

## TF100 PPS SEMI-PREG

TF100 is a polyphenylene sulfide (PPS) fabric semi-preg that processes in the 600-650°F (315-345°C) temperature range. The materials are used in a variety of high performance, structural composite applications. PPS is a high temperature semi-crystalline polymer with a good combination of toughness, chemical and solvent resistance, low moisture absorption and superior FST properties.

### FEATURES AND BENEFITS

- Superior mechanical properties up to 200°F(95°C) service temperatures
- No refrigeration; fast cycle times
- Excellent wear resistance and moisture/chemical resistance
- Provides excellent toughness/impact properties, and fire/smoke performance
- Fabric drapeable for contoured parts

### PRODUCT FORMS

TF100 is available as one-sided or two-sided powder coated fabric (up to 86" width) in a variety of reinforcements, including carbon and glass. TF100 can also be made available in pre-consolidated sheet form.

### PHYSICAL PROPERTIES

Fiber Reinforcement Type	QISO L-52 Carbon
Fiber Areal Weight (gsm)	272
Resin Content (% by wt.)	43
Cured per ply thickness	0.01" (0.27 mm)
Density (g/cm <sup>3</sup> )	1.57

### LAMINATE PROPERTIES

	Units	QISO L-52 Carbon
Cure Type for Evaluation		Press
Tensile Strength (0°)	Ksi (MPa)	111 (766)
Tensile Modulus (0°)	Msi (GPa)	7.0 (48)
Tensile Strength (90°)	Ksi (MPa)	115 (795)
Tensile Modulus (90°)	Msi (GPa)	6.5 (45)
Compression Strength (0°)	Ksi (MPa)	65 (450)
Compression Strength (90°)	Msi (GPa)	63 (435)
Compression Modulus (0°)	Ksi (MPa)	6.2 (43)
Compression Modulus (90°)	Ksi (MPa)	5.6 (39)
Flexural Strength (0°)	Ksi (MPa)	110 (761)
Flexural Modulus (0°)	Ksi (MPa)	5.6 (39)
Flexural Strength (90°)	Ksi (MPa)	111 (768)
Flexural Modulus (90°)	Msi (GPa)	5.8 (40)
In Plane Shear Strength	Ksi (MPa)	43 (295)
In Plane Shear Modulus	Ksi (MPa)	2.5 (17)

Note: Room temperature dry condition. Values are average and do not constitute a specification.



## PROCESS INFORMATION

The following are general recommendations for successful processing. Other consolidation cycles are possible. Temperatures listed are for in-part thermocouple readings. Adjustments may be required to achieve optimum results in your specific manufacturing environment.

### PRESS CYCLE

- Heat part to 600-650°F (315-343°C)
- Increase pressure to 250 psi (17 bar)
- Hold for 30 min.
- Cool to room temp. at 10°F (5°C)/min.
- Do not remove pressure until temp. < 190°F (87°C)

### AUTOCLAVE CYCLE

- Apply vacuum pressure
- Heat part to 600-650°F (315-343°C)
- Increase pressure to 150 - 250 psi (10 - 17 bar)
- Hold for 30 min.
- Cool to room temp. at 10°F (5°C)/min.
- Do not remove pressure until temp. < 190°F (87°C)

Quality Certifications - Barrday Composite Solutions is AS9100 and ISO9001 certified.

Note: The data presented herein has been developed under controlled manufacturing conditions. No warranty is expressed or implied regarding the accuracy or use of this data or the use of this product. It is the responsibility of the end user to determine suitability for use.

