Dudhi Dyna GFRP Rebar

Dudhi Dyna, a leader in GFRP solutions, presents high-performance rebars designed for superior strength, corrosion resistance, and long-lasting durability. Manufactured using an advanced pultrusion process, our rebars redefine structural reinforcement with unmatched efficiency and reliability.

MADE STRONG MADE TO LEAD

GFRP Rebar Mesh

GFRP Rebar Bends

GFRP Rebar Coil

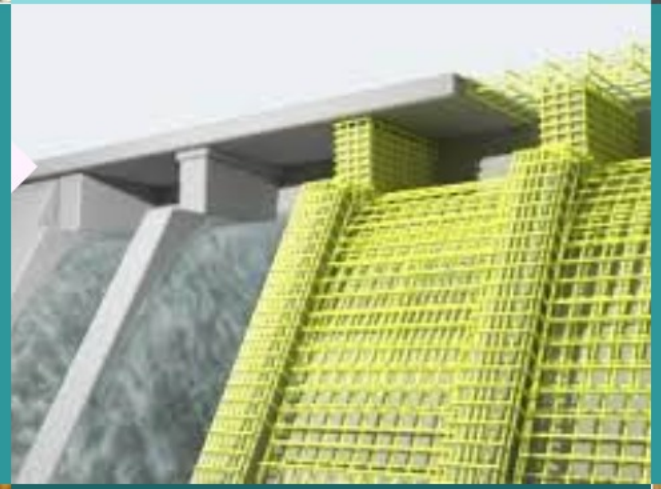
GFRP Rebars

कीमत नही, गुणवत्ता देखें।

"Building the Future: Strong, Sustainable, Dudhi DynaBar GFRP Rebar"

dudhi
a trusted name

Dudhi DynaBar GFRP Sraight Bars



Dudhi DynaBar GFRP

Weaving a Stronger, Safer Tomorrow for Your Construction Needs!

"Securing Generations: Dudhi DynaBar GFRP – The Bedrock of Dam Integrity"

Dudhi DynaBar GFRP Rebar Coil

"Lightweight Power, Unbreakable Strength: Dudhi DynaBar GFRP Rebar"

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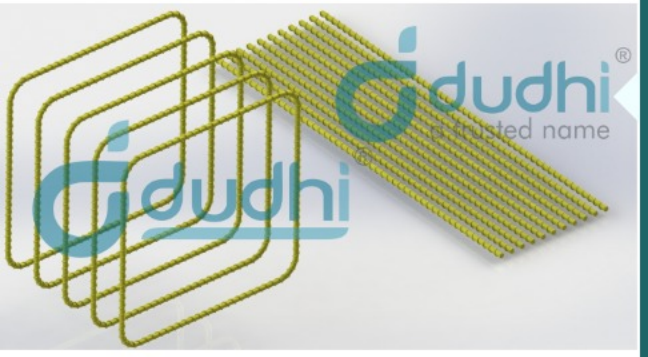
Dudhi DynaBar GFRP Rebar Mesh

Dudhi DynaBar GFRP Wire Mesh

Weaving a Stronger, Safer Tomorrow for Your Construction Needs!



"Fortifying Foundations: Dudhi DynaBar GFRP Mesh – The Backbone of Structural Resilience"

