



**INFRASTRUCTURE  
SOLUTIONS**

# OCIS 60GPA FIBERGLAS™ REBAR STRAIGHT BAR

Owens Corning Infrastructure Solutions (OCIS) 60GPa 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 material standards for Solid Round Fiberglass Rebar Bars for Concrete Reinforcement.

## Product Benefits

### Extended Service Life of Structures

- OCIS 60GPa 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, OCIS 60GPa Fiberglas™ Rebar can be installed faster with less labor.\*

### Exceptional Strength

- Ultimate tensile strength of OCIS 60GPa Fiberglas™ Rebar is twice the yield strength of steel.\*

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

## Applications

OCIS 60GPa Fiberglas™ Rebar is designed to reinforce concrete in:



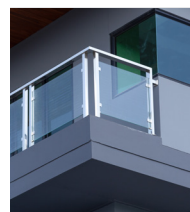
### Transportation Structures

- 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

OCIS 60GPa Fiberglas™ Rebar Straight Bars are available in North America in the following diameters: #2 (M6), #3 (M10), #4 (M13), #5 (M16), #6 (M19), #7 (M22), #8 (M25), and #10 (M32). Stock lengths of 20' and 40' are available. Bars of greater length — up to 80' — and other diameters are available on request. Bars can be cut to length for orders with detailed bar lists.



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## Straight Bars Technical Characteristics (ASTM D7957, CSA S807)

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*	
BAR SIZE	in	mm	in <sup>2</sup>	mm <sup>2</sup>	lb/ft	g/m	kip	kN	ksi	MPa	%	msi	GPa
5	0.625	16	0.31	199	0.32	476	41.8	186	135	930	1.5	8.7	60.3
6	0.750	19	0.44	284	0.46	680	57.3	255	130	898	1.5	8.7	60.3
8	1	25	0.79	510	0.81	1200	101.9	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. Bond-dependent Coefficient  $K_b$  ( $1/C_b$ ) = 0.95.

\* 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.

We reserve the right to make improvements in the product and/or process, which may result in benefits or changes to some physical-mechanical characteristics.

## 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 Fiber-Reinforced Polymer Reinforcing 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 OCIS 60GPa Fiberglas™ Rebar, proper personal protective equipment (PPE) is required. OCIS 60GPa 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.



## INFRASTRUCTURE SOLUTIONS

### Owens Corning Infrastructure Solutions, LLC

One Owens Corning Parkway  
Toledo, OH 43659 USA  
Ph: 1-855-OC-Rebar

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<https://www.owenscorning.com/rebar>

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Pub number: 10024335-C. OCIS 60GPa Fiberglas™ Rebar Straight Bar Product Data Sheet. August 2023. English.

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