YEAR

2023

VISIT US AT:

www.polyearth.in

High-Quality FRP Battery Racks, Server Racks, Manhole Covers, Staircases, Cable Trays and Solar Walkways

CATALOGUE

CONTACT US AT:

+91 81240 77777

info@polyearth.in

01 Introduction

PolyEarth showcases a wide range of durable and reliable ***FRP (Fiber Reinforced Plastic) Battery Racks, Server Racks, Manholes, Staircases, Solar Walkways, Gratings, Cable Trays & Storage Racks.*** This catalogue serves as a comprehensive guide, providing detailed information about our products designed to meet the diverse needs of various industries. We are committed to quality, innovation, and customer satisfaction.

02

FRP Battery Racks:

Features:

- Constructed with high-quality FRP materials for excellent strength, durability, and corrosion resistance.
- Lightweight design for easy installation, transport, and reconfiguration.
- Non-conductive properties ensure electrical safety and minimize risks.
- Compatibility with various battery types and sizes, accommodating different configurations.
- Modular and customizable options available to suit specific project requirements.

FRP Battery Racks

Applications

- Telecommunication infrastructure
- Renewable energy systems
- Uninterruptible power supply (UPS) installations
- Data centres and server rooms
- Industrial backup power solutions

03

FRP Server Racks:

Features:

- Robust construction using premium-grade materials for enhanced stability and protection.
- Efficient airflow management to maintain optimal operating temperatures for equipment.
- Flexible mounting options, adjustable rails, and cable management solutions for easy organization.
- Versatile designs compatible with various servers, networking, and audio-visual equipment.
- Security features, including lockable doors and side panels to protect valuable assets.

FRP Server Racks

Applications

- Data centres and colocation facilities
- IT infrastructure in offices and organizations
- Video surveillance and security systems
- Broadcasting and media production environments
- Research and development labs

04

FRP Manholes

Revolutionizing Infrastructure for a Sustainable Future

Let us delve into the innovative world of ***FRP manholes*** and explore how they are revolutionizing infrastructure solutions for a ***sustainable future.***

FRP manholes offer unparalleled advantages over traditional materials, making them the preferred choice for modern construction and utility projects.

What are FRP Manholes?

FRP manholes are structurally engineered composite products composed of a combination of glass fibers and thermosetting resins. The FRP material exhibits remarkable strength, durability, and resistance to corrosion, making it an ideal alternative to traditional materials like concrete or steel.

4.1 Advantages:

Lightweight and Easy to Install: The inherent lightweight nature of FRP manholes simplifies transportation and installation, significantly reducing labor and associated costs.

Corrosion and Chemical Resistance: FRP manholes are impervious to rust and corrosion, ensuring longevity and reducing the need for frequent maintenance.

High Strength-to-Weight Ratio: Despite being lightweight, FRP manholes offer remarkable strength, making them structurally robust and reliable.

Weather Resistance: These manholes are UV resistant, ensuring they maintain their integrity even under prolonged exposure to harsh weather conditions.

Non-Conductive Properties: FRP's non-conductive properties make it an ideal choice for electrical applications, minimizing electrical hazards.

Watertight Sealing: FRP manholes are designed with precision to provide an excellent watertight seal, preventing leakage and contamination.

4.2 Environmental Benefits:

FRP manholes contribute significantly to sustainability efforts:

Reduced Carbon Footprint: The lightweight nature of FRP reduces transportation emissions during delivery, positively impacting the environment.

Longevity and Durability: FRP manholes' extended lifespan reduces the frequency of replacements, leading to decreased waste generation.

Recyclable: At the end of their service life, FRP manholes are recyclable, contributing to the circular economy.

4.3 Applications:

FRP manholes find wide-ranging applications in various industries:

Municipal Infrastructure: Used in sewage systems, stormwater management, and water treatment facilities.

Telecommunications: Ideal for housing fiber optic cables and communication equipment.

