



FIBERGLAS™ REBAR STRAIGHT BAR

Owens Corning® Fiberglas™ Rebar Straight Bar is designed as a structural, corrosion resistant, lightweight, electromagnetically neutral internal reinforcement solution for concrete.

- Makes concrete structures durable in aggressive environments.
- Provides longer service life compared with structures reinforced with steel.
- Complies with ASTM D7957 and CSA S807 Grade III material standards for Solid Round Glass Fiber Reinforced Polymer (GFRP) Bars for Concrete Reinforcement.

Product Benefits

Extended Service Life of Structures

- Fiberglas™ Rebar is a proven corrosion resistant reinforcement designed to provide structures with longer service life compared with structures reinforced with steel.

Increased Productivity

- Four times lighter than steel, Owens Corning® Fiberglas™ Rebar can be installed faster with less labor.*

Exceptional Strength

- Ultimate tensile strength of Fiberglas™ Rebar is twice the yield strength of steel.*

* Based on sample testing of #5 rebar, GFRP exhibits linear-elastic behavior up to ultimate tensile strength.

Applications

Owens Corning® Fiberglas™ Rebar is designed to reinforce concrete in:



Transportation Structures

- Bridge decks
- Traffic barriers
- Civil roadways
- Soft-eye for tunnels



Marine

- Seawalls
- Piles



Buildings

- Balconies
- Wall panels
- Foundations



High Voltage & Electromagnetic Fields

- Light & heavy rail
- MRI rooms

Availability

Owens Corning® Fiberglas™ Rebar straight bars are available in North America and Europe in the following diameters: #3 (M10), #4 (M13), #5 (M16), #6 (M19), and #8 (M25). Stock lengths of 20' and 40' are available. Bars can be cut to length for orders with detailed bar lists.

Straight Bars
Technical
Characteristics
 (ASTM D7957, CSA
 S807 Grade III)

BAR SIZE	NOMINAL DIAMETER*		NOMINAL CROSS SECTIONAL AREA*		UNIT WEIGHT/ LENGTH		GUARANTEED ULTIMATE TENSILE FORCE*		GUARANTEED ULTIMATE TENSILE STRENGTH*		MEAN ULTIMATE TENSILE STRAIN*	MEAN TENSILE MODULUS OF ELASTICITY*	
	in	mm	in ²	mm ²	lbs/ft	g/m	kip	kN	ksi	MPa	%	msi	GPa
3	0.375	10	0.11	71	0.12	185	16	71	145	1000	1.7	8.7	60.3
4	0.500	13	0.20	129	0.21	315	29	129	145	1000	1.7	8.7	60.3
5	0.625	16	0.31	199	0.32	476	45	200	145	1000	1.7	8.7	60.3
6	0.750	19	0.44	284	0.47	702	57	255	131	900	1.5	8.7	60.3
8	1	25	0.79	510	0.84	1252	102	453	129	889	1.5	8.7	60.3

FIBER MASS CONTENT*	MOISTURE ABSORPTION IN 24 h at 50°C [122°F]*	MOISTURE ABSORPTION TO SATURATION AT 50°C [122°F]**	MEAN GLASS TRANSITION TEMPERATURE (DSC)*		MEAN APPARENT HORIZONTAL SHEAR*		MEAN TRANSVERSE SHEAR STRENGTH*	
%	%	%	°F	°C	psi	MPa	ksi	MPa
≥80	≤0.1	<0.5	≥230	≥110	≥6525	≥45	≥26.1	≥180

Primary materials: E-CR glass and vinyl ester resin.
 Bond strength exceeds ASTM D7957 requirement.

* Provided in production lot QC certifications
 ** Product characterization tests; not included in production lot QC certifications

Field forming of Large Radius Curves: It is possible to field form the bar into large radius curves. This induces a bending stress in the bar, which must be lower/smaller than the creep rupture limit/allowable stresses.

Packaging, Shipping, and Labeling

Straight bars will be shipped to the project site in bundles. Bundle sizes vary by bar length and diameter. Bundle weights usually range from 1,500 lbs to 3,000 lbs. Lead time is subject to plant production schedules at the time of order processing. Customer-specific packaging requirements may be available upon request. Material traceability markings per ASTM D7957 or CSA S807 will be present on straight bars.

Storage and Handling

Product should be covered or stored away from direct sunlight. Follow guidelines in ACI440.5-08, "Specification for Construction with FRP Bars." In general, field handling and placement is the same as epoxy coated or galvanized steel bars. However, do not shear fiberglass bars. Field cut fiberglass bars using a fine blade saw, grinder, and carborundum or diamond blade. Sealing the ends of fiberglass bars is not necessary. Place support chairs at two-thirds the spacing of support chairs for steel rebar. Plastic-coated tie wires are the preferred option for most projects. Use plastic or nylon zip ties when required for electromagnetically neutral reinforcing. In precast applications, secure fiberglass bars to the formwork to avoid float during compaction.

Safety

When using and handling Owens Corning® Fiberglas™ Rebar, proper personal protective equipment (PPE) is required. Owens Corning® Fiberglas™ Rebar Straight Bar has a machined helical surface that may be abrasive to skin without proper PPE. Proper PPE includes canvas gloves and shirts with sleeves, long work pants, and sturdy work shoes or boots.



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