

Product Information

P84[®]NT2 HCM

NEAT AROMATIC POLYIMIDE

Polyimid P84[®] NT - at a glance

- Excellent performance at high temperatures
- High strength and excellent shape stability
- Very good impact resistance
- High heat deflection temperature
- Very good creep resistance even at elevated temperatures
- Machinable with standard tools
- Low wear and friction behaviour
- Processing by Hot compression molding

Application examples

bushings, seals, bearings components, guides, gear wheels, and valve parts in the automotive and aerospace industries and in industrial equipment.

Key Features

Industrial Sector

Automotive and Mobility, Aircraft and Aerospace, Industry and Engineering

Processing

Hot compression moulding, Machining

Delivery form

Pellets, Granules, Powder

Resistance to

Heat (thermal stability), Fire / burn, Wear / abrasion, Oil / fuels

Electrical

Insulating

Additives

Unfilled

Mechanical properties ISO

	dry	Unit	Test Standard
Tensile modulus	497000	psi	ISO 527
Tensile strength	19100	psi	ISO 527
Stress at break	19100	psi	ISO 527

Strain at break, B	6.3	%	ISO 527
Charpy impact strength, +23°C	63.1	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	3.57	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Compression modulus, 23°C	567000	psi	ISO 604
Compressive strength, 23°C	75300	psi	ISO 604
Flexural modulus, 23°C	503000	psi	ISO 178
Flexural strength, 23°C	26700	psi	ISO 178

Thermal properties	dry	Unit	Test Standard
Glass transition temperature, DSC	687	°F	ISO 11357-1/-2
Thermal conductivity, LFA, solid state	1.8	BTU in/(hr ft ² °F)	ISO 22007-4
Glass transition temperature, DMA, 3 point bending	739	°F	ISO 6721-5
Temp. of deflection under load A, 1.80 MPa	644	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	711	°F	ISO 75-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	2.0E-5	in/in/°F	ISO 11359-1/-2

Physical properties	dry	Unit	Test Standard
Density	1.38	g/cm ³	ISO 1183
Water absorption, 24h	0.9	%	ISO 62, ASTM D 570
Water absorption, 48h	1.2	%	ISO 62, ASTM D 570
Shore D hardness	88	-	ISO 7619-1
Rockwell hardness	R 74	-	ISO 2039-2
Density	1.38	g/cm ³	ASTM D 792

Electrical properties	dry	Unit	Test Standard
Volume resistivity, V	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity, E	>1E15	Ohm	IEC 62631-3-2

Dielectric strength, AC, S20/S20, t. 1 mm	940	kV/in	IEC 60243-1
CTI, test solution A, 50 drops value	125	-	IEC 60112
Assessment of the insulation group	III b	-	DIN EN 60664-1

Polyimid	dry	Unit	Test Standard
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Tensile test

Tensile modulus, 23°C	497000	psi	ISO 527
Tensile strength, 23°C	19100	psi	ISO 527
Strain at break, 23°C	6.3	%	ISO 527

Flexural test

Flexural modulus, 23°C	503000	psi	ISO 178
Flexural strength, 23°C	26700	psi	ISO 178

Characteristics

Applications

Displays, Electrical and Electronical, General purpose

Processing

Compression molding

Special Characteristics

Halogen-free, PTFE-free, Amorphous, High heat resistant, Non-dripping, Self-extinguishing

Features

Creep resistance, Low coefficient of friction, Lightweight

Color

Natural color, Brown

Chemical Resistance

Acid resistance, Solvent resistance, Grease resistance, Oil resistance, Radiation resistance, Fuel resistance

Compression molding

Hot compression molding

Production of big semi-finished parts (plates, rods, tubes)

Molding at high pressure of 400 kg/cm² and temperature between 350 and 380 °C.

Cycle time = hours

Processing of precise parts by machining

Best mechanical properties