

Torlon® 4630

Polyamide-imide
Solvay Specialty Polymers

Message:

Torlon 4630 is an injection moldable wear-resistant polyamideimide (PAI) resin that mainly provides excellent wear resistance for non-lubricating products. At 275 °C(525 °F), Torlon PAI has more strength and rigidity than all thermoplastics, and has excellent wear resistance, creep resistance and chemicals. Potential applications of Torlon 4630 polyamide-imide include thrust washers, seals, sliding vanes, spools, bushings, clutch rollers, and pistons.

General Information			
Additive	PTFE graphite lubricant		
Features	Low friction coefficient		
	Rigidity, high		
	High temperature strength		
	Good creep resistance		
	Good chemical resistance		
	Good wear resistance		
	Heat resistance, high		
Uses	Flame retardancy		
	Bushings		
	Application in Automobile Field		
RoHS Compliance	Bearing		
	Application in Automobile Field		
	Bearing		
Forms	Contact manufacturer		
Processing Method	Particle		
Processing Method	Machining		
	Profile extrusion molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.56	g/cm ³	ASTM D792
Water Absorption (24 hr)	0.18	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	7450	MPa	ASTM D638
Tensile Strength	81.4	MPa	ASTM D638
Tensile Elongation (Break)	1.9	%	ASTM D638
Flexural Modulus	6830	MPa	ASTM D790
Flexural Strength	131	MPa	ASTM D790
Compressive Strength	99.3	MPa	ASTM D695
Coefficient of Friction			
-- 1	0.15		ASTM D1894

-- ²	0.030		ASTM D1894
-- ³	0.32		ASTM D3702
-- ⁴	0.32		ASTM D3702
Wear Factor			ASTM D3702
Drying: 4 m/s, 0.2 MPa (800 fpm, 31.25 psi)	13.5	in ³ ·min ⁻¹⁰ /ft·lb·hr	ASTM D3702
Drying: 0.25 m/s, 3.4 MPa (50 fpm, 500 psi)	6.00	in ³ ·min ⁻¹⁰ /ft·lb·hr	ASTM D3702
Lubrication: 4 m/s, 5.2 MPa (800 fpm, 750 psi)	1.00	in ³ ·min ⁻¹⁰ /ft·lb·hr	ASTM D3702
Lubrication: 0.375 m/s, 6.9 MPa (75 fpm, 1000 psi)	11.0	in ³ ·min ⁻¹⁰ /ft·lb·hr	ASTM D3702
Coefficient of Linear Thermal Expansion	3.6E-6	cm/cm/°C	ASTM D696
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	48	J/m	ASTM D256
Unnotched Izod Impact	160	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	279	°C	ASTM D648
Injection	Nominal Value	Unit	
Drying Temperature	177	°C	
Drying Time	3.0	hr	
Suggested Max Moisture	0.050	%	
Rear Temperature	304	°C	
Nozzle Temperature	371	°C	
Mold Temperature	199 - 216	°C	
Back Pressure	6.89	MPa	
Screw Speed	50 - 100	rpm	
Screw L/D Ratio	18.0:1.0 - 24.0:1.0		
Injection instructions			
最低干燥要求:350 °F (177°C)温度下3小时, 300 °F (149°C) 温度下4小时,或250 °F (121°C) 温度下16小时. 压缩比:1:1~1.5:1 开始时,压力设置成较高的6,000-8,000 psi ,几秒钟后,降至至3,000-5,000psi(20.69-34.48MPa) ,进行保压. 成型部件需进行后固化.			
NOTE			
1.	Lubrication: 0.25 m/s, 6.9 MPa (75 fpm, 1000 psi)		
2.	Lubrication: 4 m/s, 5.2 MPa (800 fpm, 750 psi)		
3.	Drying: 0.25 m/s, 3.4 MPa (50 fpm, 500 psi)		
4.	Drying: 4 m/s, 0.2 MPa (800 fpm, 31.25 psi)		

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