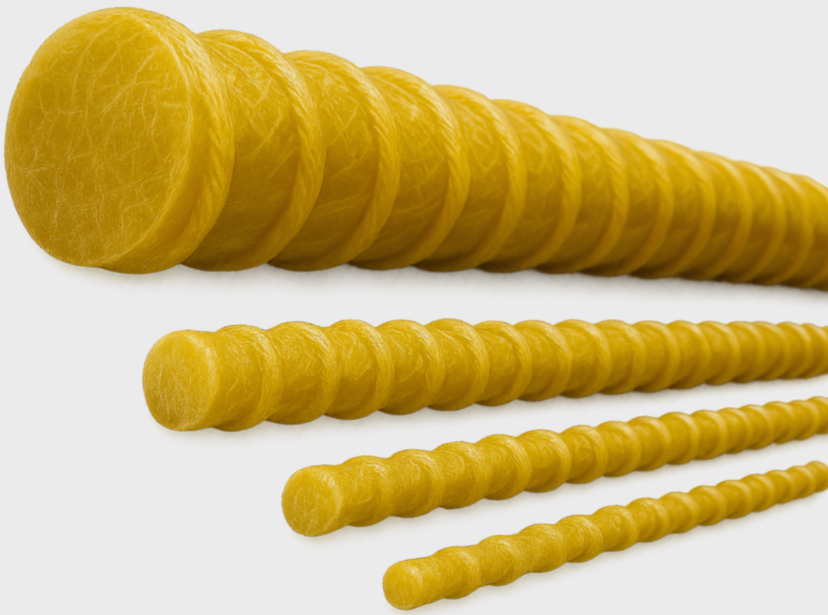
RAMANI COMPOSITES

More Than Excellence

Transform your construction with **RAMANI GFRP Rebar** — high strength, rust-free, and lightweight for long-lasting performance across all conditions.



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Contents

About Us

Who We Are

We Are GFRP Rebar Innovators – Welcome to **RAMANI Composites:** Building the Future, One Rebar at a Time.

Founded in 2019, **RAMANI Composites** is proud to be a young yet ambitious force in the world of Glass Fiber Reinforced Polymer (GFRP) rebar manufacturing. From day one, our mission has been clear: to offer the construction industry smarter, stronger, and more sustainable alternatives to traditional steel reinforcement.

Our GFRP rebars are engineered to outperform steel—resisting corrosion, reducing weight, and delivering exceptional tensile strength. These qualities not only extend the lifespan of structures but also lower long-term maintenance costs, making them a truly future-proof solution.

While we may be a relatively new company, our strength lies in our experienced engineering team, our passion for innovation, and our commitment to uncompromising quality. Every product we manufacture is a result of precision engineering, rigorous testing, and a forward-thinking approach to modern construction challenges.

At **RAMANI Composites**, we don't just make rebars—we help build longer-lasting bridges, stronger foundations, and more sustainable cities. The future of construction is here, and it's lighter, stronger, and built to last.

Why GFRP? Why Us?

✅ Corrosion-Resistant: Say goodbye to rust and costly maintenance.
✅ Lightweight & Easy to Handle: Saves time and labor on-site.
✅ High Tensile Strength: Delivers performance that meets global standards.
✅ Non-Conductive & Non-Magnetic: Ideal for sensitive infrastructure projects.
✅ Long-Term Value: Lower lifecycle costs compared to steel.

We may be new in the industry, but we're focused on the future – committed to quality, innovation, and customer satisfaction. Our goal is to build lasting relationships based on trust, transparency, and reliability.

Vision & Mission

Our Mission

To deliver world-class GFRP reinforcement solutions that empower engineers, architects, and contractors to create structures that are stronger, lighter, corrosion-free, and built for the future. We are committed to combining cutting-edge innovation, precision manufacturing, and uncompromising quality to ensure every project stands the test of time—while driving cost efficiency and environmental sustainability.

Our Vision

To become a global leader and the most trusted name in the composite reinforcement industry—known for innovation, reliability, and service excellence. We aspire to redefine construction standards, inspiring a shift toward sustainable materials and building methods that protect the planet and shape a stronger tomorrow.

Ramani Composites is here to support your projects with next-generation rebar solutions. Let's build stronger, smarter, and greener—together.

📞 *Contact us today to discuss how we can add value to your construction needs.*

Product Overview

GFRP (Glass Fiber Reinforced Polymer) Rebar is a cutting-edge reinforcement material that delivers exceptional strength, superior corrosion resistance, and long-term performance in concrete structures.

Designed to meet the demands of modern infrastructure, GFRP rebars offer a smarter and more sustainable alternative to traditional steel reinforcement.

GFRP Rebar is manufactured from high-strength glass fibers embedded in a durable polymer resin matrix.

This combination produces a lightweight yet extremely strong reinforcement material that is completely immune to corrosion—making it ideal for projects where traditional steel rebar would deteriorate over time.

