INFRASTRUCTURE SOLUTIONS

OCIS FIBERGLAS™ REBAR BENT BAR

Owens Corning Infrastructure Solutions (OCIS) Fiberglas™ Rebar Bent 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 (also known as FRP, GFRP, or composite rebar) for Concrete Reinforcement.

Product Benefits

Extended Service Life of Structures

- OCIS 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 Fiberglas™ Rebar can be installed faster with less labor.*

Exceptional Strength

- Ultimate tensile strength of OCIS 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

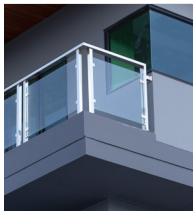
OCIS Fiberglas™ Rebar is designed to reinforce concrete in:

Transportation Structures

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

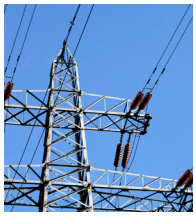
Marine

- Seawalls
- Piles



Buildings

- Balconies
- Wall panels
- Foundations



High Voltage & Electromagnetic Fields

- Light & heavy rail
- MRI rooms

Availability

OCIS Fiberglas™ Rebar Bent Bars are available in North America in the following diameters: #2 (M6), #3 (M10), #4 (M13), #5 (M16), #6 (M19), #7 (M22), and #8 (M25). Bent shapes can be fabricated for orders with detailed bar lists — see our OCIS Fiberglas™ Rebar Bent Bar Detailing Guide.

Straight Portion of Bent 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^2	mm^2	lbs/ft	g/m	kip	kN	ksi	MPa	%	msi	GPa
4	0.500	13	0.20	129	0.19	281	23.2	103	116	800	1.5	7.25	50.0
5	0.625	16	0.31	199	0.29	427	36.0	160	116	800	1.5	7.25	50.0
6	0.750	19	0.44	284	0.41	607	44.7	199	102	700	1.4	7.25	50.0
7	0.875	22	0.60	387	0.54	810	60.9	271	102	700	1.4	7.25	50.0
8	1	25	0.79	510	0.73	1046	80.2	357	102	700	1.4	7.25	50.0

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
≥70	≤0.25	<1.0	≥212	≥100	≥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 ($1/C_b$) = 1.2.

* Provided in production lot QC certifications.
** Product characterization tests; not included in production lot QC certifications.
Minimum tensile strength for the bent portion of bent bars ≥60% of the values in the table above.
We reserve the right to make improvements in the product and/or process that may result in benefits or changes to some physical-mechanical characteristics.

Packaging, Shipping, and Labeling

Bent bars will be palletized and shipped to the site. 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 tags per ASTM D7957 or CSA S807 will be attached to bent bar bundles.

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 Fiberglas™ Rebar, proper personal protective equipment (PPE) is required. Proper PPE includes canvas gloves and shirts with sleeves, long work pants, and sturdy work shoes or boots.

HOW WE BUILD NOW™

OWENS CORNING INFRASTRUCTURE SOLUTIONS

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