TECHNICAL DATA SHEET

SK2TM400-1

Thermoplactic tape made of uni-directional carbon fiber and PEEK-matrix

► DESCRIPTION

SK2TM400-1 – is a high-end thermoplastic composite material, utilizing the semi-crystalline thermoplastic polymer PEEK for excellent mechanical performance.

The long-standing use of PEEK in demanding applications such as aerospace and cutting edge medical applications proves its benefits and versatility. As a composite material it offers outstanding mechanical performance, also at elevated temperatures. The semi-crystalline nature of the resin ensures an excellent resistance to chemicals and solvents, and an equally superior performance in flammability properties.

The product type: PEEK (PolyEtherEtherKetone) Thermoplastic Resin System

► PROPERTIES

- Excellent toughness and impact resistance
- Excellent mechanical performance, also at elevated temperatures
- Low moisture uptake for good hot/wet strength retention
- Fully impregnated low void content unidirectional tapes for robust processing
- Inherently flame retardant
- Outstanding chemical and solvent resistance
- Indefinite shelf life at ambient temperature storage

► TYPICAL NEAT RESIN PROPERTIES

Density (specific gravity):	1.30 g/cm^3
T_g (glass transition):	143 °C
T_m (melt):	343 °C
T_c (crystallinity):	290 °C
T_p (processing):	370-400 °C

► APPLICATIONS

- Primary and secondary aircraft structure
- Structural aircraft interiors applications
- Access panels, rib stiffeners, brackets, conduit, flooring
- Medical
- Oil and gas

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PHYSICAL PROPERTIES	
Fiber areal weight (FAW)	145 g/m^2
Weight per ply (PAW)	221 g/m^2
Resin content by weight (RC)	34%
Consolidated ply thickness (CPT)	0.14 mm
Density	1.59 g/cm³
Width	305 mm*

** Narrower widths are available through secondary slitting.*

For the availability of other reinforcements, please contact our sales team.

TECHNICAL SPECIFICATIONS				
Property	**Condition**	**Test Method**	**Results**	
Tensile strength 0°	RTD	ASTM D 3039	2410 MPa	350 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	135 GPa	19.5 Msi
Tensile Strength 90°	RTD	ASTM D 3039	86 MPa	12.5 ksi
Tensile Modulus 90°	RTD	ASTM D 3039	10 GPa	1.4 Msi
Compressive Strength 0°	RTD	ASTM D 6641	1300 MPa	189 ksi
Compressive Modulus 0°	RTD	ASTM D 6641	124 GPa	18 Msi
Compressive Strength 0°	ETW(1)	ASTM D 6641	1210 MPa	176 ksi
Compressive Modulus 0°	ETW	ASTM D 6641	121 GPa	17.6 Msi
In-Plane Shear Strength ±45°	RTD	ASTM D 3518	152 MPa	22 ksi
In-Plane Shear Modulus ±45°	RTD	ASTM D 3518	5.2 GPa	0.75 Msi
Flexural Strength 90°	RTD	ASTM D 7264	152 MPa	22.0 ksi
Interlaminar Shear Strength (SBS) 0°/90°	RTD	ASTM D 2344	96.5 MPa	14 ksi

Open-Hole Tensile Strength	RTD	ASTM D 5766	386 MPa	56 ksi
Open-Hole Compressive Strength	RTD	ASTM D 6484	320 MPa	46 ksi
Compression After Impact Strength 30.5 J (270 in/lb) Impact Energy	RTD	ASTM D 7137	303 MPa	44 ksi
Mode I Interlaminar Fracture Toughness (GIC Strain Energy Release Rate)	RTD	ASTM D 5528	1.6 kJ/m^2	9.0 lb/in
Mode II Interlaminar Fracture Toughness (GIIC Strain Energy Release Rate)	RTD	ASTM D 7905	2.3 kJ/m^2	13.0lb/in

Fiber type AS4D
59% fiber by volume (Vf)
(1)ETW is tested at 82°C (180°F) after 14 days soaked in 71°C (160°F) water

► HANDLING PRECAUTIONS

Health and safety information on handling and processing of SK2TM400-1 is described in the Material Safety Data Sheet.

► STORAGE

Out life : indefinite at ambient temperature storage.
Frozen storage life: not applicable - product does not require freezing.

► GUARANTEE

The information of our technical data sheet is based on our present knowledge and the result of tests conducted under precise conditions. It is the responsibility of the user to determine the suitability of the products, under their own conditions before commencing with the proposed application. We refuse any guarantee about the compatibility of a product with any particular application. We disclaim all responsibility for damage from any incident, which results from the use of these products. The guarantee conditions are regulated by our general sale conditions.