Duratron® T4540

Polyamide-imide

Quadrant Engineering Plastic Products

Message:

Duratron® T4540 compression molded PAI is a seal and bearing grade offers a very low coefficient of friction and good wear properties. It was developed specifically for use in rotating equipment. Its composition is the same as the former Duratron® T4340 polyamide-imide and used when larger (especially tubular) shapes are required. Typical applications for Duratron® T4540 PAI include labyrinth seals, wear rings, bushings, and bearings of all types. Duratron® PLA is the highest performing melt processable plastic. It has superior resistance to elevated temperatures. It is capable of performing under severe stress conditions at continuous temperatures to 500°F (260°C). Parts machined from Duratron® PLA stock shapes provide greater compressive strength and higher impact resistance than most advanced engineering plastics. Its extremely low coefficient of linear thermal expansion and high creep resistance deliver excellent dimensional stability over its entire use range. Duratron® PLA is an amorphous material with a Tg (glass transition temperature) of 537°F (280°C).

Data provided by Quadrant Engineering Plastic Products from tests on stock shapes and parts produced by Quadrant EPP.

General Information	
Features	Acid Resistant
	Alcohol Resistant
	Amorphous
	Good Chemical Resistance
	Good Compressive Strength
	Good Creep Resistance
	Good Dimensional Stability
	Good Stiffness
	Good Thermal Stability
	Good Wear Resistance
	High Impact Resistance
	High Strength
	Hydrocarbon Resistant
	Solvent Resistant
Uses	Bearings
	Bushings
	Rotating Equipment
	Sealing Devices
	Seals
Forms	Customizable Forms
	Disc
	Preformed Parts
	Sheet
	Tubing
Processing Method	Compression Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.46	g/cm³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.30	%	
Saturation	1.5	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
E-Scale	66		
M-Scale	107		
Durometer Hardness (Shore D)	90		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3960	MPa	ASTM D638
Tensile Strength (Ultimate)	89.6	MPa	ASTM D638
Tensile Elongation (Break)	5.0	%	ASTM D638
Flexural Modulus	4690	MPa	ASTM D790
Flexural Strength (Yield)	165	MPa	ASTM D790
Compressive Modulus	2410	MPa	ASTM D695
Compressive Strength (10% Strain)	117	MPa	ASTM D695
Coefficient of Friction (vs. Steel - Static)	0.20		Internal Method
Wear Factor	640	10^-8 mm³/N·m	ASTM D3702
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	59	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	279	°C	ASTM D648
Maximum Use Temperature - Long Term, Air	260	°C	
Limiting Pressure Velocity ¹	0.263	MPa·m/s	Internal Method
Glass Transition Temperature	275	°C	ASTM E1356
CLTE - Flow ² (-40 to 149°C)	3.6E-5	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ³	1.0E+13	ohms	Internal Method
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm, Estimated Rating)	V-0		UL 94
NOTE			
1.	4:1 safety factor		
2.	68°F		
3.	EOS/ESD S11.11		

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