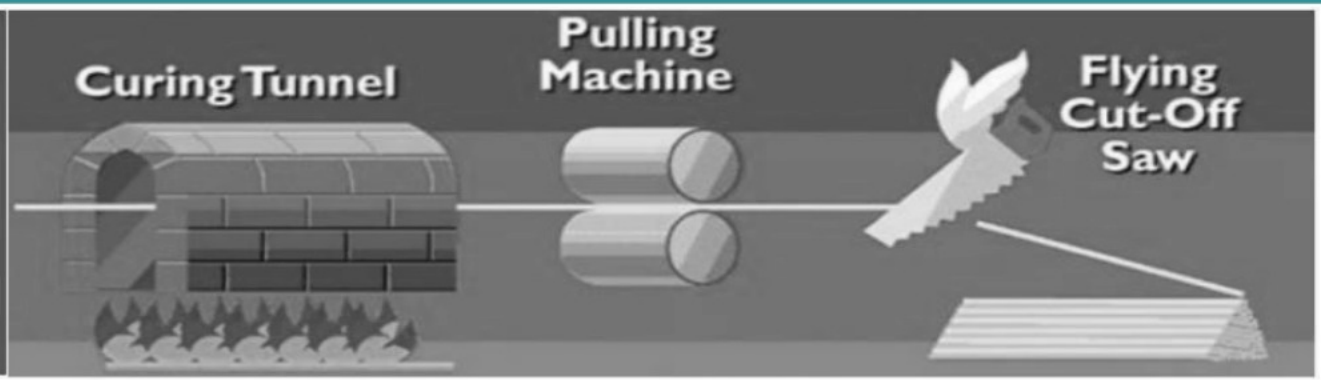
Unyielding Strength, Unmatched Durability

Dudhi DynaBar GFRP Rebars:

Redefining Construction Excellence Dudhi DynaBar FRP Rebars: Pioneering a revolution in construction, Dudhi Industries proudly presents Dudhi DynaBar FRP Rebars. As a frontrunner in the industry, we usher in a new era of construction excellence, ensuring longevity, strength, and safety in every project.

Production Process:

Glass fiber reinforced polymer rebar（GFRP）is made from high technical performance resin （UP/VE/EP/PU）and glass fiber by pultrusion process.



Dudhi DynaBar Key Features

> IS code 18256-2023 for GFRP Bars

- **Unrivaled Strength & Durability: Dudhi DynaBar** offers exceptional tensile strength, surpassing traditional steel rebars. Lightweight yet incredibly robust, they maintain structural integrity even in the harshest environments.
- **Corrosion Resistance:** Inherently resistant to corrosion, ideal for coastal projects and high humidity regions, ensuring longevity and reducing maintenance costs.
- **Enhanced Stability:** Superior bonding with concrete ensures cohesive support, enhancing stability in buildings, bridges, tunnels, and more.
- **Innovation & Flexibility: Dudhi DynaBar** enables creative freedom, allowing architects and engineers to explore innovative designs previously deemed impossible.
- **Commitment to Sustainability:** Eco-friendly and reducing the carbon footprint, **Dudhi DynaBar** contributes to a greener future, aligning with our dedication to environmental sustainability.

Area of Usage

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ROAD, BRIDGE CONSTRUCTION

Used in road construction to reinforce concrete pavements, bridges, and tunnels, enhancing structural integrity and longevity.

RAILWAY STATIONS

Station Platforms
Station Canopies
Station Foundations
Station Access Ramps
Station Walkways

GFRP REBAR FOR TUNNEL WALL & STRUCTURES

Tunnel Linings,Tunnel Floors
Tunnel Walls, Tunnel Portals
Tunnel Entrance and Exit
Ramps, Emergency Exit
Passages, Train Tunnel
Track Beds

COASTAL CONSTRUCTION

Seawalls, Piers and Docks
Breakwaters , Harbors
Coastal Bridges, Tidal
Energy Installations
Offshore Wind Farms

Area of Usage

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MANUFACTURING PLANTS AND FACTORIES

Ideal for factory flooring and underground tanks, GFRP rebars excel in high chemical and moisture environments, ensuring durability and reduced maintenance

BOX CULVERTS

GFRP rebars ensure long-lasting durability and corrosion resistance, making them ideal for box culverts in challenging conditions.

