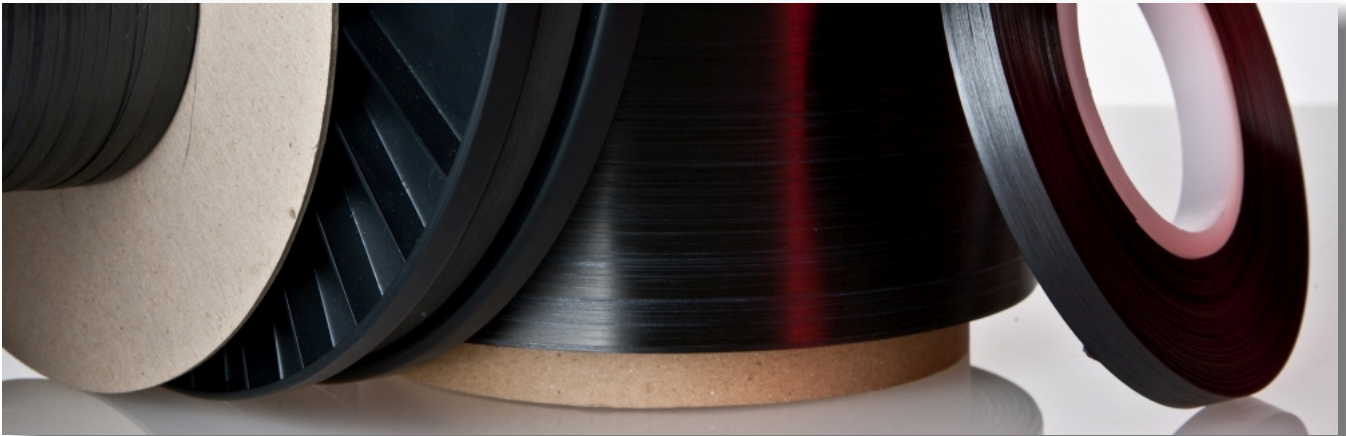


**Tenax®-E TPUD PEEK-IMS65** is a thermoplastic unidirectional prepreg (TPUD) which combines two high-performance materials. The polymer matrix of PEEK (polyetheretherketon) offers excellent resistance to chemicals and solvents, whilst the utilisation of Tenax®-E IMS65, an intermediate modulus carbon fiber manufactured with a tailored sizing for thermoplastics applications, results in a combination of materials offering an outstanding composite material performance.



#### Product benefits

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

#### Process benefits

- out of autoclave consolidation (press forming, vacuum bagging, tape winding)
- short cycle time
- thermoformable
- automated process (AFP, ATL) thermoplastic joining technologies

<b>Brand name</b>	<b>Tenax®</b>	
<b>Production site</b>	<b>E (Europe)</b>	
<b>Product designation</b>	<b>Tenax®-E TPUD PEEK-6-34-IMS65 P12 24K-UD-146</b>	
<b>Fiber</b>	<b>Tenax®-E IMS65 P12 24K 830tex</b>	Density: 1.80 g/cm <sup>3</sup>
<b>Matrix</b>	<b>PEEK (Polyetheretherketon)</b>	Density: 1.30 g/cm <sup>3</sup>

**Semi-finished product**

Prepreg areal weight	221 g/m <sup>2</sup>
Fiber areal weight	146 g/m <sup>2</sup>
Matrix content	34 wt%
Nominal thickness	0.14 mm .0055"
Width	6.35 mm to 304.8 mm 1/4" to 12"

**Thermoforming recommendations**

Consolidation temp.	390 ± 10 °C 734 ± 18 °F
Consolidation pressure	20 ± 10 bar 290 ± 145 psi
Consolidation time	20 ± 10 min

<b>Properties (test direction)</b>		<b>Test temperature/ Conditioning</b>	<b>Typical values</b>	
Glass transition temperature	onset	23 °C / 50 % r.h.	138 °C	282 °F
Tensile strength (0°) ASTM D 3039M-17	modulus	23 °C / 50 % r.h.	155 GPa	23 Msi
	strength	23 °C / 50 % r.h.	2800 MPa	406 ksi
Compression (90°/0°) ASTM D 6641M-16	modulus	23 °C / 50 % r.h.	75 GPa	11 Msi
	strength	23 °C / 50 % r.h.	715 MPa	104 ksi
Compression (90°/0°) ASTM D 6641M-16	modulus	121 °C / 50 % r.h.	80 GPa	12 Msi
	strength	121 °C / 50 % r.h.	600 MPa	87 ksi
Flexure (90°) ASTM D 790-17	modulus	23 °C / 50 % r.h.	8,5 GPa	1,2 Msi
	strength	23 °C / 50 % r.h.	155 MPa	23 ksi

- All data are typical values representative of the material. Properties may vary depending on samples preparation and test methods.
- For each shipment an inspection certificate 3.1 according to DIN EN 10204 is generated and supplied.
- A detailed customer specification is arranged on request.
- The export or transfer of carbon fiber products can be subject to authorization, depending on end-use and final destination