

# TUF-BAR

## Fiberglass Rebar 60 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
- ▶ ¼ The Weight of Steel
- ▶ 3X Tensile Strength of Steel
- ▶ Non-Magnetic
- ▶ Non-Conductive
- ▶ Thermal Insulation

ISO 9001 • ISO 14001 • OHSAS 18001

# TUF-BAR 60 GPa Straight Bars

## Product Data Sheet: TUF-BAR 60 Straight Bars

Dec 2018

	Units	#3-60	#4-60	#5-60	#6-60	#7-60	#8-60
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	1200	1175	1150	1150	1100	1000
	ksi	174	170	167	167	160	145
Minimum Modulus of Elasticity (ASTM D7205 / CSA S806)	GPa	63.7	61.1	62.6	62.7	61.2	61.7
	ksi	9242	8868	9078	9091	8878	8944
Ultimate Elongation	%	2.2	2.1	2.1	2.0	1.9	1.9
Average Bond Strength (CASTM D7913)	MPa	13.7	12.7	14.6	14.1	13.6	13.5
	ksi	2.0	1.8	2.1	2.1	2.0	2.0
Transverse Shear Strength (ASTM D7617)	MPa	264.3	235.1	249.9	234.9	230.1	226.7
	ksi	38.3	34.1	36.2	34.1	33.4	32.9
Longitudinal Thermal Expansion Coefficient (ASTM E831)	10-6/°C	5.9	6.0	7.0	7.8	6.4	7.5
	10-6/°F	3.3	3.3	3.9	4.4	3.6	4.1
Transverse Thermal Expansion Coefficient (ASTM E831)	10-6/°C	21.2	20.1	22.8	23.3	25.9	25.6
	10-6/°F	11.8	11.2	12.7	12.9	14.4	14.2
Water Absorption (ASTM D570)	%	0.5	0.5	0.5	0.4	0.4	0.3
Linear Weight	g/m	195	339	526	742	990	1309
	lb/ft	0.13	0.23	0.35	0.50	0.67	0.88
Effective Cross-Sectional Area (Including Coating) (CSA S807 Annex A)	mm <sup>2</sup>	91	152	235	335	435	574
	inch <sup>2</sup>	0.141	0.236	0.364	0.519	0.674	0.890
Nominal Cross-Sectional Area (CSA S807)	mm <sup>2</sup>	71	129	199	284	387	510
	inch <sup>2</sup>	0.110	0.200	0.308	0.440	0.600	0.791

### TUF-BAR 60 Straight Bars Comply with:

- CSA S807, Grade III
- MTO, Grade III
- ASTM D7957



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