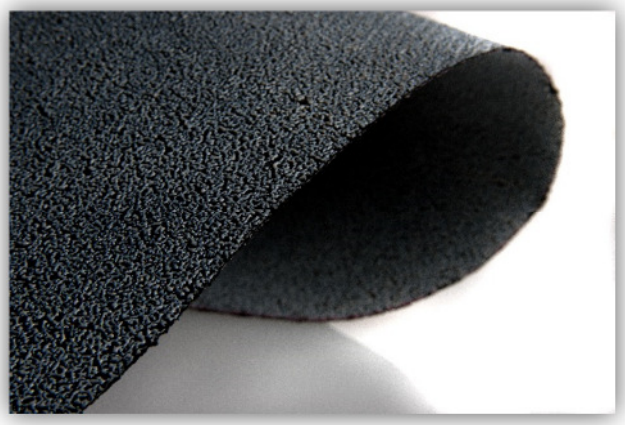
Tenax®-E TPWF PEEK-HTA40

Product Data Sheet

Tenax®-E TPWF PEEK-HTA40 is a thermoplastic powdered woven fabric composed of the high tenacity carbon fiber product Tenax®-E HTA40 E13 3K 200tex and a PEEK matrix**.** Tenax®-E TPWF PEEK-HTA40 can be used to produce composite components or laminates which can be simply heated above its melting temperature and then stamped in a metallic mould within a press in a few minutes.



Product Benefits

- high-performance mechanical properties
- continuous use at elevated temperature
- low flammability, smoke and toxicity
- room temperature storage and shipping
- compliant to Health, Safety and Environment requirements
- biocompatible (comply with ISO 10993-5)
- recyclable

Process Benefits

- thermoformable (press forming)
- short cycle time
- large volume application
- automated process (pick and place)
- thermoplastic joining technologies

Dimensions

Roll Dimension:	Width: 1.25 m Length: 200 m
Nominal thickness:	0.31 mm

Tenax®-E TPWF PEEK-HTA40

Brand name	**Tenax®**	
Production site	**E (Europe)**	
Product name	**TPWF PEEK-HTA40**	
Product designation	**Tenax®-E TPWF-PEEK-4-42-HTA40 E13 3K DT-5HS-285**	
Fiber	**Tenax®-E HTA40 3K**	Density: 1.76 g/cm³
Matrix	**PEEK** (Polyetheretherketon)	Density: 1.30 g/cm³

Semi-finished product

Fabric style	5HS
Prepreg areal weight	485 g/m²
Fiber areal weight	285 g/m²
Matrix content	42 wt%
Nominal thickness (52 % FVC(1))	0.31 mm

(1) FVC = Fiber Volume Content

Manufacturing recommendations

Consolidation temp.	390 ±10 °C
Consolidation pressure	15 ±10 bar
Consolidation time	20 ±10 min

Properties (test direction)		Conditioning / Test temperature	Typical value	
Melting point	Peak	DSC	343 °C	649 °F
Glass transition temperature	onset	23 °C, 50 % r.h./ 23 °C, 50 % r.h	143 °C	289 °F
Tensile(2) (warp, 0°) ISO 527-4	modulus	23 °C, 50 % r.h./ 23 °C, 50 % r.h	60 GPa	8.7 Msi
	strength		963 MPa	139.7 ksi
Compression(2) (warp, 0°) EN 2850 Type B	modulus	23 °C, 50 % r.h./ 23 °C, 50 % r.h	59 GPa	8.6 Msi
	strength		725 MPa	105.2 ksi
Flexural (warp, 0°) EN 2562 Type A	modulus	23 °C, 50 % r.h./ 23 °C, 50 % r.h	64 GPa	9.3 Msi
	strength		1166 MPa	169.1 ksi

(2) normalised to nominal thickness (0.31mm)
Stacking sequence: $(0,90)_3/(0,90)_{r3}$

All data given are typical values representative of the material. Properties may vary depending on samples preparation and test methods. Hence, Teijin cannot guarantee these properties.

Please take into consideration that the export or transfer of carbon fiber products can be subject to authorization, depending on end-use and final destination.