



Fiberglass Rebar **50 GPa**
Straight Bars



100+ Years Concrete Reinforcement
Ultimate Corrosion Solution

APPLICATIONS

- Bridge Decks and Barrier Walls
- Roads, Parking Garages and Concrete Slabs
- Power Generation and MRI
- Tunneling and Temporary Reinforcement
- Dams, Sea Walls and Marine Applications

TUF-BAR® uses the highest quality corrosion resistant vinyl ester resin and E-CR fiberglass materials.

- ▶ **Contributes 7 LEED Credits**
- ▶ **Bends in all sizes**
- ▶ **Custom lengths**

100+ Years Sustainability

- ▶ **300% Total Project Savings**
- ▶ **Zero Maintenance**
- ▶ **1/4 The Weight of Steel**
- ▶ **2X Tensile Strength of Steel**
- ▶ **Non-Magnetic**
- ▶ **Non-Conductive**
- ▶ **Thermal Insulation**

ASTM CSA ACI AASHTO

TUF-BAR® 50 GPa Straight Bars

Oct 2021

Product Data Sheet: TUF-BAR® 50 GPa Straight Bar

	Units	#3-50	#4-50	#5-50	#6-50	#7-50	#8-50
Nominal Diameter (CSA S807)	mm	10	13	15	20	22	25
	inch	3/8	1/2	5/8	3/4	7/8	1
Fiber Type		E-CR glass					
Resin Type		Vinyl ester					
Minimum Guaranteed Ultimate Tensile Strength (ASTM D7205 / CSA S806)	MPa	1000	925	925	900	900	850
	ksi	145	134	134	130	130	123
Minimum Modulus of Elasticity (ASTM D7205 / CSA S806)	GPa	50.0					
	ksi	7252					
Ultimate Elongation	%	2.0	1.9	1.9	1.8	1.8	1.7
Average Bond Strength (ASTM D7913)	MPa	17.4	12.7	15.1	14.4	13.6	13.5
	ksi	2.5	1.8	2.2	2.1	2.0	2.0
Transverse Shear Strength (ASTM D7617)	MPa	219.3	209.7	202.7	190.3	199.2	183.5
	ksi	31.8	30.4	29.4	27.6	28.9	26.6
Longitudinal Thermal Expansion Coefficient (ASTM E831)	10-6/°C	7.9	8.6	6.7	7.3	8.9	8.7
	10-6/°F	4.4	4.8	3.7	4.0	5.0	4.8
Transverse Thermal Expansion Coefficient (ASTM E831)	10-6/°C	21.7	24.2	25.4	23.6	24.5	25.2
	10-6/°F	12.1	13.4	14.1	13.1	13.6	14.0
Water Absorption (ASTM D570)	%	0.5	0.5	0.5	0.4	0.4	0.3
Linear Weight	g/m	162	279	467	660	883	1193
	lb/ft	0.11	0.19	0.31	0.44	0.59	0.80
Effective Cross Sectional Area (Including Coating) (CSA S807 Annex A)	mm ²	78	133	211	313	430	572
	inch ²	0.121	0.206	0.327	0.485	0.667	0.887
Nominal Cross Sectional Area (CSA S807)	mm ²	71	129	199	284	387	510
	inch ²	0.110	0.200	0.308	0.440	0.600	0.791

TUF-BAR® 50 Straight Bars Comply with:

- CSA S807, Grade II
- ASTM D7957