Industrial Use: Suitable for chemical processing plants, refineries, and other corrosive environments.

Transportation: Used for underground utility access along highways and railways.

In conclusion, FRP manholes stand at the forefront of modern infrastructure solutions, offering unmatched durability, resistance, and sustainability. As the world embraces eco-consciousness and advances in technology, the adoption of FRP manholes is becoming increasingly prevalent. Their lightweight nature, corrosion resistance, and environmentally-friendly attributes position them as the ideal choice for a greener and more efficient tomorrow.

05

FRP Staircases

Revolutionizing Infrastructure for a Sustainable Future

FRP (Fiber Reinforced Plastic) staircases find a wide range of applications in various industrial settings due to their unique properties. Here are some specific use cases of FRP staircases in industries:

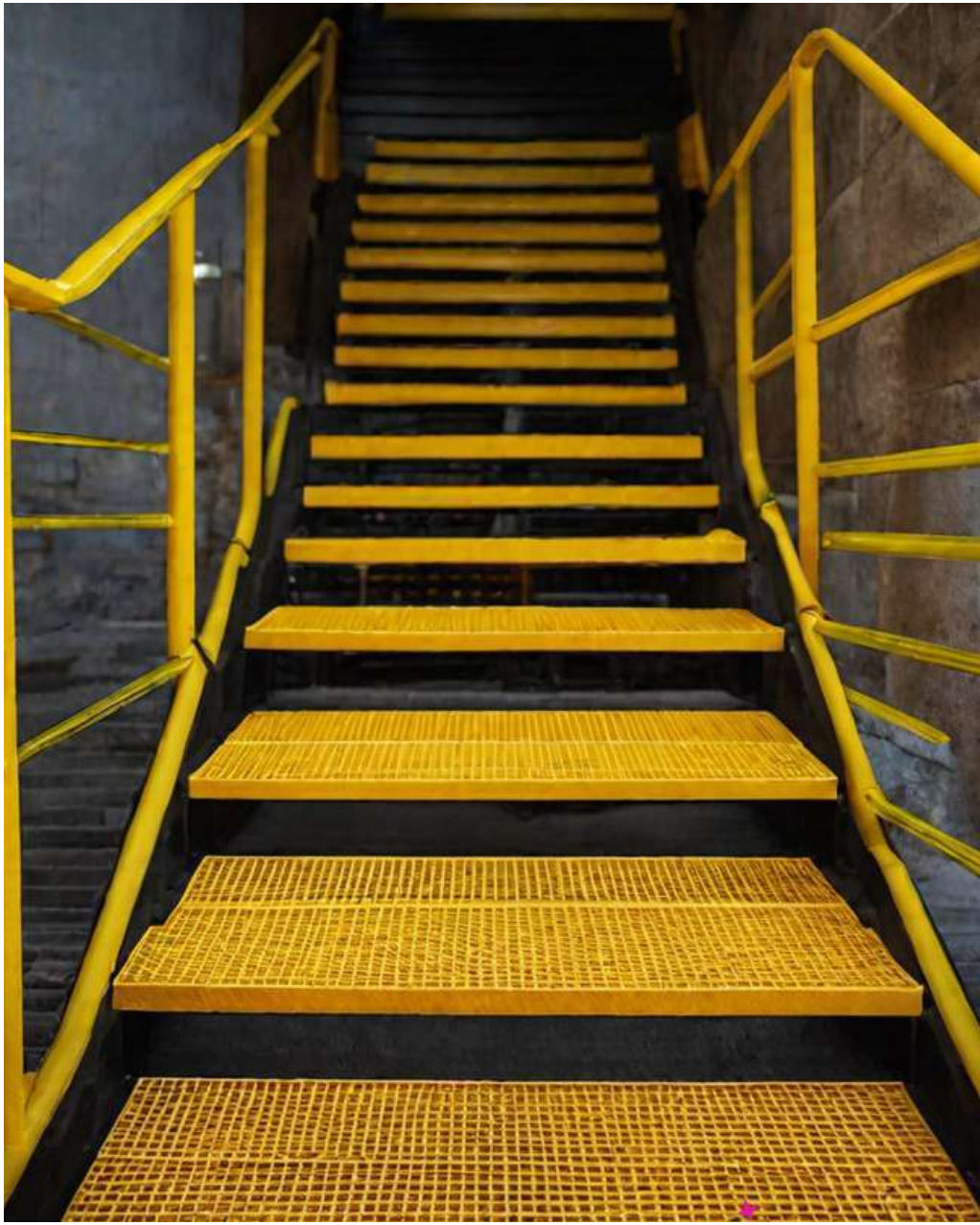
Chemical and Petrochemical Plants: FRP staircases are highly preferred in chemical and petrochemical facilities due to their exceptional corrosion resistance. They can withstand exposure to corrosive chemicals and harsh environments, making them a reliable choice for accessing different levels within the plant.

