GULLY TOP



Size in MM	Product Code	Length	Width	Height
1000X221X133	DGC-01	1000	220	130
1000x300x350	DGC-02	1000	300	350
1000x350x400	DGC-03	1000	350	400

Installation Guidelines for AAGAM FRP Drain Channel

- Identify the area where Aagam Drain channel to be installed.
- Measure and mark the path of drain. Dig trench to accommodate Drain Channel
- Consider the slope necessary to keep water moving.
- Dig deeper than drain channel to provide space for the bedding. On either side it must be wider than the Drain installation to allow back filling with concrete for the full length and width of installation.
- Channel Drains need good concrete bedding. Lay minimum 50 MM concrete bed
- Mark finishing height with fixed line below final surface level.
- Fill the trench with concrete and begin assembling the Drain channel. Connect channels by vertically sliding them into one another and lay on concrete bed.
- Drain Channels can be cut as required at site.
- Channel drains must be levelled to the existing concrete, so that top is flush with the concrete after back fill.
- Once the drain is assembled ensure that the top of the drain with its grating does not rise above the level of floor or drive way. This creates a tripping hazard and ruins the effectiveness of the drain.
- Back fill be done once the drain is flush with the surrounding surface.
- Back fill can be done appropriately with concrete and sound compaction.
- Refill the trench and fill the surface surrounding the Drain Channel.
- Install the gratings / gully cover Drain Channel and complete the installation by fixing screws

AAGAM FRP JALI

AAGAM FRP Jali or Mesh made from Fiberglass Reinforced Polymer, is a decorative element that used in architecture and art to provide a decorative screen to windows or doors. FRP Jali is a modern take on the traditional Jali, offering more contemporary and durable solution, ideally suited for areas such as indoor partitions, window openings, railings, staircases and duct openings etc. FRP Jali is commonly used in commercial and residential buildings, as well as in public spaces, gardens and parks. They are ideal for creating visual interest and providing privacy while still allowing air flow and natural light. FRP Jalis come in a variety of patterns, designs and sizes. They are lightweight, strong and weather resistant, which makes them ideal for use in both indoor and outdoor settings. FRP Jali offers several benefits compared to traditional Jali materials such as stone or wood. They are easy to install. They are rust free and require no painting and they are fire- resistant and treated to resist UV rays providing long-lasting color retention. They are light weight and easy to install. Jali can be supplied in Large sizes up to 1070MM X 2290 MM.

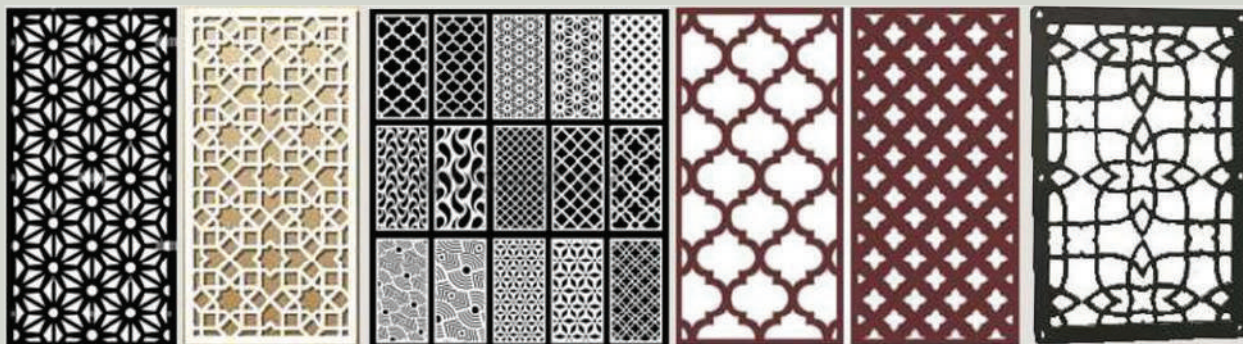


SPECIAL FEATURES OF AAGAM FRP JALI

- Suitable for Outdoor as well as indoor applications
- Rust Proof and maintenance free
- UV stabilized Pigments used, no painting required.
- No peeling off of color as the material is core pigmented
- Multiple colors and designs as per customer requirement
- Large size up to 1070 mm X 2290 mm
- Light Weight and easy to install
- Ideally suited for areas such as indoor partitions, window openings, duct openings etc

Jali Installation Guidelines

- 1) Straightness and Right Angle of all edges of Civil structure to be maintained.
- 2) The opening of Civil Structure should be at least 10 mm larger on all sides compared to the outer dimensions of FRP Jali.
- 3) Since the FRP Jali will be anchor-bolted, the plastering of Civil structures should be of good quality so as not to crack during installation.



AAGAM FRP PLANTER BOX

AAGAM FRP Planter Box is made of Fiberglass Reinforced Polymer known for its durability, strength and resistance to corrosion, making it an ideal material for outdoor planters. They can be manufactured in square, rectangle and pot shape with required sizes and colors for both commercial and residential use. They can be used for growing flowers, herbs, vegetables and small trees. They are also an eco-friendly alternative to traditional planters made from wood or concrete.



