

Aslan 600 Glass Fiber Reinforced Polymer (GFRP) Dowels

Product Data Sheet

Aslan 600 Physical & Mechanical Properties

Dowel Diameter		Nominal Area		Longitudinal Shear Strength per ASTM D4475 Short Beam Shear		Transverse Shear Strength per ASTM D7617 Double Shear		Transverse Shear Strength	
mm	in	mm ²	in ²	MPa	psi	MPa	psi	kN	lbs
16	5/8	197.9	0.307	42.06	6100	151.7	22,000	30.04	6754
19	3/4	285.0	0.442	46.88	6800	151.7	22,000	43.25	9724
25	1	506.7	0.785	58.61	8500	151.7	22,000	76.82	17,270
32	1-1/4	791.7	1.227	58.61	8500	151.7	22,000	120.1	26,994
38	1-1/2	1160	1.800	59.98	8700	151.7	22,000	176.1	39,600

Hughes Brothers reserves the right to make improvements in the product and/or process which may result in benefits or changes to some physical-mechanical characteristics. The data contained herein is considered representative of current production and is believed to be reliable and to represent the best available characterization of the product as of July 2011. Transverse shear test is per ASTM D7617 which has superseded the ACI 440.3R method B.4.

Material Properties

The "Shear Strength", typically the "Transverse" or "Double Shear" strength of the Aslan 600 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% minimum by weight per ASTM D2584

Void Content No Continuous Voids after 15 minutes of capillary action, per ASTM D5117

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

Sealing of Ends NOT Necessary

Greasing of GFRP Dowels NOT Necessary

Transition Temperature of Resin - T_g > 230°F (110°C) per DSC method

Density

Diameter		Unit Weight / length	
mm	in	kg / m	lbs / ft
16	5/8	0.4465	0.30
19	3/4	0.5655	0.38
25	1	0.9674	0.65
32	1-1/4	2.4556	1.65
38	1-1/2	2.4556	1.65

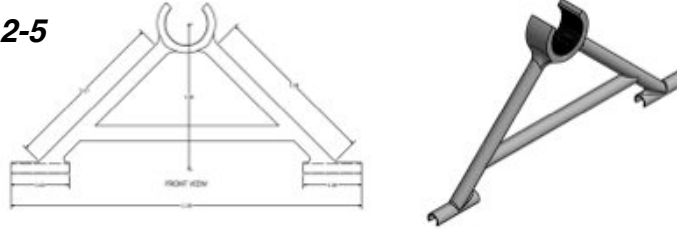
Aslan 600
GFRP Dowels



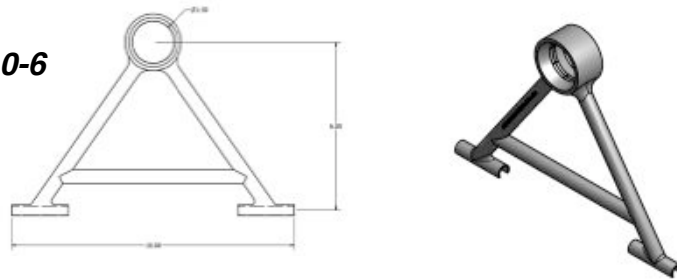
Aslan 600 Dowel Baskets

HB Part Number	Concrete Thickness		Dowel Height		Dowel Spacing	
	cm	in	cm	in	cm	in
DBB1500-12-5	25.40	10	12.70	5	30.48	12
DBB1500-10-6	30.48	12	15.24	6	25.40	10

DBB1500-12-5



DBB1500-10-6



Aslan 600
GFRP Dowels

Handling and Placement

Field cutting of Aslan 600 Dowels is generally not necessary. However, if required use a fine blade saw, grinder, carborundum or diamond blade. Hughes Brothers uses a diamond blade in wet bath for cutting the dowels.

Sealing of Aslan 600 Dowel ends is NOT necessary

Greasing of Aslan 600 Dowels is NOT necessary (the bond strength to concrete is sufficiently low.)

When installing Dowels in the DBB1500-10-6 basket:

- Press fit the Dowel into the opening.
- Tap the dowel into the basket from the end to secure the dowel into place.
- Attach the Dowels and baskets to the runners as required.



When installing Dowels in the DBB1500-12-5 basket:

- Press fit the base of the basket onto the #3 (10mm) Aslan 100 GFRP Rebar runner
- Set the Dowel into position and stomp or rap on the dowel with a rubber mallet. The dowel will snap fit into place.

