

Ultramid® T KR 4355 G7

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 (295°C).

General Information	
UL YellowCard	E41871-233768
Filler / Reinforcement	Glass fiber reinforced material, 35% filler by weight
Features	Aroma
	Rigidity, high
	High strength
	Copolymer
	Good toughness
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS compliance
Forms	Particle
Processing Method	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)
	Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Density	1.43	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	
Molding Shrinkage				ISO 294-4
Vertical flow direction	1.0	--	%	ISO 294-4
Flow direction	0.30	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	4.3 - 5.3	--	%	ISO 62
Equilibrium, 23°C, 50% RH	0.80 - 1.2	--	%	ISO 62
Viscosity Number (96% H2SO4)	130	--	cm³/g	ISO 307

Mold Shrinkage - constrained ¹	0.35	--	%	
Temperature index-at 50% loss of tensile strength				IEC 60216
-- ²	135	--	°C	IEC 60216
-- ³	160	--	°C	IEC 60216
Maximum operating temperature-short cycle operation	270	--	°C	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA6T/6-GF35	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	12000	12000	MPa	ISO 527-2
Tensile Stress (Break)	210	200	MPa	ISO 527-2
Tensile Strain (Break)	3.0	--	%	ISO 527-2
Tensile Creep Modulus ⁴ (1000 hr)	--	8700	MPa	ISO 899-1
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	15	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	100	--	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	295	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 55°C	1.5E-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	1300	--	J/kg/°C	
Thermal Conductivity	0.28	--	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	33	31	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	4.20	4.40		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. 20000 h
3. 5000 h
4. strain <= 0.5%, 23°C
5. 60*60*1 mm³

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