1279 Simcoe St. N. Oshawa, ON L1G 4X1
TEL: +1-800-850-6681

#3 Horizontal Bar™

#3 Horizontal Bar™ is the best in class GFRP (Glass Fiber Reinforced Polymer) rebar from MST-BAR. Engineered for concrete flatwork, #3 Horizontal Bar™ is manufactured with long-lasting Vinyl Ester Resin and corrosion-proof Glass to reinforce your concrete with a superior grade, code approved reinforcement.

Rust-Proof
Eliminates spalling and corrosion cracks.

200+ Years Service Life
Engineered to last for generations.

Quick & Simple Installation
Up to 50% labor savings compared to traditional steel rebar.

Transportation Savings
75% lighter than traditional steel rebar. Load on your truck's ladder rack, no Class-A CDL required.

High Performance in All Climates
Stronger reinforcement in freeze-thaw regions and guaranteed longevity in corrosive coastal regions.

No Waterproofing
Eliminates need for costly waterproofing agents and epoxy coating necessitated by rustprone steel rebar.

Stronger Than Steel
Over 4X stronger than Grade 40 rebar.

Nonconductive & Nonferrous
Ideal for projects with electromagnetic sensitivity.

Superior Crack Control
80% less crack initiation compared to traditional steel rebar.

Chemical Resistant
Impervious to de-icing salts and other chemicals.

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HANDLING & INSTALLATION

Working with #3 Horizontal Bar™ is quick and simple with our best practice guidelines.

Always wear gloves when handling #3 Horizontal Bar™ to protect against fiberglass splinters. Direct contact to skin can cause irritation.

Use a diamond blade when field-cutting #3 Horizontal Bar™. Do not shear the bars. If lap-splicing is necessary, use contact lap splices. Lap length should be no less than 15 inches.

Tie and chair #3 Horizontal Bar™ as you would steel rebar. Tie wire, rebar clips, and plastic zipties are acceptable methods of securing the bar.

Beware of settlement of loating when using #3 Horizontal Bar™ with high slump concrete or when vibrating.

PHYSICAL & MECHANICAL PROPERTIES	
Nominal Bar Dimensions	0.375 in (10 mm) Diameter / 20 ft (6 m) Length
Nominal Cross-Sectional Area	0.11 in² (71 mm²)
Bar Composition	Vinyl Ester Resin & ECR Glass Fiber
Bar Profile	Integral Rib Design (No Sand-Coating Required)
Guaranteed Tensile Strength	145 ksi (1000 MPa)
Elastic Modulus	6380 ksi (45 GPa)
Transverse Shear Strength	23 ksi (160 MPa)
Guaranteed Pull-Out Capacity	2900 psi (20 MPa)

ASTM D7957 | ACI 440.6 | CSA S807

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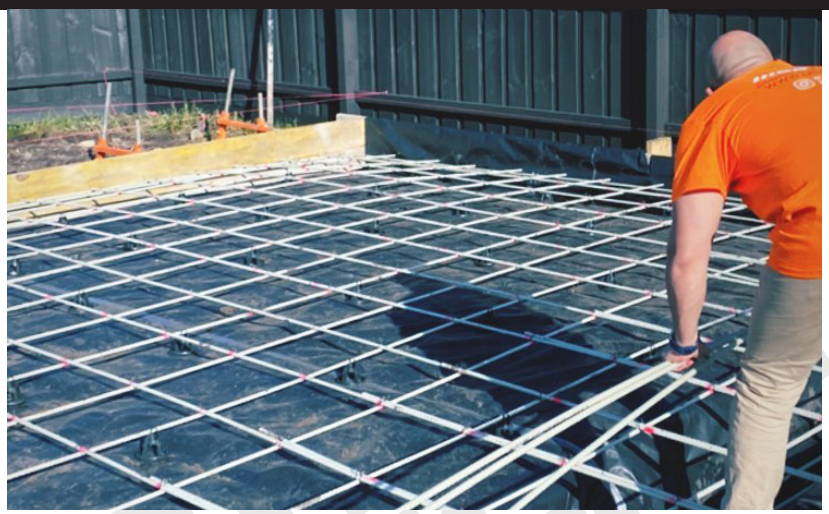
MST-BAR Slab on Grade design for shrinkage and slight load bearing application.

In this design the following assumptions have been used:

- Soil to have a good compaction
- Bars to be placed properly
- Control joint to be cut properly
- Expansion joint to be considered properly
- Spacing between bars to be accurate



Design Aid for Slab on Grade with GFRP substituting steel reinforcement or W.W.F.

ONLY USE FOR MST-BAR • ONLY ON SLAB OF GRADE APPLICATION

Slab Thickness	Function and Load	Temperature Zone	GFRP Required in Each Direction
100mm (4 Inches)	- Residential driveway - 5 Ton Pickup Truck - Live Load = 100 PSF	Subzero	Mid-strip: #3 Horizontal Bar @300 Edge-strip: #3 Horizontal Bar @400
150mm (6 Inches)	- Parking garage - 5 Ton Pickup Truck - Public walkway and platforms with light maintenance vehicle - Live Load = 100 PSF	Subzero	Mid-strip: #3 Horizontal Bar @300 Edge-strip: #3 Horizontal Bar @400
150mm (6 Inches)	- Live Load = 250 PSF - Commercial trucks	Subzero	Mid-strip: #3 Horizontal Bar @200 Edge-strip: #3 Horizontal Bar @400 —Plus 2 Bar @400 Top along all exposed joints
200mm (8 Inches)	- Live Load = 250 PSF - Commercial trucks	Subzero	MST-BAR #3 @300 —Plus 3-Bar @300 Top along all exposed joints

NOTES:
1. Sawcut control joints at 4m to 5m spacing maximum, depth of sawcut shall be 25% of slab thickness.
2. If you wish to use MST-BAR 10M(3/8") bars you can increase the spacing accordingly based on tensile capacity of the MST-BAR, capacity between the two is 26%, therefore spacing can be increased by 26%.
3. Expansion joints shall be at maximum spacing of 15 meters(50ft.).
4. Mid-strip is 50% of width of panel between joints.
5. Edge-strip is 25% of width of panel along all joints.
6. All #3 Horizontal Bar rebars are placed at mid-depth of slab unless otherwise noted
7. Cover to additional top rebars shall be 30 to 40mm minimum

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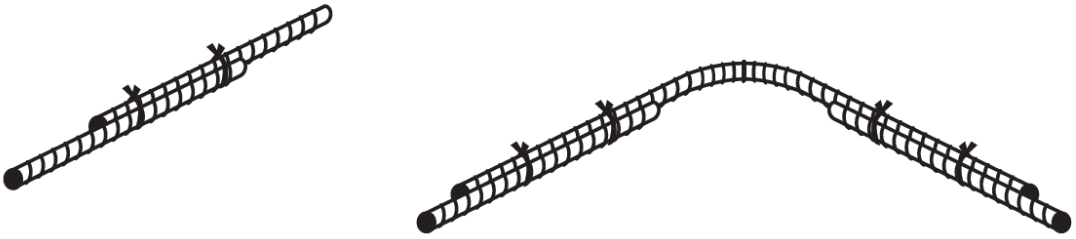
Splices and Corners



Overlap 40 bar diameters.