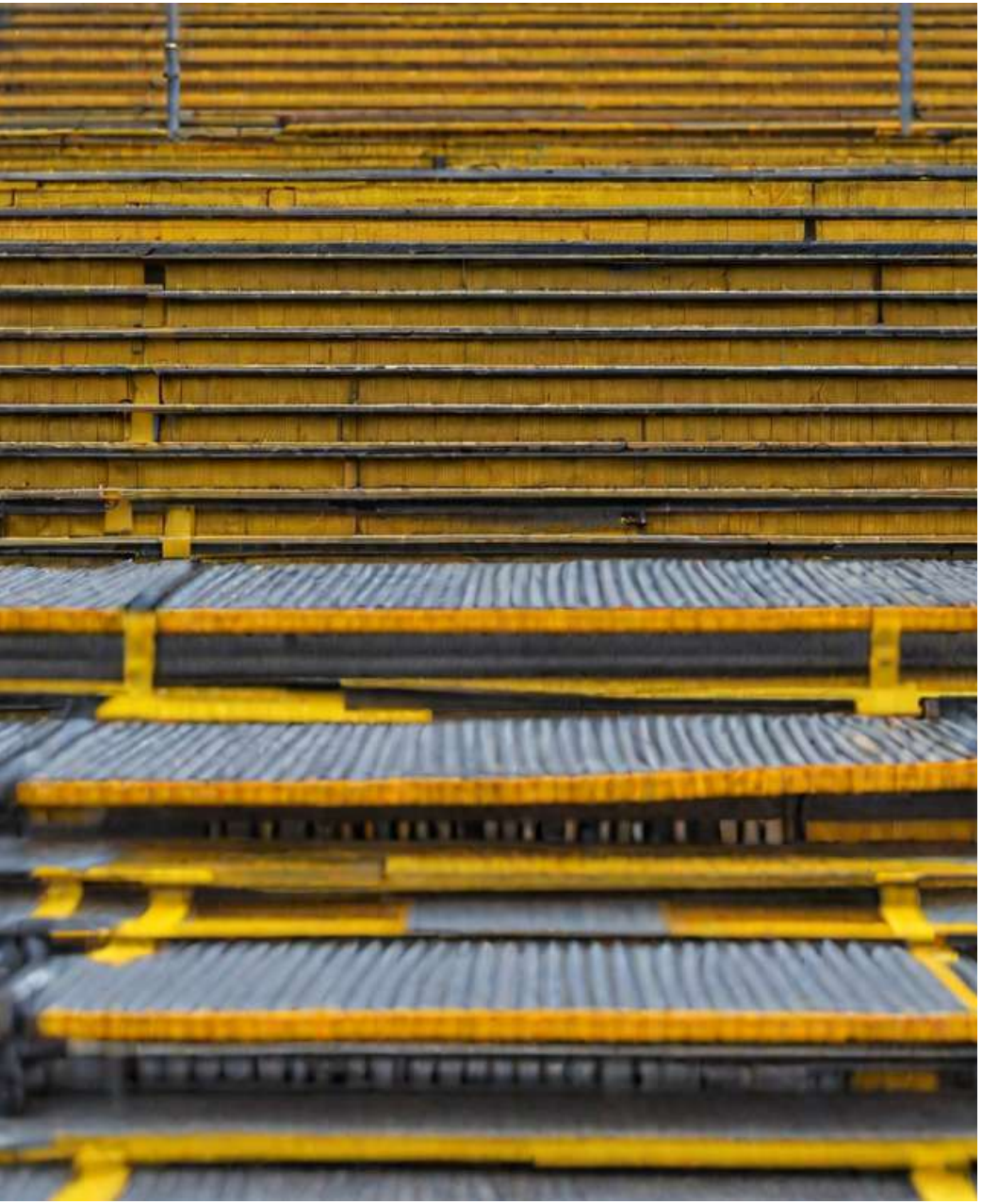
Power Plants and Substations: The non-conductive nature of FRP staircases makes them ideal for power plants and substations. They provide safe access to elevated areas near electrical equipment without posing any risk of conducting electricity.