RETAINING WALLS

GFRP rebars enhance the stability and longevity of retaining walls, providing robust support in demanding environments

CRASH BARRIERS
NOISE BARRIERS
BRIDGE PARAPETS

GFRP rebars deliver high strength, impact resistance, and durability, making them ideal for crash barriers, noise barriers, and bridge parapets

Dudhi DynaBar GFRP Rebar for Road & Bridge:

Dudhi DynaBar GFRP in Highway Infrastructure:

Dudhi DynaBar GFRP, an advanced composite material, revolutionizes highway infrastructure construction and repair. Lightweight, easily installable, and possessing a remarkable strength-to-weight ratio, Dudhi DynaBar GFRP offers unparalleled durability. Tailor-made to specific requirements such as size, strength, stiffness, and overall structure, it aligns perfectly with diverse project needs.

In response to the rising demand for sustainable building materials, Dudhi DynaBar GFRP stands out as an ideal choice. It excels in repairing degraded and underperforming concrete infrastructure. By enhancing the strength and performance of existing highway structures, especially in challenging environments that cause deterioration, Dudhi DynaBar GFRP delivers exceptional results.
Dudhi DynaBar GFRP sets a new standard in highway infrastructure, offering a sustainable, high-performance solution for construction and repair projects.

Dudhi DynaBar GFRP Rebar for Railway Stations:

Introduction to FRP Bar Applications in Railway Stations: FRP bars are pivotal components in modern railway station construction, offering innovative solutions for enhanced durability and safety. They find extensive applications in various station structures, ensuring longevity, low maintenance, and structural integrity. Key applications include:

Station Platforms
Station Canopies
Station Foundations
Station Access Ramps
Station Walkways

Dudhi DynaBar GFRP Rebar for Tunnel Wall & Structures

Introduction to Dudhi DynaBar Applications in Tunnel Walls and Structures:
Dudhi DynaBar, a leading Glass Fiber Reinforced Polymer (GFRP) rebar solution, has transformed the construction of tunnel walls and related structures. Renowned for its exceptional strength, corrosion resistance, and lightweight properties, Dudhi DynaBar is the ideal choice for ensuring the longevity and stability of tunnels, even in the harshest environments. Its innovative applications are revolutionizing tunnel construction, providing enhanced structural integrity, minimal maintenance, and robust resilience against the challenges within tunnels.

Here's a closer look at Dudhi DynaBar's key applications:

1. Tunnel Walls: Dudhi DynaBar reinforces tunnel walls, offering unparalleled strength and durability. Its remarkable resistance to corrosion, even in damp and humid tunnel environments, ensures the long-term structural integrity of the walls.

2. Tunnel Structures: Dudhi DynaBar is employed in various structural elements within tunnels, including support structures, arches, and ceilings. Its lightweight yet robust properties simplify construction processes while guaranteeing the required strength, thereby enhancing the overall stability and safety of tunnel structures.

Suitable Size of Straight Bar								
Diameter in mm	06	08	10	12	16	20	25	32

Dudhi DynaBar GFRP Rebar for Coastal Construction:

Introduction to Dudhi DynaBar GFRP in Marine Applications:

In the domain of marine engineering, the infiltration of chloride ions poses a substantial threat to the durability of reinforced concrete structures, leading to steel corrosion and structural instability. Dudhi DynaBar, a high-performance Glass Fiber Reinforced Polymer (GFRP) rebar, has emerged as a potent solution for these challenges. Rigorous laboratory simulations were conducted to evaluate the mechanical properties of Dudhi DynaBar GFRP materials under diverse corrosive conditions, including water, acid, seawater, alkali, and alkali+seawater solutions. The results showcased exceptional corrosion resistance, particularly in alkali+seawater environments, where Dudhi DynaBar GFRP tendons exhibited no more than a 30% decrease in tensile strength and a modest 12% cange in the elastic modulus.

Moreover, extensive studies explored the resistance of Dudhi DynaBar GFRP bars to alternating dry and wet cycles, revealing outstanding durability. Detailed analysis using Scanning Electron Microscopy (SEM) unveiled that moisture infiltration and OH- played pivotal roles in the deterioration of mechanical properties following corrosion.

