

Data Sheet  
**Dexnyl™ 185 TPI-Granules Nat.**

**Product Description:**

Thermoplastic Polyimide (TPI), semi-crystalline, natural granule suitable for injection molding and extrusion of parts with no need for further annealing



**Applications**

- complex-shape elements such as small screw, cap, etc. due to the material's good melt flow as it has crystalline (crystallinity: approx.20%)
- high strength parts for elevated service temperatures (mechanical properties higher than PEEK at temperatures above 120 °C)
- insulating element due to its excellent dielectric and thermal properties
- high strength and heat resistance gears and bearings
- parts with high dimensional stability due to the material's low water absorption
- high strength parts with up to 50% filler content

Material Properties	Condition	Test Method	Unit	Dexnyl™ 185 TPI
<b>Physical</b>				
Color				Opacity yellow
Density		ISO 1183	g/cm <sup>3</sup>	1.29
<b>Thermal</b>				
Melting Point		ISO 11357	°C	323
Glass Transition		ISO 11357	°C	185
HDT	1.80 MPa	ISO75	°C	170
<b>Mechanical</b>				
Flextural Strength		ISO 178	MPa	120
Flextural Modulus		ISO 178	GPa	2.6
Tensile Strength		ISO 527	MPa	80
Tensile Modulus		ISO 527	GPa	2.5
Tensile Elongation		ISO 527	%	21
<b>Electrical</b>				
Permittivity (ε)	1GHz	IEC62810	-	2.78
	10GHz		-	2.66
	1GHz		-	0.0036



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<b>Dielectric Loss Tangent (tan δ)</b>	10GHz		-	0.0039
<b>Breakdown Voltage</b>		ASTM D149	kV	45.5
<b>Volume Resistivity</b>		IEC60093	Ω.m	5.3×10 <sup>15</sup>
<b>Surface Resistance</b>			Ω	1.6×10 <sup>16</sup>
<b>Miscellaneous</b>				
<b>Oxygen Index</b>		ASTM D2863	-	23.6
<b>Water Absorption</b>	23 °C/24 h	ISO 62-1	%	0.1

Solvent Resistance (appearance after 100h immersion)				
Water ■	Methanol ■	Acetone ■	Toluene ■	Chloroform ☑
NMP ■	70%-H <sub>2</sub> SO <sub>4</sub> ■	98%-H <sub>2</sub> SO <sub>4</sub> □	10%-NaOH ■	THF ■
Acetic anhydride ■	■ Excellent    ☑ Fair (Swelling)    □ Poor			

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