SPECIAL FEATURES OF AAGAM FRP PLANTER BOX

- High on aesthetic looks, **AAGAM FRP** planter boxes give elegant look to gardens, offices and any landscaped areas
- They can be customized as per client design with Company Name, logo & supply in different colours
- They are resistant to corrosive effects of all natural environmental elements Maintenance free and no painting required as they are core pigmented
- No fungal growth even in the most moist and humid weather conditions
- No cracking/leakage of water
- Termite proof and free from rodent bites hence durable even when placed on open ground
- The Planter box can also be customised with Excess Water Auto Drain System.
- No cracking/leakage of water
- Termite proof, hence long life even when placed on open ground



AAGAM FRP Planter Boxes or Pots can be provided with an Excess Water Auto Drain system. It will have a DWC Perforated Pipe with Geo Fabric, which absorbs excess water & drain out thereby protecting the roots and plant. The system will be provided on request.

AAGAM FRP STORAGE TANK



AAGAM FRP Storage Tanks are commonly used as Sump Tank and Over Head Tank in residential buildings and in industries for storing treated water & chemicals. They are corrosion resistant free from rodent bite and have a longer lifespan.

FRP Storage Tanks are manufactured using a process called filament winding, in which continuous strands of fiberglass are wound around a rotating mandrel. The resin is then added to the Fiberglass and the tank is cured naturally.

The design of FRP Storage Tank varies depending on the intended use and the material being stored. They can be designed to withstand high pressures, extreme temperatures and even seismic activity.

SPECIAL FEATURES OF AAGAM STORAGE TANK

- Suitable for above ground as well as underground installation
- Easy Installation / Corrosion Resistant / Maintenance free / Crack Free
- Can be installed on concrete floor, do not require any pedestal support.
- Anti fungal smooth internal surface
- Easy installation
- Can be customised to suit site requirements
- Easy to relocate

AAGAMTM
The Beginning

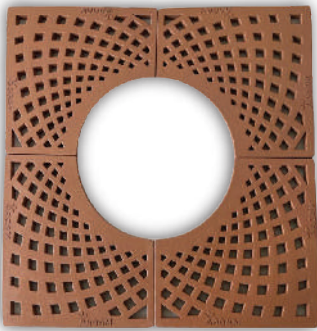


Raw Material Specifications

Matrix: GP Polymer Resin
Finish: DA Grey, custom-colored gel coat matching available.
Density: 1760 kg/m³
Enforcements: Core mat or other reinforcement as per design
Typically CSM (Chopped Strand Mat) 450 GSM
Glass Fiber: 25-30% typical
Flexural Strength: 221 Mpa
Tensile Strength: 110 Mpa
Modulus of Elasticity: 7.45 Gpa
Compressive Strength: 228 Mpa
Shore-D Hardness: 80 to 85
Coefficient of Linear Thermal Expansion: 1.5×10^{-6} mm/mm/°C
Water Absorption: 0.3%



AAGAM FRP TREE GRATINGS & FUNNEL GRATING



AAGAM FRP tree gratings made of fiberglass reinforced polymer, installed around the base of trees in urban areas and parks to protect the roots and trunk of the tree from damage caused by foot traffic, bicycles, and other activities. They are also slip-resistant and easy to walk over. FRP tree gratings are available generally in Square shape or Circular shape and can be manufactured in colors to match or contrast any landscape design. They are maintenance free and long-lasting, making it a cost-effective option for protecting trees in public areas. Additionally, they can be moved to other places and reuse any number of times.

Typical Size: 1000X1000MM with 500MM/600MM Dia Inner Opening

SPECIAL FEATURES OF AAGAM FRP TREE GRATINGS

- FRP Tree gratings can be used to protect and maintain healthy trees
- They provide exceptional aesthetically elevated looks to planted areas
- They protect developing trees and root systems while still allow water to the plants and also meet drainage needs
- Tree gratings also prevent litter collecting at the base of the tree and minimize the growth of unwanted weeds
- They are strong enough to withstand worst weather conditions, do not rust or corrode
- They are well designed for parks and sidewalks
- One can walk on them and will not reduce the walkable area.



AAGAM FRP FUNNEL WITH GRATING



Funnel Height - 100MM Grating Size 150x150MM Pipe Size: 110MM(OD)/103MM(ID)

AAGAM FRP Funnel Grating is installed over a floor drain to prevent debris, objects and other materials from entering the drains and causing blockages or damage. The grating is typically designed with slots or holes to allow water to flow through while capturing larger items. It consists of a funnel-shaped opening covered by a grate or grill that allows surface water to enter. The water then flows through a pipe system connected to the bottom of the funnel, which is directed to another location for disposal or reuse. The design of the funnel drain allows for easy access to the pipe system for maintenance and cleaning, making it a popular choice for commercial and industrial applications. Funnels are commonly used in areas that are prone to excess water accumulation such as parking lots, roads, sidewalks also in terraces, basement, garages and landscaped areas. They offer more efficient and discreet method of collecting and managing water.