Innovative research efforts, supported by proprietary patents, delved into the endurance of Dudhi DynaBar GFRP bars amidst corrosive environments and stress conditions. These studies adhered to the stringent durability requirements, indicating a service life surpassing 60 years. Predictive analyses, based on data and the Arrhenius equation, estimated a lifespan exceeding 50 years for Dudhi DynaBar GFRP bars in marine applications, highlighting their resilience and suitability for marine reclamation projects. This research underscores the immense potential of Dudhi DynaBar GFRP in ensuring the structural integrity and prolonged life of vital coastal constructions.

Suitable Size of Straight Bar								
Diameter in mm	06	08	10	12	16	20	25	32

Dudhi DynaBar GFRP Rebar for Manufacturing Plants and Factories:

Dudhi DynaBar GFRP in factory flooring and underground tanks:

GFRP rebars are particularly suited for factory flooring and underground tanks due to their exceptional resistance to chemicals and moisture. These environments often expose materials to harsh conditions that can lead to corrosion and structural degradation. However, GFRP rebars maintain their integrity and strength, providing a long-lasting solution that minimizes the need for frequent repairs and maintenance. This makes them a cost-effective and reliable choice for industrial applications where durability is paramount.

Dudhi DynaBar GFRP Rebar for Box Culverts:

Box culverts are often subjected to harsh environmental conditions, including exposure to water, chemicals, and varying temperatures. GFRP rebars are an excellent choice for reinforcing box culverts due to their superior corrosion resistance and long-lasting durability. Unlike traditional steel rebars, GFRP rebars do not rust or degrade when exposed to moisture and chemicals, ensuring the structural integrity of box culverts over time. This leads to a reduction in maintenance costs and an extended lifespan for the structures, making GFRP rebars a reliable and economical option for such applications

Dudhi DynaBar GFRP Rebar for Retaining Walls:

Retaining walls are critical structures that require strong, durable reinforcement to withstand soil pressure and environmental factors. GFRP rebars are an excellent choice for reinforcing retaining walls due to their high strength and corrosion resistance. In demanding environments where moisture and chemicals can compromise traditional materials, GFRP rebars maintain their integrity, ensuring the long-term stability of the retaining wall. This results in fewer maintenance needs and greater overall durability, making GFRP rebars a superior option for retaining wall construction.

Dudhi DynaBar GFRP Rebar for Crash Barriers and Noise Barriers:

GFRP rebars are exceptionally well-suited for use in crash barriers, noise barriers, and bridge parapets due to their unique combination of high strength, impact resistance, and durability. In crash barriers, GFRP rebars provide the necessary toughness to withstand vehicle impacts, enhancing safety. For noise barriers, their corrosion resistance ensures long-term performance despite exposure to the elements. In bridge parapets, GFRP rebars maintain structural integrity and resist environmental degradation, leading to a longer lifespan and reduced maintenance. This versatility and resilience make GFRP rebars an optimal choice for these critical infrastructure components.

Comparative Characteristics

CHARACTERISTICS	Steel	Dudhi DynaBar GFRP reinforcement
Material Composition	Carbon Steel	ECR Fiberglass, Epoxy Resin / Vinyl Ester Resin
Fiber Content (%)	No Fibres	75-80%
Modulus of elasticity (GPa)	200	45-60
Elongation %	25	2 - 2.2
Corrosion resistance to Aggressive media	Subject to Corrosion	100% Corrosion Proof
Heat Conductivity	Heat - Conductive	Non - Heat Conductive
Electro Conductivity	Conducts Electricity	Non Conducting
Operating Temp. C	-40^0 to $+350^0$	-40^0 to $+120^0$
Shear Strength. Mpa	120	>=150
Tensile Strength (MPa)	650	1100+
Compressive Strength. Mpa	350	150-200
Strength of adhesion to concrete. Mpa	6-9	10-12
Density (ton/$m^{3)}$	7.85	1.8 - 2.1
Produced profiles. mm	06 - 40 mm	04 - 32 mm
Length	The rods of length 6-12 m	According to Customer request
Longevity	Comparative Limited Service LIfe	Predicted life is more than 100 years