Marine and Offshore Platforms: In marine environments and offshore platforms, where exposure to saltwater and moisture is common, FRP staircases' corrosion resistance becomes crucial. Their lightweight design also makes them easier to install on offshore platforms.

Water Treatment Facilities: FRP staircases are commonly used in water treatment plants due to their resistance to chemicals and water. They remain unaffected by the constant exposure to treated water and other liquids.

Mining and Extractive Industries: In rugged and demanding mining environments, FRP staircases offer durability and resistance to abrasion. Their lightweight nature also makes transportation and installation in remote locations more manageable.





Manufacturing Facilities:
Many manufacturing plants benefit from FRP staircases due to their low maintenance requirements and long-lasting properties. They can endure heavy foot traffic and withstand exposure to various industrial processes.

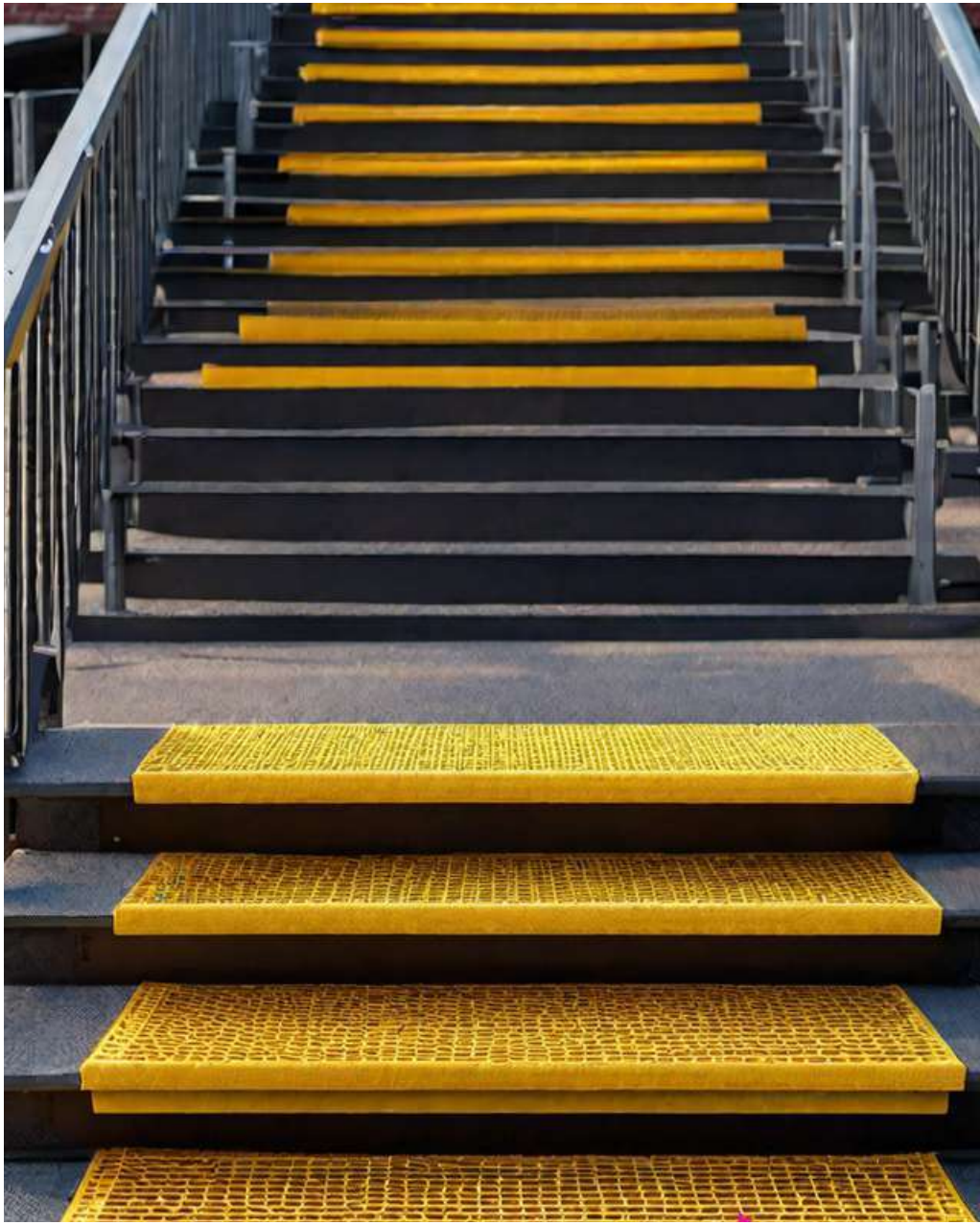
Food Processing Plants: FRP staircases are an excellent choice for food processing facilities as they are resistant to food acids, cleaning agents, and temperature changes, maintaining their integrity and safety.

Automotive and Aerospace Industry:
FRP staircases find applications in the automotive and aerospace industries, where lightweight yet robust access solutions are required for different work platforms and assembly areas.

Wastewater Treatment Plants: The chemical resistance of FRP staircases makes them suitable for wastewater treatment facilities, where exposure to various chemicals is common during the treatment process.