Benifits


CORROSION
RESISTANCE


LIGHTWEIGHT
(75% LIGHTER THAN STEEL)


HIGH TENSILE
STRENGTH


ELECTRICALLY
NON-CONDUCTIVE


MAGNETICALLY
TRANSPARENT
(NON-MAGNETIC)


ALKALI AND
CHEMICAL RESISTANT


NO SPALLING
OR DELAMINATION


Flexible
Design Options


Simpler Cutting
and Handling


Compatible with
All Concrete Types


DIMENSIONAL
STABILITY


TESTED AND
APPROVED


ECO-
FRIENDLY


LONG-TERM
COST
EFFICIENCY


LOW THERMAL
CONDUCTIVITY

Where To Use

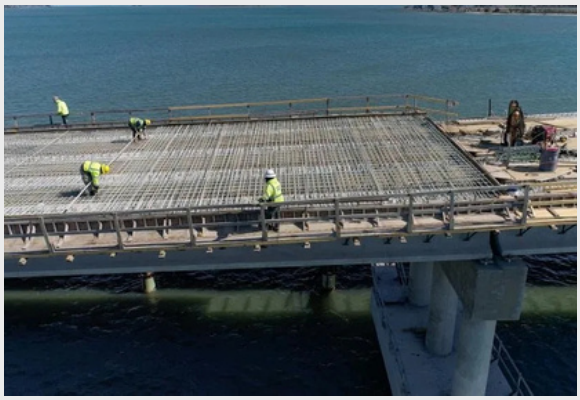
Foundation

Swimming Pool

Roads

Boundary Walls

Base Slab



Bridges

GFRP Rebar vs. Steel Rebar

KEY DIFFERENCES:

Feature	GFRP Rebar	Steel Rebar
Corrosion Resistance	100% corrosion-resistant (non-metallic)	Prone to corrosion, especially in harsh/chemical environments
Weight	Up to 75% lighter than steel	Heavy – increases transportation and handling costs
Tensile Strength	Higher tensile strength (600–1000 MPa)	Lower tensile strength (250–600 MPa depending on grade)
Magnetic Properties	Non-magnetic (ideal for MRI rooms, sensitive installations)	Magnetic – not suitable for electromagnetically sensitive
Thermal Conductivity	Low – better insulator, reduces thermal bridging	High – acts as a thermal conductor
Electrical Conductivity	Non-conductive – safer in electric installations	Conductive – may pose electrical hazards
Bond with Concrete	Excellent with sand-coated or surface-deformed variants	Excellent due to ribbed texture
Modulus of Elasticity	Lower (~45–60 GPa) – more flexible, may require design adjustments	Higher (~200 GPa) – stiffer and more rigid
Durability	High in aggressive environments (marine, chemical plants, etc.)	Reduces over time in corrosive environments
Cost (Initial)	Higher upfront cost	Lower upfront cost
Cost (Lifecycle)	More cost-effective over time due to no rust and lower maintenance	Higher lifecycle cost due to rust repair and maintenance
Installation Ease	Easier to cut and handle; no sparks, no special tools	Harder to cut; needs heavy-duty tools and safety precautions
Fire Resistance	Lower than steel; may degrade under extreme heat unless protected	Very good fire resistance
Environmental Impact	Eco-friendly; recyclable, non-corrosive	Can corrode and pollute; recyclable with energy-intensive processes
Standard Code Usage	Gaining acceptance in international codes (ACI 440, IRC, etc.)	Universally accepted and code-compliant worldwide

TECHNICAL CHARACTERISTICS

Property	GFRP Rebar	Steel Rebar
Corrosion Resistance to Aggressive Environments	✅ Non-corrosive	❌ Corrosive
Corrosion Resistance	High (non-conductive)	Low
Electrical Conductivity	Non-conductive	Conductive
Thermal Conductivity	Low	High
Tensile Strength (MPa)	1000+	550
Compressive Strength (MPa)	450	500
Bond Strength to Concrete (MPa)	>12	>15
Modulus of Elasticity (GPa)	>=50	160 – 200
Density (kg/m³)	1900	7800
Magnetic Properties	Diamagnetic	Magnetic Conductor
Durability	≥ 80 years	As per building code; lower in corrosive areas

Services

Custom GFRP Rebar Production

Design & Engineering Support

Technical Consulting

Project-Specific Solutions

Supply Chain & Logistics

After-Sales Support

FAQ

What is GFRP rebar?

GFRP rebar is a high-strength, corrosion-resistant reinforcing bar made from glass fiber and polymer resin, used as an alternative to steel in concrete reinforcement.

Where is GFRP rebar used?

It is used in:
- Bridges, tunnels, marine structures
- Chemical plants and industrial floors
- Coastal constructions, swimming pools
- MRI rooms, nuclear plants (non-magnetic areas)

What are the main advantages of GFRP rebar over steel?

✅ 100% corrosion resistance
✅ 4x lighter than steel
✅ High tensile strength
✅ Non-conductive and non-magnetic
✅ Long life with low maintenance

Is GFRP rebar approved in India?

Yes. It is approved under:
- IS 17375:2020 (BIS)
- IRC SP-108 (Roads & bridges)
- Used in projects by CPWD, RDSO, and other government bodies.

Can GFRP rebar be bent on-site?

No. GFRP rebar cannot be bent on-site like steel. It must be pre-bent at the factory as per design requirements.

How does GFRP perform in fire or high temperature?

GFRP has limited fire resistance compared to steel. It softens above 150–200°C. Special fire-resistant resins or coatings can be used if required.

Is GFRP suitable for structural load-bearing applications?

Yes, GFRP has high tensile strength, but lower modulus of elasticity than steel, making it more flexible. It is ideal for corrosion zones and crack control applications.

How long does GFRP rebar last?

GFRP rebars can last over 100 years in most environments due to their corrosion-free nature, reducing long-term maintenance costs significantly.

Is GFRP rebar cost-effective?

Although the initial cost is higher than steel, the long-term savings from zero corrosion, low maintenance, and longer service life make it very cost-effective.

What are the standard sizes and grades of GFRP rebar?

GFRP rebars are available in 8mm to 32mm diameters. They conform to IS 17375, ASTM D7957, ACI 440, and are supplied in straight, coil, or pre-bent forms.

Photos