Comparison table of reinforcement characteristics

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Steel Rebar		Dudhi DynaBar GFRP reinforcement				
Dia (mm)	Approx. Weight (Kg/m)	Replacing GFRP rebar Dia (mm)	Approx. Weight (Kg/m)	CSA (mm^2) Cross Section Area	Tensile Strength (Mpa)	Ultimate Tension (KN)
06	0.220	04	0.0239	13.566	1150	16
08	0.400	06	0.0537	29.274	1100	32
10	0.620	06	0.061	29.274	1100	32
12	0.910	08	0.106	51.265	1050	54
14	1.200	10	0.166	80.540	980	79
16	1.500	12	0.2148	117.097	870	102
18	2.000	16	0.3820	210.062	764	160
25	3.850	20	0.5979	318.159	752	239
32	6.320	25	0.9327	495.874	744	369
40	9.876	32	1.5281	808.248	716	579

Cost Comparison

Cost analysis of GFRP rebars Vs TMT steel bars for 10000 sq m slab			
Area	10000 Sq m	**Plot size**	100m X 100m
Bar Spacing	200 mm		
Sr. No.	**Particulars**	**GFRP rebars**	**TMT bars**
1	Bar Dia (mm)	6	8
2	No. of bars required	998	998
3	Length of each rod (m)	100	100
4	Weight of rod (per m)	0.0537	0.395
5	Total weight of rods	5359	39421
6	Rate (per Kg)	170	60
7	Total cost of rods	9,11,074.2	23,65,260
8	Binding wire consumption (kg)	60	400
9	Cost of Binding wire (per kg)	60	60
10	Total cost of binding wire	3600	24000
11	**Total Material Cost**	**887877.9**	**2389260**
12	**%age Savings**	**62.84%**	

Standard Dimensions of Packaging

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Diameter	Coils Diameter	Imaze	Length in Meter	Approx. Weight in Kg Coils /Bundle
4 mm	4'		200 (04 rods)	23.90
6 mm	3'/4'		50x2/100x2 rods	32.22
8 mm	3'/4'		50x2/100x2 rod	28.65
10 mm	6'		100 (02 rods)	29.84
12 mm*	In Rods of 2,3,5,10,12 Meters		12 (10 rods)	25.77
16 mm			12 (5 rods)	22.92
20 mm			12 (5 rods)	35.87
25 mm			12(3 rods)	33.57
32 mm			12(2 rods)	36.67

* Loading rates for reinforcement with a diameter of up to 10 mm are indicated taking into account the form of release in coils of 50 and 100 meters. For diameters of less than or equal to 10 mm, the form of release can also include coils, U-shaped bars, or straight bars to maximize transportation capacity. Other sizes are available in bars only. For them, the calculation of the load was made using the example of 6-meter rods, which do not fit into the "Gazelle" and are impractical to transport on a Euro-truck.

Benefits:

1. Corrosion Resistance:

- Does not rust, reducing maintenance and repair costs.
- Ideal for environments exposed to moisture, chemicals, and salt.

2. High Strength-to-Weight Ratio

- **Strength**: **2 times** the tensile strength of steel.
- **Weight**: **4 times** lighter than steel, making it easier to handle and install.

