

Technical Data Sheet

HOVACO FRP Composite Rebar

Product Description :

HOVACO FRP Composite Rebar is a non - corrosive reinforcement solution manufactured using continuous fiber reinforcement embedded in a high - performance polymer matrix. The product is designed to provide superior tensile strength, excellent durability , and long - term performance in aggressive environments where conventional steel reinforcement is susceptible to corrosion.

The ribbed and surface-treated profile enhances mechanical interlock with concrete, ensuring reliable bond performance. HOVACO FRP Rebar is lightweight, electrically non - conductive, and suitable for a wide range of structural and infrastructure applications.

Key Advantages :

- High tensile strength with low self - weight
- Excellent corrosion and chemical resistance
- Non-magnetic and electrically non-conductive
- High durability in alkaline concrete environment
- Reduced transportation and handling costs
- Extended service life compared to steel reinforcement

Typical Applications :

- Marine and coastal structures
- Bridges and transportation infrastructure
- Water and wastewater treatment facilities
- Industrial floors and slabs
- Foundations exposed to aggressive environments
- Structures requiring non - magnetic reinforcement
- And more

Technical Properties

Property	Value	Unit	Standard Testing
Tensile strength*	500 - 1400	MPa	ASTM D7205
Tensile modulus	50000	MPa	ASTM D7205
Inter-laminar Shear Strength	400	MPa	ASTM D4475
Shear Strength	460	MPa	ASTM D7617
Average Strain at Failure	2.1	%	ASTM D7205
Glass Fiber Content	75	%	ASTM D2584
Density	2.0	g/cm ³	ASTM D792
Coefficient of Thermal Expansion	1.8×10^{-5}	/°C	ASTM E831

* : Properties vary according to bar diameter and manufacturing parameters.

Note : Customized sizes and lengths are available upon request.

Installation Guidelines

Cutting :

FRP rebars can be easily cut on-site using commonly available construction cutting tools, special cutting equipment is not required.

Bending & Anchorage :

Due to the material characteristics of FRP rebars, on-site bending is not recommended. HOVACO offers the following solutions:

- Factory-produced pre-bent rebars manufactured according to approved shop drawings
- Use of conventional steel bends and overlapping techniques to achieve required detailing
- Application of mechanical anchorage systems or anchor heads

Note : FRP rebars shall not be welded or bent on site. Any modification shall be approved by the design engineer prior to execution.

Upon request, engineering consultation services are available to support project-specific detailing and application requirements.

Standards, Compliance & Quality Control

Applicable Standards :

HOVACO FRP Composite Rebars are manufactured and tested in accordance with recognized international standards and industry guidelines.

- ACI 440.1R - Guide for the Design and Construction of Structural Concrete Reinforced with FRP Bars.
- ASTM D7957 - Standard Specification for Solid Round Glass Fiber Reinforced Polymer Bars
- CSA S807 - Specification for Fiber - Reinforced Polymers
- ISO 10406-1 - Fiber - reinforced polymer (FRP) reinforcement of concrete

Manufacturing & Quality Control :

The production process is carried out under controlled manufacturing conditions with continuous quality monitoring. Raw materials, manufacturing parameters, and finished products are subject to internal quality control procedures to ensure consistency and compliance with specified requirements.

Testing & Verification :

Mechanical and physical properties are verified through laboratory testing, including tensile strength, elastic modulus, and bond performance. Test results are available upon request.

Traceability & Documentation :

Each production batch is traceable through internal documentation and quality records. Relevant technical documents, test reports, and certificates can be provided upon request, subject to project requirements.

NOTE : Upon request, engineering and technical support can be provided to assist designers and contractors with project-specific detailing and application.

Ordering, Packaging & Delivery

Ordering Information:

To ensure accurate processing of orders, the following information shall be specified at the time of inquiry or purchase order

- Required nominal diameters
- Required length or cutting specifications
- Quantity (number of bars or total weight)
- Project location and delivery destination
- Any special technical or documentation requirements

Custom Production:

Custom diameters, lengths, and project-specific configurations can be manufactured upon request, subject to technical feasibility.

Packaging:

HOVACO FRP rebars are securely bundled and packaged to prevent mechanical damage during transportation. Standard packaging includes protective wrapping and identification labeling for traceability.

Delivery & Lead Time:

Delivery time depends on order volume, bar dimensions, and production schedule. Estimated lead times will be confirmed upon order confirmation.

Export & Documentation:

For international shipments, required commercial and technical documentation can be provided in accordance with the destination country requirements.

This document provides general technical information. Structural design should be carried out in accordance with applicable project specifications and design standards.