



FIBERGLAS™ DOWEL BARS

FOR LOAD TRANSFER BETWEEN
CONCRETE SLABS

GLASS FIBER REINFORCED POLYMER (GFRP) DOWEL BARS

Physical and Mechanical Properties

DOWEL BAR DIAMETER		NOMINAL CROSS SECTIONAL AREA		UNIT WEIGHT/ LENGTH		LONGITUDINAL SHEAR STRENGTH PER ASTM D4475 SHORT BEAM SHEAR		TRANSVERSE SHEAR STRENGTH PER ASTM D7617 DOUBLE SHEAR		TRANSVERSE SHEAR LOAD	
mm	in	in ²	mm ²	lbs/ft	g/m	psi	MPa	psi	MPa	lbs	kN
16	5/8	0.307	198	0.3	447	7252	50	23206	160	7122	32
19	3/4	0.442	285	0.38	566	7252	50	23206	160	10251	46
25	1	0.785	507	0.65	967	7252	50	23206	160	18237	81
32	1 1/4	1.227	792	1.05	1563	7252	50	23206	160	28488	127
38	1 1/2	1.767	1140	1.65	2456	7252	50	23206	160	41005	182

Values in the above table are Mean Ultimate Values. Transverse shear test is per ASTM D7617. 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.

MATERIAL PROPERTIES

per ASTM D7205-06

The "Shear Strength", typically the "Transverse" or "Double Shear" strength of the Fiberglas™ Dowel Bars product is determined using the ASTM D7617 method. "Longitudinal Shear" or "Short Beam Shear" subjects the bar to a three point loading fixture and measures the shear strength along the axis of the bar. This testing is performed per ASTM D4475.

GLASS FIBER CONTENT

70% by weight per ASTM D2584

MOISTURE ABSORPTION

24 hour absorption at 122°F (50°C) ≤ 0.25%, per ASTM D570

SEALING OF ENDS

Not necessary

GREASING OF FRP DOWELS

Not necessary

GLASS TRANSITION TEMPERATURE

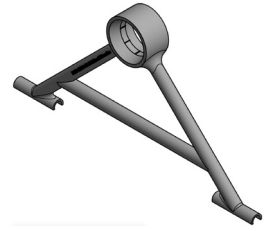
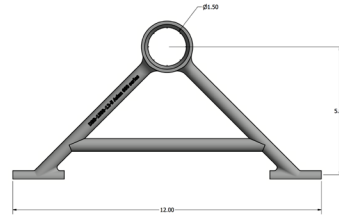
230°F (110°C) per DSC method

APPLICATIONS

- High speed tollways
- Jointed concrete paving
- Canals and water ways
- Connections to Mechanically Stabilized Earth Structures
- Industrial flooring needing electromagnetic transparency

Fiberglas™ Dowel Bars

PART NUMBER	CONCRETE THICKNESS		DOWEL BAR HEIGHT		DOWEL BAR SPACING*	
	mm	in	mm	in	cm	in
DBB1500-12-5	254	10	127	5	305	12
DBB1500-10-6	305	12	152	6	254	10
DBB1250-12-6	305	12	152	6	305	12



*Dowel bar spacing is easily adjusted by nesting support chairs on a second #3 rebar runner or spacing dowel bars further apart.

Handling and Placement

Field cutting of Fiberglas™ Dowel Bars is generally not necessary. However, if required use a fine blade saw, grinder, carborundum or diamond blade. We use a diamond blade in wet bath for cutting the dowels. Sealing of Fiberglas™ Dowel Bars ends is NOT necessary. Greasing of Fiberglas™ Dowel Bars is NOT necessary (the bond strength to concrete is sufficiently low.)

When installing Dowel Bars in the DBB1500-10-6 basket:

- Press fit the dowel bar into the opening.
- Tap the dowel bar into the basket from the end to secure the dowel into place.
- Attach the dowel bars and baskets to the runners at required spacing.



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