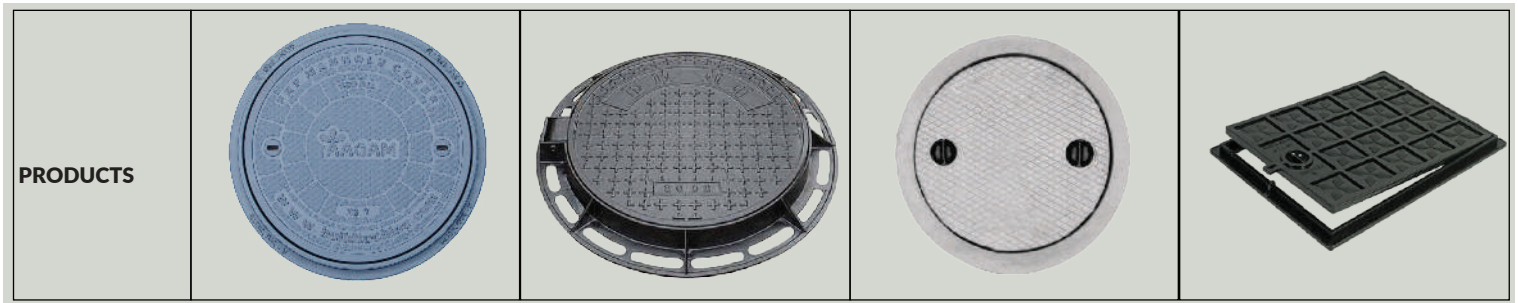
AAGAM FRP PULTRUSION PRODUCTS

Pultrusion is a composite synthesis process where the fiber glass are pulled through a heated die. While passing through the die, a constant pressure is applied, resulting in the resin melting and its impregnation into the fibrous reinforcement to manufacture rods, tubes and structural shapes with specified cross-section. They force or pull raw material into alignment guides and shaped dies to produce lengths of stock forms and cross-sectional shapes. The products will have the required precision and lend extreme resistance to corrosion, weather and fire. They are light weight and have high strength exceeding strong metals.

The following **AAGAM FRP** products are manufactured with this technology:
FRP Reinforced Profiles, FRP Rods, Pipes - Square, Rectangle & Circular, FRP Angles & Channels, I Sections, C Sections, FRP Electrical Cable Trays, FRP Ladder Cable Trays, FRP Cable Tray Covers, FRP Fencing, FRP Flat Sections, FRP Gratings, FRP Poles, FRP Safety Screens and FRP Protective Guards for Production Areas.



COMPARISON CHART OF AAGAM FRP MANHOLE COVERS

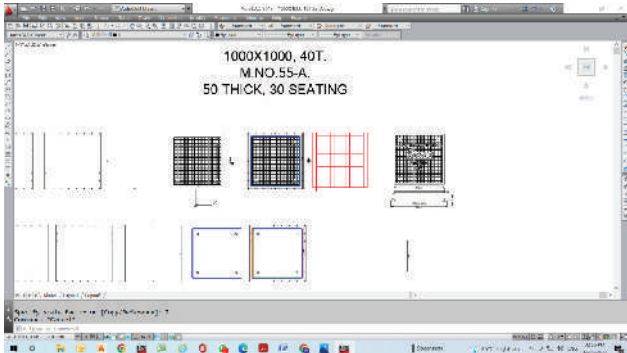


Description	AAGAM FRP Manhole Covers	Ductile /Cast Iron Covers	Concrete Manhole Covers	Other Manhole Covers
Composition	Matrix of High Standard Resins and Fiberglass	Steel	Concrete	PVC, LDP, Low Quality FRP
Usage	Protecting the opening of manholes	Protecting the opening of manholes	Protecting the opening of manholes	Protecting the opening of manholes
Corrosion	Corrosion Resistant for harsh chemicals. Ideal for Sewage Water & Chemical Water	Get corroded with water and chemicals over a period of time	Poor Resistance To Sewage Water & Chemical Water	Limited Resistance to Chemicals
Aesthetics	Available in Colours & Different finishes	Limited options, Standard Appearance	Single Colour, Standard Finish	Limited Options
Load Capacity	Load Capacity is determined by the reinforcement material, hence the weight is less	Load capacity is determined by size and thickness of product, hence the weight is more	Load capacity is determined by size and thickness of product, hence the weight is more	Not suitable for heavy load areas
Impact	High Impact Resistant. They are resistant to heavy traffic and extreme temperatures	Moderate impact resistant	Moderate impact resistant	Easily Crack/Break on impact pressure
Durability	Durable and long lasting in Medium and also high-load areas.	Cast iron covers are durable if only properly maintained.	Degrade over period of time	Short life, need to keep replacing often due to breakages and sags
Weight	Conversely, FRP covers are significantly lighter, weighing between 15 to 150 KGS, making them easier to handle and transport.	Cast iron covers are heavy and require specialized equipment to install and remove. They can weigh anywhere from 100 to 500 KGS	Concrete Covers are too heavy and difficult to handle, instal, transport and remove when required	Light weight, easy to handle and transport
Co-efficient of Thermal Expansion	The co-efficient of thermal expansion (CTE) of FRP is low	Co-efficient of Thermal Expansion is high in Cast Iron Covers	Moderate Thermal Expansion	Moderate Thermal Expansion
Colour	Impregnated UV Resistant Different Coloured Products	Only Black and Periodic Painting Required	Only Grey	Limited Colour option
Opening for access to Drain inspection	FRP Covers are easy to open with lifting handles and put it back after inspection	Difficult to open	Too heavy to open, break most of the cases, hazard to walk or run vehicle	Easy to open
Theft	No Steel, hence no resale value and less chance of theft	More prone to theft because of steel and resale value	More prone to theft because of steel and resale value	No Steel, hence no resale value and less chance of theft
Cost	AAGAM FRP covers are affordable considering long life of the product	Cast iron covers are more expensive than FRP Covers	Concrete covers are much cheaper compared to other covers, but often requires replacement after inspection	Cheaper and quality is not guaranteed

