

TU400 PEI TAPE

TU400 is a polyetherimide (PEI) fiber-reinforced uni-directional tape that processes in the 660-710°F (350-375°C) temperature range. The prepreg is used in a variety of high performance, structural composite applications. PEI is an amorphous polymer that provides high temperature resistance, toughness and superior FST properties.

FEATURES AND BENEFITS

- Provides excellent toughness/impact properties; and fire/smoke performance
- Indefinite shelf life; no special storage condition
- Low void content

PRODUCT FORMS

TU400 is available as a uni-directional tape in a wide variety of reinforcements including carbon and S-glass fiber. Resin content, aerial weight and other specifications can be tailored as per customer requirements.

- Uni-directional tape up to 12" (305 mm) wide; slit widths available for automated tape lay-up applications

PHYSICAL PROPERTIES

Fiber Reinforcement Type	AS4D 12k
Fiber Areal Weight (gsm)	145
Resin Content (% by wt.)	34
Per ply thickness	0.0055" (0.14 mm)
Tg (DSC)	392°F (200°C)
Density (g/cm ³)	1.57

Note: Typical physical properties shown. Properties can be modified to different specifications.

MECHANICAL PROPERTIES

	Units	AS4D 12k
Cure Type for Evaluation		Press
Tensile Strength (0°)	ksi (MPa)	362 (2,496)
Tensile Modulus (0°)	Msi (GPa)	21.6 (149)
Compression Strength (0°)	ksi (MPa)	180 (1,238)
Compression Modulus (0°)	Msi (GPa)	19.7 (136)
Flexural Strength (0°)	ksi (MPa)	286 (1,969)
Flexural Modulus (0°)	Msi (GPa)	20.4 (141)
Flexural Strength (90°)	ksi (MPa)	13.3 (91)
Flexural Modulus (90°)	Msi (GPa)	1.3 (9.1)

Note: Room temperature dry condition unless otherwise noted. Tensile, compression and flexural values normalized to a fiber volume fraction of 60%. 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 660-710°F (350-375°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. < 200°F (93°C)

Autoclave Cycle

- Apply vacuum pressure
- Heat part to 660-710°F (350-375°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. < 200°F (93°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.



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