Transportation Hubs: Airports, train stations, and bus terminals can benefit from FRP staircases due to their resistance to weather conditions, ease of maintenance, and ability to withstand heavy foot traffic.

In all these industrial scenarios, FRP staircases serve as reliable, cost-effective, and safe solutions for accessing elevated areas, ensuring worker safety, and withstanding the challenging conditions prevalent in various industries.



06

FRP Solar Walkways

Introducing our state-of-the-art FRP (Fiber Reinforced Plastic) Walkway designed specifically for solar plants, revolutionizing the way you navigate and maintain your solar installations.

With cutting-edge engineering and innovative features, our FRP Walkway offers unmatched advantages, making it the ideal choice for enhancing the efficiency, safety, and longevity of your solar energy infrastructure.

Key Features and Benefits:

Superior Durability: Our FRP Walkway is crafted using high-quality composite materials, ensuring exceptional strength and resistance to environmental factors. It can withstand heavy loads, foot traffic, and exposure to UV radiation, guaranteeing a long-lasting solution for your solar plant.

Lightweight Design: The lightweight nature of FRP makes installation and transportation a breeze, significantly reducing labor and logistical costs during the setup process.

Compliance and Certifications: Our FRP Walkway meets industry standards and safety regulations, ensuring compliance with necessary codes and certifications.

Corrosion and Chemical Resistance: Solar plants often encounter corrosive substances and chemicals. Our FRP Walkway is inherently corrosion-resistant, preventing any degradation over time and minimizing maintenance requirements.