RESEARCH & DEVELOPMENT & QUALITY CONTROL

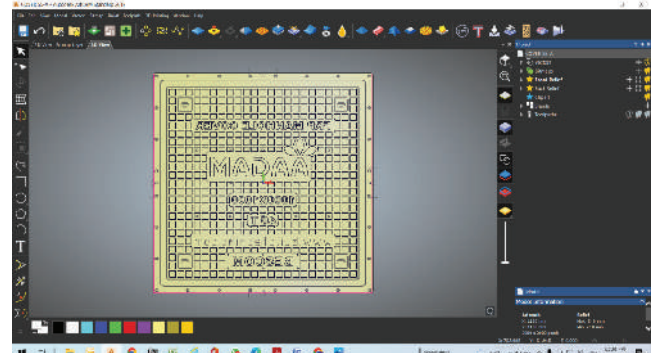
AAGAM is equipped with latest Research & Development Facility with licensed Autocad and Artcam Softwares and CNC Machinery. At it's dedicated Design Center **AAGAM** is capable of creating and testing 3D models of new products. Lead time for Design & development of New Moulds is less than 48 hours. This Capability bility gives Unprecedented Advantage to come up with new models and Designs at a short time.

AUTOCAD



To create technical drawings and models of products to test and validate designs, communicate to client, optimize production process to improve the efficiency, accuracy and quality of the design and production process

ARTCAM



To create CNC machinery of mould combining design and manufacturing functions in one program which allows to preview different textures, colors and appearance of product.

CNC ROUTER



Computer controlled cutting machine to cut and create intricate and artistic designs by carving or engraving the surface of material.

LOAD TESTING MACHINE



Used to measure strength, deformation or failure, testing properties like hardness, impact strength under various loads and conditions to ensure Quality and Safety of Products.

Hydraulic Press Machine

Hydraulic Press Machines are used for production of complex shapes and intricate details



Pulverizer Machine

Pulverizer machine crush/grind used material into small pieces for recycling,



RESEARCH & DEVELOPMENT & QUALITY CONTROL

FRP Technology - **FRP** Stands for Fiberglass Reinforced Polymer which is composite material made of polymer matrix reinforced with glass fibers. Polymer matrix can be thermosetting materials like resin or epoxy. Polymer matrix composite advantages are High strength to weight ratio, resistance to corrosion by chemicals and environmental factors like moisture, salt, acids, etc., and increase the durability & life span of components and Design flexibility - can be shaped to various forms and sizes as per desired application by changing the type and amount of matrix and fiber, also to meet required load bearing strength of products and fiber, also to meet required load bearing strength of products.

AAGAM factory is equipped with R&D laboratory with latest Testing equipments for, 1. Testing of raw materials 2. Developing new products 3. Improving manufacturing processes 4. Quality control. The laboratory can conduct tests on the finished product to ensure that it meets the required specifications and quality standards, helping to stay competitive in the market and meet the changing demands of the customers.

1) GEL TIME TEST



Time required for resin to solidify

2) PEAK EXOTHERMIC TEST



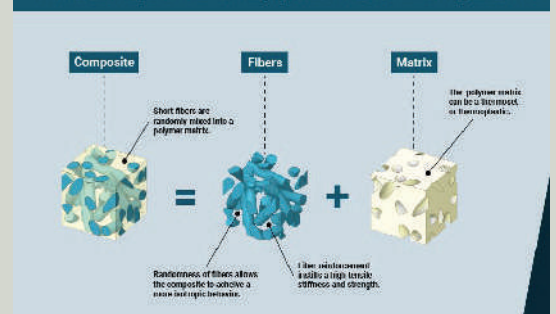
Maximum temperature reach by reacting thermosetting resin

3) HARDNESS TEST FOR EPDM SEAL



Measure the resistance of the resin to indentation by a standard amount of force

Anatomy of a chopped-fiber composite



4) VISCOSITY TEST



Measure thickness or resistance flow of resin

5) HARDNESS FOR EPDM TEST



Measure the resistance of the resin to indentation

6) GSM TEST FOR FIBER GLASS



Testing mechanical properties like tensile, flexural and impact strength of fibre glass composite using chopped strand mat(CSM).

