

Ultramid® T KR 4355 G10

Polyamide 6/6T Copolymer

BASF Corporation

Message:

Glass fibre reinforced partially aromatic polyamide for injection moulding. High toughness, stiffness and strength, low water absorption, high melting point (285°C).

General Information				
UL YellowCard		E41871-233765		
Filler / Reinforcement		Glass fiber reinforced material, 50% filler by weight		
Features		Aroma		
		Rigidity, high		
		High strength		
		Copolymer		
		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	1.62	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Molding Shrinkage				ISO 294-4
Vertical flow direction	0.66	--	%	ISO 294-4
Flow direction	0.20	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	3.5 - 4.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	0.40 - 0.80	--	%	ISO 62
Viscosity Number (96% H ₂ SO ₄)	135	--	cm ³ /g	ISO 307
Mold Shrinkage - constrained ¹	0.29	--	%	
Temperature index-at 50% loss of tensile strength				IEC 60216
-- ²	170	--	°C	IEC 60216
-- ³	145	--	°C	IEC 60216

Maximum operating temperature-short cycle operation	260	--	°C	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA6T/6-GF50	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	17000	16000	MPa	ISO 527-2
Tensile Stress (Break)	240	190	MPa	ISO 527-2
Tensile Strain (Break)	2.4	2.5	%	ISO 527-2
Tensile Creep Modulus ⁴ (1000 hr)	--	10500	MPa	ISO 899-1
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	13	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	85	75	kJ/m ²	ISO 179/1eU
23°C	90	80	kJ/m ²	ISO 179/1eU
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	245	--	°C	ISO 75-2/A
Melting Temperature	285	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	1.8E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	5.0E-5 - 6.0E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1000	--	J/kg/°C	
Thermal Conductivity	0.32	--	W/m/K	DIN 52612
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+17	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength	33	31	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.70	4.80		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.030		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	320	°C
Nozzle Temperature	320	°C
Processing (Melt) Temp	310 - 330	°C
Mold Temperature	80.0 - 120	°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.	5000 h
3.	20000 h
4.	strain <= 0.5%, 23°C

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