UV Stability: With excellent UV stability, our FRP Walkway maintains its appearance and structural integrity, even after prolonged exposure to the sun's rays, ensuring consistent performance and safety.

Non-Conductive Properties: Safety is paramount in solar plants. The non-conductive nature of FRP prevents the risk of electrical accidents, making it a secure choice for installations around solar panels and electrical equipment.

Anti-Slip Surface: The walkway's surface is designed with anti-slip properties, ensuring the safety of workers who need to access solar panels for maintenance, even in challenging weather conditions.

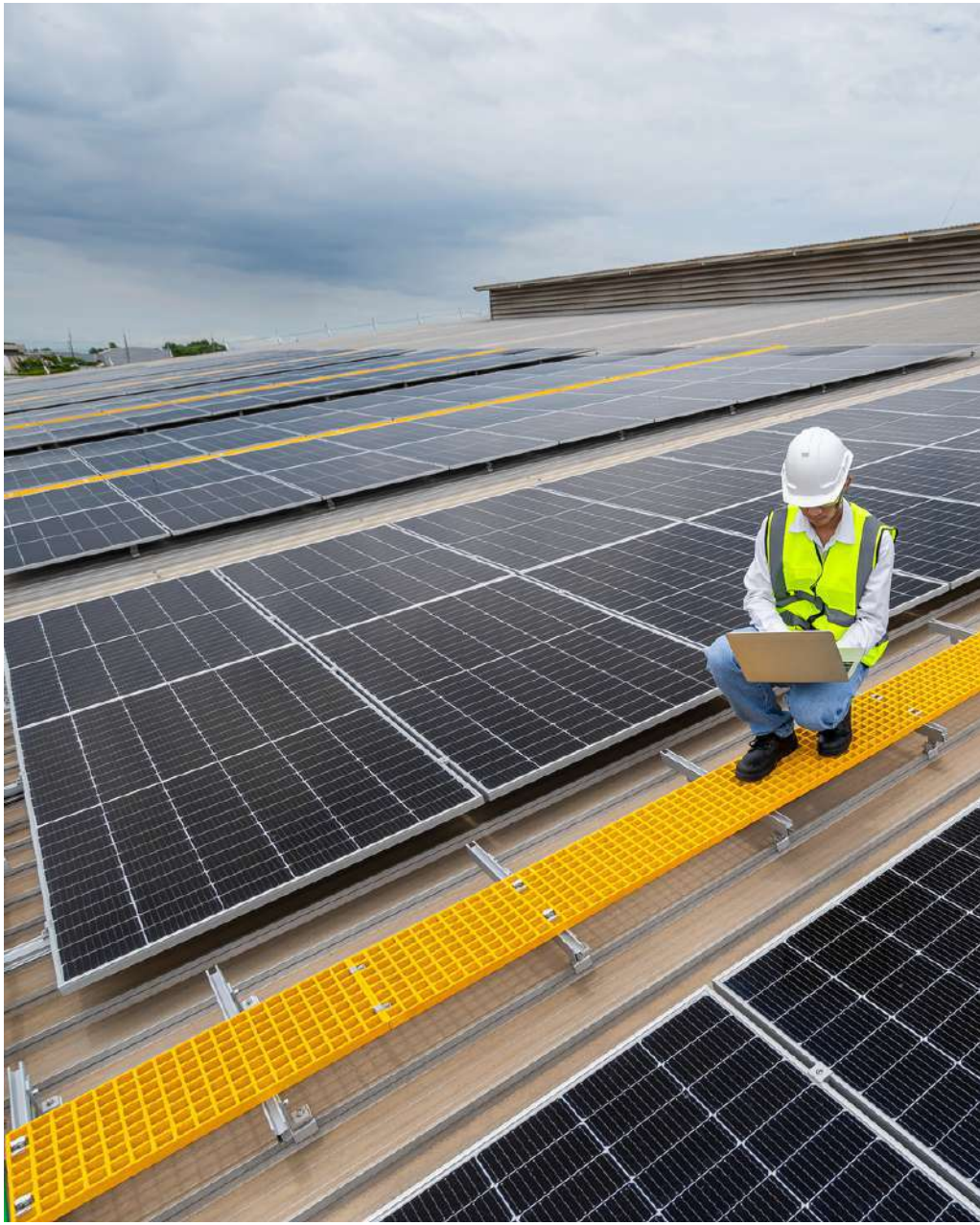
Customizable Configurations: We understand that each solar plant has unique requirements. Our FRP Walkway can be tailored to your specifications, including width, length, and height adjustments to fit your specific installation layout.