Raw Material Specifications

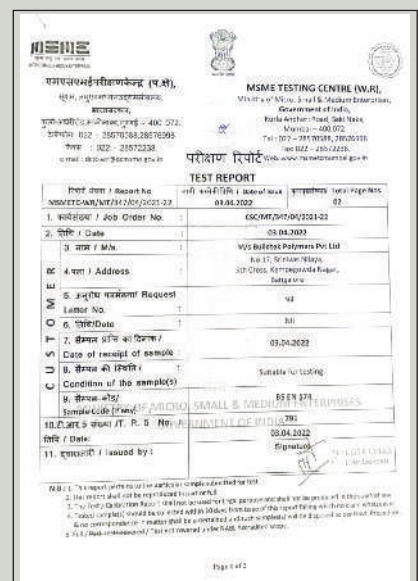
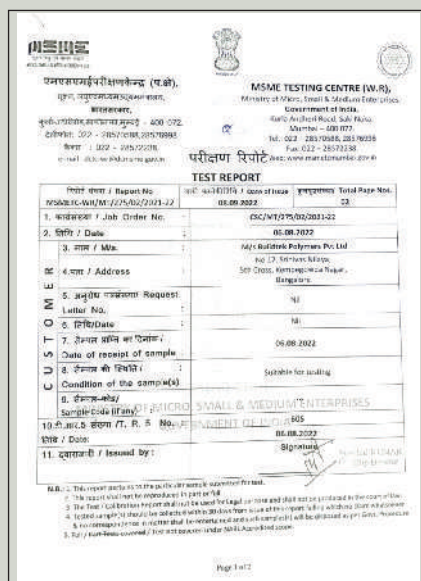
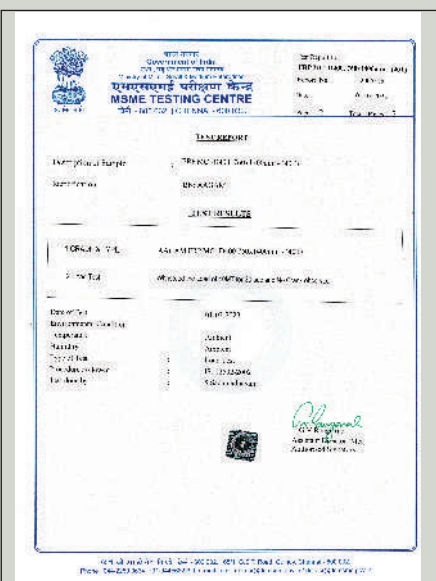
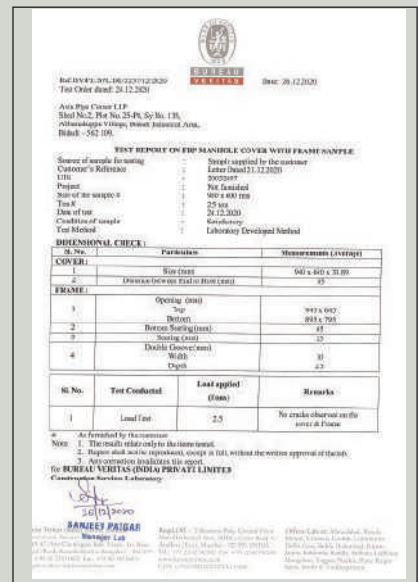
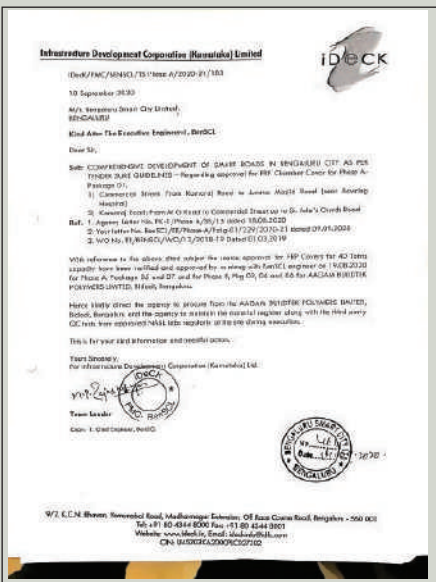
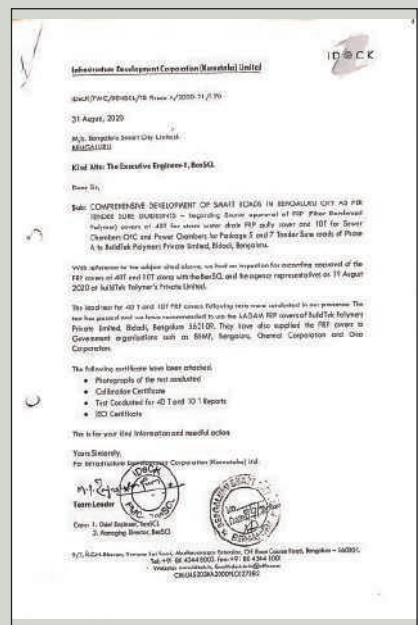
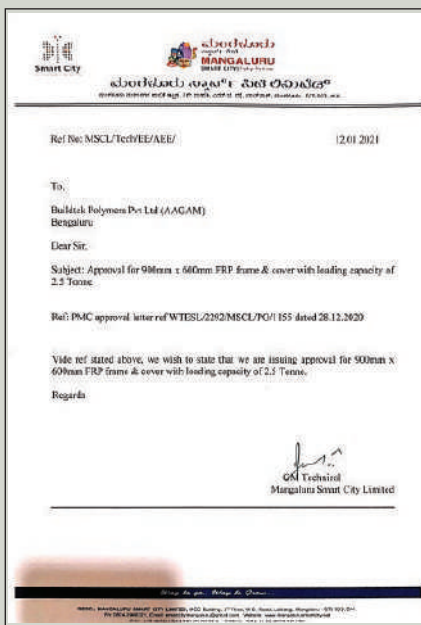
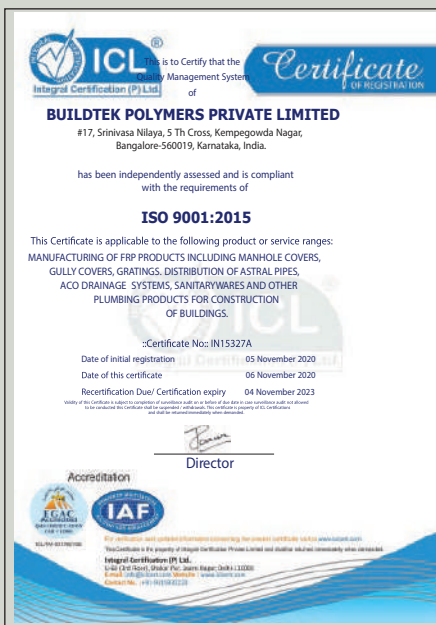
Matrix: GP Polymer Resin
 Finish: DA Grey, custom-colored gel coat matching available.
 Density: 1760 kg/m³
 Enforcements: Core mat or other reinforcement as per design
 Typically CSM (Chopped Strand Mat) 450 GSM
 Glass Fiber: 25-30% typical
 Flexural Strength: 221 Mpa
 Tensile Strength: 110 Mpa
 Modulus of Elasticity: 7.45 Gpa
 Compressive Strength: 228 Mpa
 Shore-D Hardness: 80 to 85
 Coefficient of Linear Thermal Expansion: 1.5×10^{-6} mm/mm/°C
 Water Absorption: 0.3%