3. Non-Conductive

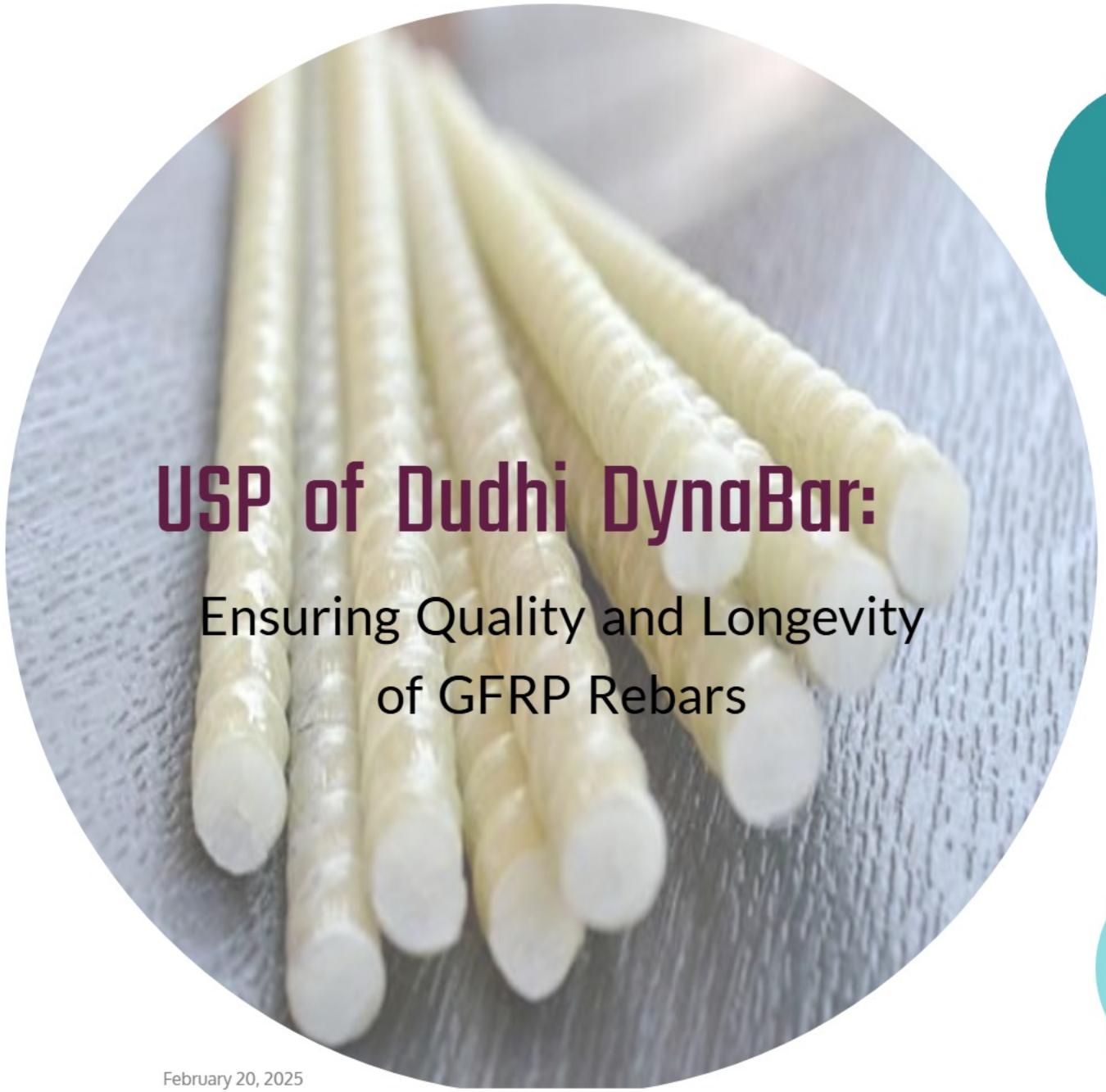
- Non-magnetic and electrically non-conductive.
- Suitable for applications requiring minimal electromagnetic interference.

4. Extended Lifespan

- Longevity surpasses traditional steel, providing sustainable and durable structures.
- Life span of more than **100 years**

5. Cost Efficiency

- Overall **cost saving up to 25%.**
- Savings in transportation and labor costs due to lighter weight.



USP of Dudhi DynaBar:

Ensuring Quality and Longevity of GFRP Rebars

Consistent Manufacturing Standard

Manipulation Risk: Manufacturing processes can be manipulated, resulting in standard products initially but deteriorating quality over time by altering composition.
Longevity Concern: Such practices compromise the long-term durability of the product.