Easy Installation and Modularity: Our FRP Walkway is designed for easy and quick installation, thanks to its modular components. This allows for rapid deployment and adaptability to changes in the solar plant layout.

Enhanced Airflow and Panel Cooling: The design of the walkway facilitates improved airflow beneath solar panels, promoting panel cooling and optimizing their efficiency.

Low Maintenance and Cost-Effectiveness: With its resistance to wear, tear, and environmental damage, our FRP Walkway requires minimal maintenance, leading to reduced operational costs over its lifespan.

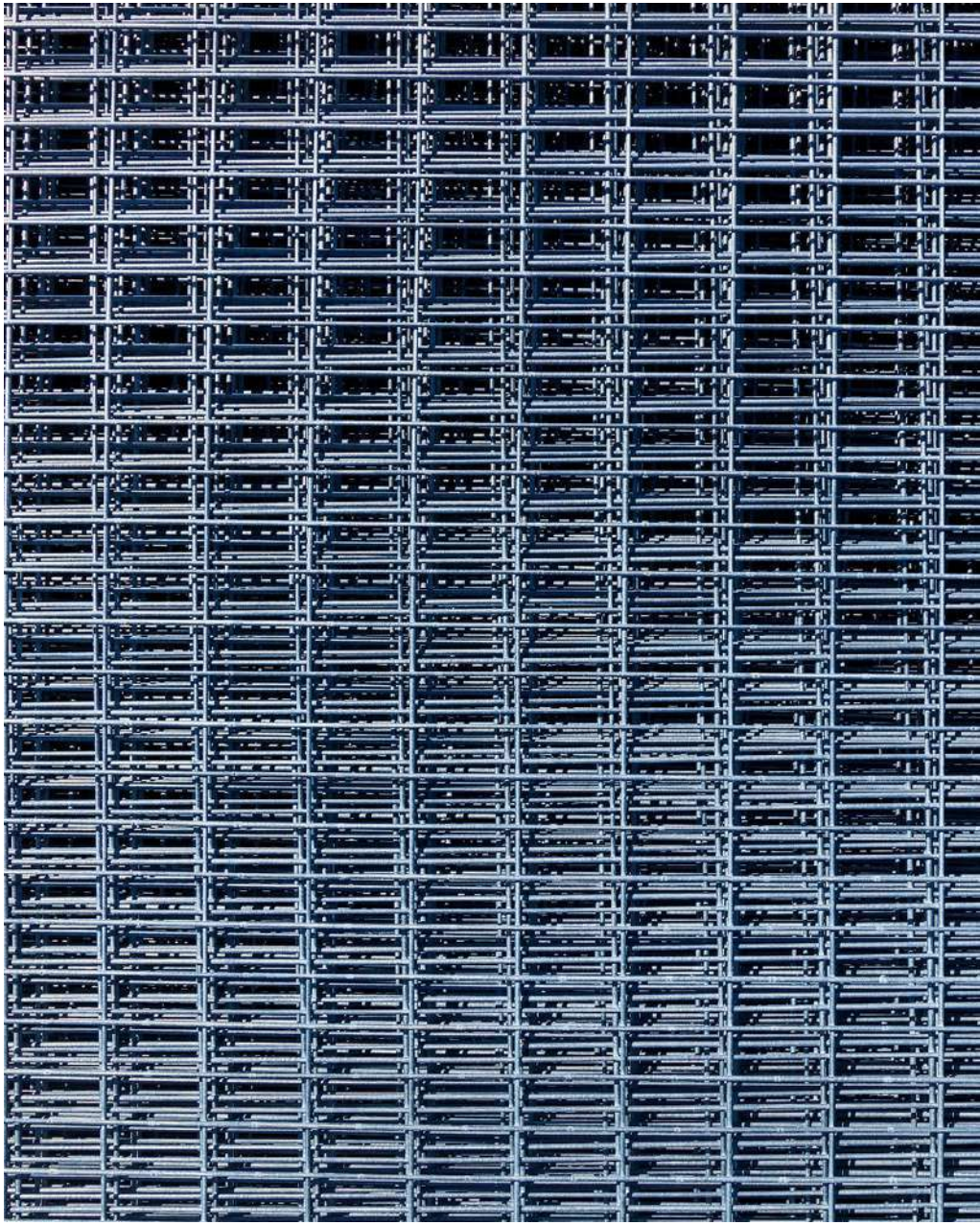
In conclusion, our FRP Walkway for solar plants offers an unparalleled combination of durability, safety, and efficiency. Its lightweight construction, corrosion resistance, and customizable configurations make it an ideal solution for solar energy infrastructure. Embrace the future of solar plant walkways with our advanced FRP technology, enhancing your plant's productivity and providing a secure and reliable platform for your maintenance needs.