AAGAM WASTE MANAGEMENT AND RECYCLING POLICY

How exactly is fiberglass recycling done? There are three main processing methods that are used for recycling fiberglass, Grinding, Incineration and Pyrolysis. This is the most obvious one, the material is chopped into small pieces and then shredded into small pieces or powders to reuse. At AAGAM plant at Bidadi, in consistency with our waste management and recycling policy, we have achieved over 90% waste recycling target, which is a bench mark in the industry and also the whole process is properly documented and internally audited. Our objectives are to:

- Ensure that waste management is performed in accordance with all waste legislative requirements and to plan for future legislative changes and to mitigate their effects.
- Minimise waste generation at source and facilitate repair, reuse and recycling of products over the disposal of wastes in a cost effective manner.
- Provide clear defined roles and responsibilities to identify and co-ordinate each activity of the waste management.
- Promote environmental awareness in order to increase and encourage waste minimisation, reuse and recycling.
- Ensure safe handling and storage of wastages.
- Provide appropriate training for all production personnel on Waste Management
- Promote Holistic approach for Waste Management in the shop floor

AAGAM CUSTOMER TESTIMONIALS AND TEST CERTIFICATES



AAGAM FRP PRODUCTS LOAD TESTING

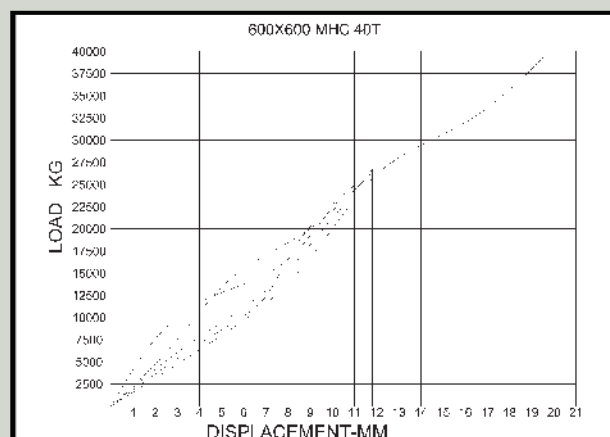
AAGAM in house Load Testing Machine is a fully automated CNC Controlled Hydraulic Press. It is installed with a 60 Ton load cell having a least count of 100 kgs. Deflection is measured at the bottom of the specimen using a Digital Rotary Encoder.

After proper mounting of the specimen, with the press of a single button the machine automatically completes the full load testing procedure as required by BSEN 124 Standards. Results are displayed in easy and understandable, able Load v/s Deflection in Graphical Format.

Load Testing of **AAGAM FRP** Manhole Covers involves subjecting them to High levels of stress and pressure in order to determine their performance and durability under extreme conditions. Here are the steps followed for load test of AAGAM FRP covers:

- Identifying the load requirements: Determining the specific load and pressure requirements that the cover needs to withstand. This could include static loads, dynamic loads, or a combination of both.
- Preparing the testing equipment: Setting up the necessary equipment and machinery for conducting the load test. This may include a test rig, hydraulic or pneumatic systems, load cells, pressure sensors, and data acquisition equipment.
- Installing the FRP cover: Placing the FRP cover securely onto the test rig or the structure it is designed to protect. Ensure that it is properly aligned and securely fastened.
- Applying the load: Gradually applying the specified load or pressure to the FRP Cover. This can be done by using hydraulic or pneumatic systems to apply force, or by placing weights or other loads on top of the cover.
- Monitoring and Measuring: Continuously monitoring and measuring the response of the FRP cover during the load test. This may include monitoring deflection, stress, strain, and any other relevant parameters.
- Recording and analysing data: Using data acquisition equipment to record the measurements obtained during the load test. Analysing the data to assess the performance and behaviour of the FRP cover under the applied load.

