

MST BAR

THE #1 GFRP SOLUTION FOR
CONCRETE REINFORCEMENT



100%
CORROSION
RESISTANCE

#3 (10mm) Horizontal Bar™ Slab On Ground

MADE IN CANADA

#3 (10mm) Horizontal Bar is the best in class GFRP (Glass Fiber Reinforced Polymer) rebar from MST-BAR. Engineered for concrete slab on ground, #3 (10mm) Horizontal Bar is manufactured with long-lasting resin and corrosion-resistant glass to reinforce your concrete with a superior grade.



Quick & Simple Installation

Up to 50% labour savings compared to traditional steel rebar. Easy to transport and to move on site.

200+ Years Service Life

Engineered to last for generations.

Reduced Environmental Impact

MST-BAR is manufactured in Canada using only electric power and achieves a zero emissions standard that is natural to its mode of production.

Corrosion Resistant

Impervious to corrosive affects due to coastal salt-water spray and full salt-water submersion.

Nonconductive & Nonferrous

Ideal for projects with electromagnetic sensitivity.

Physical & Mechanical Properties

Nominal Bar Dimensions	#3 (10mm) Diameter / 20ft (6m) Length
Nominal Cross-Sectional Area	2.79in ² (71mm ²)
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)

MST-BAR Slab On Ground design for shrinkage.

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 Ground with GFRP

Slab Thickness	Temperature Zone	GFRP Required in each Direction	NOTES:
4 inches (100mm)	Subzero to +100° C	Mid-strip: #3 (10mm) Horizontal Bar @300mm Edge-strip: #3 (10mm) Horizontal Bar @400mm	<ul style="list-style-type: none"> • Sawcut control joints at 13ft (4m) to 16ft (5m) spacing maximum, depth of sawcut shall be 25% of slab thickness. • If you wish to use MST-BAR #3 (10mm) 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%. • Expansion joints shall be at maximum spacing of 50ft (15m). • Mid-strip is 50% of width of panel between joints • Edge-strip is 25% of width of panel along all joints • All #3 (10mm) Horizontal Bar rebars are placed at mid-depth of slab unless otherwise noted • Cover to additional top rebars shall be 30mm to 40mm minimum
6 inches (150mm)	Subzero to +100° C	Mid-strip: #3 (10mm) Horizontal Bar @300mm Edge-strip: #3 (10mm) Horizontal Bar @400mm	
6 inches (150mm) (12 kPa loads)	Subzero to +100° C	Mid-strip: #3 (10mm) Horizontal Bar @200mm Edge-strip: #3 (10mm) Horizontal Bar @400mm -Plus 2-Bar @400 Top all along exposed joints	
8 inches (200mm)	Subzero to +100° C	Mid-strip: #3 (10mm) Horizontal Bar @ 300mm -Plus 3-Bar @300 Top all along exposed joints	

Applications*

- RESIDENTIAL DRIVEWAYS
- FOOTPATHS & WALKWAYS
- CONCRETE SLABS
- PAVING • DIY

*Not for vertical installation.

Handling & Installation



Always wear gloves when handling #3 (10mm) Horizontal Bar™. Direct contact to skin can cause irritation.



Use a diamond blade when site-cutting #3 (10mm) Horizontal Bar™. Do not shear the bars. If lap-slicing is necessary, use contact lap slices. Lap length should be no less than 38cm.



Tie and chair #3 (10mm) 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 floating when using #3 (10mm) Horizontal Bar™ with high slump concrete or when vibrating.

Manufactured by MST Rebar Inc.
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