07

FRP Gratings

We supply FRP Gratings made using Pultruded Profiles which can be used for platforms, walkways, etc. Being corrosion resistant, they last long and does not need any maintenance.



08

FRP Cable Trays

We supply FRP Cable Trays of different sizes using channel and angle profiles with FRP flat in between. Being an electrical insulating material, and as strong as steel, they are an excellent replacement for M.S. Cable Trays

09

FRP Storage Racks

We supply FRP Storage Racks, fabricated using different FRP Pultruded Profiles. Being resistant to most of the chemicals, they last long and does not corrode. They are totally maintenance free and an excellent material for storing corrosive chemicals.

Properties of FRP

Mechanical Properties	Pultruded FRP	Rigid PVC	Mild Steel	Stainless Steel	Wood
Tensile Strength (MPa)	382	44	340	340	80
Flexural Strength (MPa)	468.3	70	380	380	12
Flexural Modulus (MPa)	22489	2400	196000	196000	700
Izod Impact (Kgm/cm)	2.15	0.09	1.5	0.53	-
Specific Gravity	1.9	1.38	7.8	7.92	0.52
Safe Working Temperature 'C	130	55	600	600	160

10 Customizations and Services:

- Our team of experts can assist you in designing custom FRP Battery Racks, Server Racks, Manholes, Staircases, Solar Walkways, Gratings, Cable Trays & Storage Racks to meet your specific requirements.
- We offer comprehensive installation services, ensuring a seamless integration of our products into your infrastructure.
- Maintenance and support services are available to keep your products in optimal condition and maximize their lifespan.

11 Quality Assurance:

- Our FRP Battery Racks, Server Racks, Manholes, Staircases, Solar Walkways, Gratings, Cable Trays & Storage Racks undergo rigorous testing to ensure compliance with industry standards.
- We prioritize quality control at every production stage to deliver reliable, long-lasting solutions.
- Compliance with environmental regulations and sustainability principles is integral to our manufacturing processes.

12 Conclusion:

Our catalogue presents an array of FRP Battery Racks, Server Racks, Manholes, Staircases, Solar Walkways, Gratings, Cable Trays & Storage Racks designed to cater to diverse applications and industries. We pride ourselves on delivering high-quality products, custom solutions, and exceptional customer service.

Contact us today to discuss your requirements and explore how our products can optimize your infrastructure.