LOAD VS DISPLACEMENT



LOAD TESTING MACHINE



FRP MANHOLE COVERS LOAD TEST REPORT

Company Name	ACR PROJECT
Date	22-04-2022
Number of Cycle	5
Nature of Test	Cyclic
Applied Load	40,000 KG
Sample Name	MHC 600x600 40 T

1.Cycle Disp.	11.8 mm
2. Cycle Disp.	11.9 mm
3. Cycle Disp.	11.9 mm
4. Cycle Disp.	12.1 mm
5. Cycle Disp.	19.8 mm

TECHNICAL SPECIFICATION OF AAGAM FRP PRODUCTS

AAGAM FRP Fiberglass Reinforced Polymer products are Light Weight, Sturdy and Corrosion-Resistant making them an Ideal Alternative to traditional Cast/Ductile Iron or Concrete Covers which are prone to wear and tear or are too heavy to install and open for inspection/maintenance. They are manufactured through a process of Compression Moulding or Pultrusion, making them strong and durable. **Applications;** **AAGAM FRP** products are widely used in various industries including waste water treatment plants, food and beverage plants, chemical plants, oil and gas refineries and also in transport infrastructure such as bridges and highways apart from residential and commercial complexes.

AAGAM FRP Covers are designed and manufactured to meet certain standards and specifications to ensure their quality, durability and safety. The main standards used for composite covers are the EN (European Norm) and the ASTM (American Society for Testing and Materials), AS (Australian Standards) apart from BIS (Indian Standards). Products are manufactured meeting these Standards: EN 124:2015 - This standard specifies the requirements and test methods for access covers and grates for pedestrian areas and vehicular traffic areas.

Description	RAW Material Specifications	
Matrix:	GP Polymer Resin	EN 124:2015 - This standard specifies the requirements and test methods for access covers and grates for pedestrian areas and vehicular traffic areas.
Finish:	DA Grey, Custom-colored gel coat matching available.	
Density:	1760 kg/m ²	EN 1433:2015 - This standard covers linear drainage channels for the collection and removal of surface water. composite material.
Reinforcements:	Core mat or other reinforcement as profile, shape or design requires, Typically CSM (Chopped Strand Mat) 450 GSM.	
Glass Fiber:	25-30% typical	ASTM D638-14 - This standard specifies the tensile properties of plastics used in engineering applications, including
Flexural Strength:	221 MPa	
Tensile Strength:	110 MPa	AASHTO M306 - American Association of State Highway and Transportation This Standard specifies the load bearing parameter for Light and Heavy Duty Vehicular Traffic.
Modulus of Elasticity:	7.45 Gpa	
Compressive Strength:	228 MPa	BIS 1726:1991 - The Bureau of Indian Standards (BIS). This standard specifies the requirements for cast iron manhole covers and frames.
Shore-D Hardness:	80 to 85	
Coefficient of Linear Thermal Expansion:	1.5 x 10 ⁻⁶ mm/mm/°C	AS 3996: 2006 - Australian Standards for Access Covers and Gratings for use in Vehicular and Pedestrian areas.
Water Absorption:	0.3%	

Material: FRP (Fiberglass Reinforced Polymer) Manhole Covers are typically made from a combination of high quality resin, Fiberglass and Selective Sand/Granules.

Size: AAGAM FRP Covers are available in various sizes to fit different manholes, chambers and access points. They can be customized to fit specific sizes and shapes from 300MM to 1500MM in Square, Rectangle & Circular Shapes based on the specific requirements of the application

Thickness: Typically range from 1 to 3 inches only enough to give required heavy load bearing strength. Our products are compact unlike competitor's bulky/heavy weight covers

Weight: Compared to traditional covers, AAGAM FRP Manhole covers are significantly lighter. They can weigh between 15 to 150 KGS, depending on the size (upto 1200MM) load capacity and design

Load Capacity: AAGAM FRP covers are designed to support different load capacities, ranging from Light-Duty covers to Heavy-Duty covers from 0.5 Tons to 90 Tons

Colour: Supplied in Standard UV Resistant Grey colour, but can be customized to supply in any other colours for specific requirement

Corrosion resistance: Aagam FRP Covers are Highly resistant to corrosion & chemical reactions, making them ideal for use in harsh environments, such as coastal or industrial areas.

Slip resistance: Anti-slip surface for pedestrian or vehicular traction to improve safety and reduce the risk of accidents in areas with high pedestrian traffics.

Water permeability: Allows for efficient drainage of water and other fluids

Fire resistance: **AAGAM FRP** products are inherently fire-resistant, ensuring they do not catch or spread fire in case of a fire outbreak for such amount of time as per Industry Standards.

