

Product Information

P84[®]NT1 15G HCM

GRAPHITE FILLED (15%) 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

Lubricant

Mechanical properties ISO

	dry	Unit	Test Standard
Tensile modulus	580000	psi	ISO 527
Tensile strength	14900	psi	ISO 527
Stress at break	14900	psi	ISO 527

Strain at break, B	6.3	%	ISO 527
Charpy impact strength, +23°C	21.5	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	0.714	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Compression modulus, 23°C	647000	psi	ISO 604
Compressive strength, 23°C	39000	psi	ISO 604
Flexural modulus, 23°C	544000	psi	ISO 178
Flexural strength, 23°C	22000	psi	ISO 178

Thermal properties	dry	Unit	Test Standard
Thermal conductivity, LFA, solid state	3.68	BTU in/(hr ft ² °F)	ISO 22007-4
Glass transition temperature, DMA, 3 point bending	675	°F	ISO 6721-5
Temp. of deflection under load A, 1.80 MPa	635	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	653	°F	ISO 75-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	1.72E-5	in/in/°F	ISO 11359-1/-2

Physical properties	dry	Unit	Test Standard
Density	1.46	g/cm ³	ISO 1183
Water absorption, 24h	0.6	%	ISO 62, ASTM D 570
Water absorption, 48h	0.8	%	ISO 62, ASTM D 570
Shore D hardness	87	-	ISO 7619-1
Density	1.46	g/cm ³	ASTM D 792

Polyimid	dry	Unit	Test Standard
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Tensile test

Tensile modulus, 23°C	580000	psi	ISO 527
Tensile strength, 23°C	14900	psi	ISO 527

Strain at break, 23°C	6.3	%	ISO 527
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Flexural test

Flexural modulus, 23°C	544000	psi	ISO 178
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Flexural strength, 23°C	22000	psi	ISO 178
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Characteristics

Applications

Electrical and Electronical, General purpose, Fittings

Color

Natural color, Grey

Processing

Compression molding

Additives

Conductive agent, Inorganic fillers

Special Characteristics

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

Chemical Resistance

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

Features

Creep resistance, Low coefficient of friction, Lightweight

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