Adherence to IS Code 18256: 2023:

Approved Materials: We strictly use raw materials permitted by IS code 18256: 2023.
Resins: Only epoxy or vinyl ester resin.
Fibers: ECR (Electrical Corrosion Resistant) glass fiber.

Proper Fiber Content Proportion:

Optimal Composition: We maintain the proper proportion of fiber content to ensure maximum strength and durability.

Quality Standards:

Strict Quality Control: Adhering to rigorous quality control measures throughout the production process.
Consistent Product Quality: Ensuring that every batch meets the highest standards of quality and performance.

All Product Catalogs

Products Range of Dudhi Industries

Gypsum Products

SMC Products

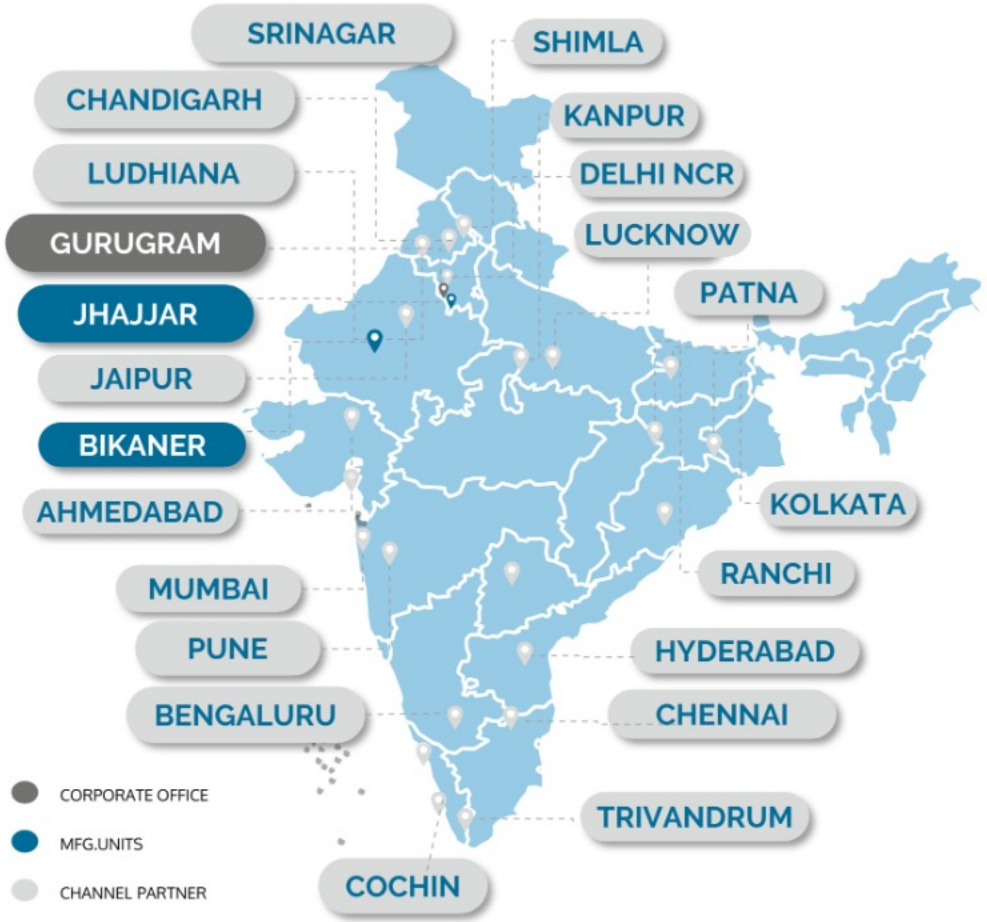
Access Covers

Drain Channel & Grating

GFRP Rebar

Cable Tray & Fencing

Innovative Planters



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