UV resistance: Resistant to UV degradation and discoloration. **AAGAM FRP** Covers are manufactured with UV-resistant materials that can protect them from the damaging effects of sunlight ensuring their longevity.

Maintenance: Minimal maintenance required, easy to clean and easy to open cover with lifting handle for access to the drain and close back after inspection/maintenance

ABOUT FRP INDUSTRY



Fiberglass Reinforced Polymer (FRP) is commonly known as Composites Industry. It has grown significantly in the past decade, as the demand for lightweight and high-strength materials has increased in various industries. FRP products are used in a wide range of products, such as Aerospace, Automotive, Construction, Wind Energy, Marine and many more. In Global Market for **FRP** composites products are expected to reach USD 42.44 billion by 2025, growing at a CAGR of 8.2% from 2020-2025.

The Asia-Pacific region is the largest market for **FRP** composites products, followed by Europe and North America. Some of the major trends in the FRP industry include the development of high-performance materials, increased use of Automation and Robotics, adoption of Sustainable Manufacturing Practices and growing demand in emerging markets.

FRP (Fibreglass Reinforced Polymer) products are extensively used in the Construction Industry due to their Excellent Strength-to-Weight ratio, Durability, and Resistance to Corrosion among other benefits. Here are some examples of **FRP** products used in construction:

1. **Rebars:** **FRP** rebars (also known as fiberglass rebars) are used as an alternative to traditional steel rebars in reinforced concrete applications. FRP rebars offer several advantages over steel rebars, including corrosion resistance, non-magnetic properties and low thermal conductivity
2. **Bridge decks:** **FRP** bridge decks are lightweight and offer excellent durability and resistance to corrosion. They are used in the construction of pedestrian bridges & decks where corrosion is a significant concern specially in coastal areas and chemical industries
3. **Facades:** **FRP** panels can be used as cladding on building facades to improve their durability and weather resistance.
4. **Conduits and Piping:** **FRP** conduits and piping are commonly used in chemical and wastewater treatment plants due to their excellent resistance to corrosive chemicals and high moisture levels.
5. **Drains and Storm Water Management :** **FRP** Manhole Covers & Gully Covers, Surface Drains & Covers, Manholes and Inspection Chambers also Storage Tanks
6. **Gratings and Handrails:** **FRP** gratings and handrails are useful for building environments that require high strength and durability, such as offshore structures, Chemical Plants and Theme Parks.

FRP Composites products offer a versatile and durable solution to many construction challenges, making them an increasingly popular choice in the industry.

Challenges in the **FRP** industry include issues related to recycling, disposal, and environmental Regulations. However, the industry is working towards developing sustainable practices and materials to address these challenges.

Overall, the **FRP** industry is expected to continue to grow and evolve as new applications and technologies emerge and demand for high-performance and environment friendly materials increases. **AAGAM** has taken a lead and stepping forward in Indian Market.



AAGAM FACTORY & PRODUCTION TEAM AT BIDADI



AAGAM PROJECT SITES



*Strength Within
Pride Throughout*



Toll-Free Number for any assistance

1800-889-7911

OUR OFFICES AND PAN INDIA PROJECTS

- Projects across all states in India
- ★ Corporate Office, Bengaluru
- Plant at Bidadi, Bengaluru - Mysore Rd
- Regional Office, Bengaluru - 04
- Branch Office, Bengaluru - 02
- Warehouse, Chamrajapet, Bengaluru 18
- Warehouse, Bommasandra, Bengaluru 99
- Branch Office, Chennai, TN
- Branch Office, Hosur, TN
- Branch Office, Cochin, TN
- Branch Office, Coimbatore, TN
- Branch Office, Mumbai, Maharashtra



DISTRIBUTOR:

BUILDTEK POLYMERS PRIVATE LIMITED[®]

Plumbing Redefined...

Corporate Office:

No 17, Srinivasa Nilaya, 5th Cross, K G Nagar,
Bengaluru - 560 019 Karnatak State, INDIA
Phone: +91 80 2242 5142
E-mail: buildtechinc@gmail.com

Regional Office:

No 114/3, Lalbagh Fort Road, Minerva Circle,
Bengaluru - 560 004, Karnataka State, INDIA
Phone: +91-80-2667 2003
E-mail: aagam@buildtechinc.in



buildtekpolymerspvtltd



buildtek_polymers



+91 98454 45456



www.buildtechinc.com



Our address



DISCLAIMER : Buildtek Polymers Private Limited or assigned manufacturer of our products makes every effort to maintain the accuracy and quality of the information provided in this Catalogue. However, Buildtek Polymers Private Limited cannot guarantee and assumes no legal liability or responsibility for the accuracy or completeness of the information provided. The information contained in this catalogue is for general guidance only. You should neither act, nor refrain from action, on the basis of any such information. You should take appropriate professional advice on your particular circumstances because the application of our product may vary depending on particular circumstances. The copyright of all content on this catalogue is owned by Buildtek Polymers Private Limited or assigned manufacturers of our product. No part of this catalogue may be changed, reproduced, printed, stored in or transmitted on any website or medium without the prior written permission of Buildtek Polymers Private Limited.