



TU202 LMPAEK™

TU202 is a low-melt polyetheretherketone (LMPAEK™) fiber-reinforced uni-directional tape that processes in the 644-700°F (340-370°C) temperature range. The prepreg is used in a variety of high performance, structural composite applications. LMPAEK™ is a high temperature semi-crystalline polymer, which offers the same benefits at PEEK with a wider and lower temperature processing window. LMPAEK™ offers a good combination of toughness, chemical and solvent resistance, low moisture absorption and superior FST properties.

FEATURES AND BENEFITS

- Superior mechanical properties at a wider and lower range of service temperatures than PEEK
- Indefinite shelf life; no special storage conditions
- Fast cycle times
- Excellent wear resistance and moisture/chemical resistance
- Provides excellent toughness/impact properties, and fire/smoke performance
- Low void content

PRODUCT FORMS

TU202 is available as a uni-directional tape in a wide variety of reinforcements including carbon and S-glass fiber. Resin content, areal 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 or fiber placement applications
- Powder coated fabric forms (TF202) are also available

PHYSICAL PROPERTIES

Fiber Reinforcement Type	AS4 12k
Fiber Areal Weight (gsm)	145
Resin Content (% by wt.)	34
Per ply thickness	0.0055" (0.14 mm)
Tg (DSC)	303°F (151°C)
Density (g/cm ³)	1.57

MECHANICAL PROPERTIES

	Units	AS4 12k
Consolidation Type for Evaluation		Press
Tensile Strength (0°)	ksi (MPa)	332 (2,291)
Tensile Modulus (0°)	Msi (GPa)	19.4 (134)
Compression Strength (0°)	ksi (MPa)	190 (1,310)
Compression Strength (90°)	ksi (MPa)	27.8 (192)
Flexural Strength (0°)	ksi (MPa)	214 (1,476)
Flexural Modulus (0°)	Msi (GPa)	15.8 (109)
Flexural Strength (90°)	ksi (MPa)	25.8 (178)
Flexural Modulus (90°)	Msi (GPa)	1.3 (9.2)
Short Beam Shear Strength (0°)	ksi (MPa)	14.4 (100)

Note: Room temperature dry condition unless otherwise noted. Tensile, compression, short beam shear 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 644-700°F (340-370°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. < 265°F (130°C)

Autoclave Cycle

- Apply vacuum pressure
- Heat part to 644-700°F (340-370°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. < 265°F (130°C)

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.