

Ultramid® T 4381 LDS

Polyamide 6/6T Copolymer

BASF Corporation

Message:

Glass fibre and mineral reinforced partially aromatic polyamide for injection moulding. Good toughness, stiffness and strength, low water absorption, high melting point (295 °C). The product is especially tailored for laser direct structuring (LDS). The structured areas can be metallized selectively. The compound is intended specifically for the use in the process of manufacturing conducting path designs according to the German application of the patent 101 32 092 of LPKF Laser & Electronics AG (Osteriede 7 - 30827 Garbsen - Germany). The use of this process asserts a claim for compensation. After purchasing a LPKF laser system the claim is satisfied. Please contact directly LPKF Laser & Electronics AG (<http://www.LPKF.de>).

General Information				
Filler / Reinforcement		Glass fiber reinforced material, 10% filler by weight Mineral filler, 25% filler by weight		
Features		Aroma Rigid, good Copolymer Good strength Good toughness Low or no water absorption		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Appearance		Black		
Forms		Particle		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.57	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Molding Shrinkage				ISO 294-4
Vertical flow direction	0.75	--	%	ISO 294-4
Flow direction	0.55	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	4.2 - 5.2	--	%	ISO 62
Equilibrium, 23°C, 50% RH	0.80 - 1.2	--	%	ISO 62
Viscosity Number (96% H2SO4)	130	--	cm ³ /g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	8300	--	MPa	ISO 527-2
Tensile Stress (Break)	105	--	MPa	ISO 527-2
Tensile Strain (Break)	2.0	--	%	ISO 527-2

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	35	--	kJ/m ²	ISO 179/1eU
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (0.45 MPa, Unannealed)	265	--	°C	ISO 75-2/B
Melting Temperature	295	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	3.0E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	5.0E-5 - 6.0E-5	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+14	ohms·cm	IEC 60093
Relative Permittivity (1 MHz)	4.40	4.20		IEC 60250
Dissipation Factor (1 MHz)	1.5E-3	0.038		IEC 60250
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (1.60 mm)	HB	--		UL 94
Additional Information	Dry	Conditioned		
Polymer Abbreviation	PA6T/6 GF10M25	--		
Screw Speed			mm/sec	
Injection	Dry	Unit		
Drying Temperature	110		°C	
Drying Time	8.0		hr	
Suggested Max Moisture	0.15		%	
Hopper Temperature	80.0		°C	
Rear Temperature	300		°C	
Middle Temperature	310		°C	
Front Temperature	315		°C	
Nozzle Temperature	315		°C	
Processing (Melt) Temp	310 - 330		°C	
Mold Temperature	70.0 - 100		°C	
Injection instructions				
Residence Time : <5 min				

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

