

MST-BAR®

COMPOSITE REBAR PRODUCTS

FREQUENTLY ASKED QUESTIONS

What is FRP Rebar?

Fiber Reinforced Polymer Rebar is a composite reinforcing bar composed of load-bearing fibers embedded in a resin matrix.

What are the different kinds of FRP bars?

Common types of FRP bars include:

Carbon Fiber Reinforced Polymer Rebar (CFRP)

Basalt Fiber Reinforced Polymer Rebar (BFRP)

Glass Fiber Reinforced Polymer Rebar (GFRP)

Is FRP Rebar new?

No. The first generation of composite reinforcement began development after World War II.

What is High-Mod GFRP rebar?

High-Mod GFRP (designated as Grade III in Canada) refers to the highest category achievable for GFRP rebar. High-Mod bars must have a minimum tensile strength of 145 ksi and a minimum elastic modulus of 8700 ksi.

What is Elastic Modulus and why is it important?

The elastic modulus measures the resistance a material has against elastic deformation caused by stress. In application, the higher elastic modulus a GFRP bar has, the wider the bar spacing becomes. Projects using lower modulus FRP bars need approximately 20% or more rebar to reinforce the same area that MST-BAR® can reinforce. (6700 ksi compared to 8702 ksi)

Most GFRP rebar is sand-coated, is MST-BAR®?

No. Other manufacturers must add a sand-coating to their bar to achieve the minimum bonding requirement. MST-BAR® is engineered with a unique integral rib design making it a true deformed rebar. Furthermore, MST-BAR® is leading the industry with over TWICE the bond capacity of competitive FRP bars.

Why are some FRP bars used only in flatwork?

Few manufacturers are able to produce structural FRP rebar which is why some products target flatwork. MST-BAR® not only makes the best-in-class flatwork bar, but we manufacture industry leading structural rebar for every application.

What makes MST-BAR® so different from other FRP bars?

Since the first generation of composite reinforcement, significant advancements have been made in manufacturing and performance. MST-BAR® marks the third generation of GFRP rebar, providing the industry with unmatched quality and performance.

Does MST-BAR® meet any specs?

The most common specifications for GFRP rebar in North America are ASTM D7957, ACI 440.6, and CSA S807. MST-BAR® meets and exceeds all of these specs.

Is MST-BAR® stronger than grade 60 steel?

Yes. MST-BAR® has over 2X the tensile strength of grade 60 steel and maintains its superior strength for centuries.

Can MST-BAR® compete with the cost of steel?

Yes. MST-BAR® not only competes with life cycle cost, but it competes with the initial cost of steel rebar.

What other cost savings come with MST-BAR®?

Additional to initial cost savings, MST-BAR® yields up to 50% labor savings during installation and 75% transportation savings compared to traditional steel rebar.

Can FRP rebar be field-bent?

No. All FRP rebar is made with thermoset resin which means it must be cured in the proper shape at the manufacturing facility. Many manufacturers have considerable limitations on size, shape, and strength retention for fabricated bars.

What about fabricated MST-BAR®?

MST-BAR® is setting the industry standard with our unique corrugated sleeve technology which increases strength retention and decreases lead times for fabricated bar. 1000 bent bars can be fabricated in one day for immediate shipment. Fabricated MST-BAR® is in a class of its own with no limitations. Any shape is achievable for two dimensional or three dimensional bent bars.

Can MST-BAR® be field-cut?

Yes. Cutting MST-BAR® is quick and simple at your jobsite or in your warehouse. Using a diamond blade is recommended for the quickest, cleanest cuts. Dust generated by cutting MST-BAR® poses no health hazards however cutting in a well ventilated area is recommended to mitigate the smell of styrene.

What special handling requirements apply to MST-BAR®?

True for any fiberglass material, always wear gloves to avoid fiberglass splinters. Direct contact to skin can cause irritation.

What products are made by MST-BAR®?

4EQ Horizontal Bar™ - The best-in-class GFRP rebar for concrete flatwork offering unrivaled performance. True for all MST-BAR® products, 4EQ Horizontal Bar™ meets every major spec.

4EQ Structural Bar™ - The first of its kind, this unique rebar is specifically engineered for vertical use. Reinforce your poured walls in half the time with this simple yet superior rebar.

MST-BAR® High-Mod - The highest performing GFRP rebar available in every standard size. Engineered for the most demanding commercial, industrial, and infrastructure projects, MST-BAR® High-Mod is a complete replacement for plain steel, epoxy-coated, galvanized, and stainless steel rebar.