

Ultramid® T KR 4350

Polyamide 6/6T Copolymer

BASF Corporation

Message:

Partially aromatic polyamide for injection molding and extrusion. High toughness, stiffness and strength, low water absorption, high melting point (295°C).

General Information				
UL YellowCard		E41871-233764		
Features		Aroma		
		Rigidity, high		
		High strength		
		Copolymer		
		Good toughness		
		Low or no water absorption		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Forms		Particle		
Processing Method		Extrusion		
		Injection molding		
Multi-Point Data		Creep Modulus vs. Time (ISO 11403-1)		
		Isochronous Stress vs. Strain (ISO 11403-1)		
		Isothermal Stress vs. Strain (ISO 11403-1)		
		Secant Modulus vs. Strain (ISO 11403-1)		
		Shear Modulus vs. Temperature (ISO 11403-1)		
		Specific Volume vs Temperature (ISO 11403-2)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.16	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Molding Shrinkage				ISO 294-4
Vertical flow direction	1.1	--	%	ISO 294-4
Flow direction	0.85	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	6.5 - 7.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.6 - 2.0	--	%	ISO 62

Viscosity Number (96% H2SO4)	130	--	cm ³ /g	ISO 307
Mold Shrinkage - constrained ¹	0.60	--	%	
Temperature index-at 50% loss of tensile strength				IEC 60216
-- ²	110	--	°C	IEC 60216
-- ³	130	--	°C	IEC 60216
Maximum operating temperature-short cycle operation	250	--	°C	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA6T/6	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3100	3100	MPa	ISO 527-2
Tensile Stress (Yield)	80.0	70.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	5.0	--	%	ISO 527-2/50
Nominal Tensile Strain at Break	8.0	--	%	ISO 527-2/50
Tensile Creep Modulus ⁴ (1000 hr)	--	2300	MPa	ISO 899-1
Flexural Modulus	2900	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	6.0	--	kJ/m ²	ISO 179/1eA
23°C	8.0	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	130	--	kJ/m ²	ISO 179/1eU
23°C	140	--	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	8.0	--	kJ/m ²	ISO 180/A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	95.0	--	°C	ISO 75-2/A
Melting Temperature	295	--	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	6.0E-5 - 8.0E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1500	--	J/kg/°C	
Thermal Conductivity	0.23	--	W/m/K	DIN 52612
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+14	ohms · cm	IEC 60093

Dielectric Strength ⁵	38	35	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.00	4.00		IEC 60250
Dissipation Factor (1 MHz)	0.030	0.040		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
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				
NOTE				

1. Test box with central gating, dimensions of base (107*47*1,5) mm, processing condition: TM = 320°C (unreinforced) or 330°C (reinforced), TW = 80°C
2. 20000 h
3. 5000 h
4. strain <= 0.5%, 23°C
5. 60*60*1 mm³

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