

Ultraform® S 1320 003

Acetal (POM) Copolymer

BASF Corporation

Message:

Free-flowing, rapidly solidifying grade for moldings difficult to produce by injection molding and having low wall thickness; increased stiffness and heat distortion resistance.

General Information			
UL YellowCard	E41871-233605		
Features	Rigid, good		
	Copolymer		
	Good liquidity		
Uses	Thin wall parts		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Forms	Particles		
Processing Method	Injection molding		
Multi-Point Data	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 Heat vs. Temperature (ISO 11403-2)		
	Specific Volume vs Temperature (ISO 11403-2)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Resin ID (ISO 1043)	POM		
Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm³	ISO 1183
Apparent Density	0.85	g/cm³	
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	11.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction	2.1	%	ISO 294-4
Flow direction	2.1	%	ISO 294-4
Water Absorption			ISO 62
Saturated, 23°C	0.80	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	165	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus	3000	MPa	ISO 527-2
Tensile Stress (Yield)	68.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	9.0	%	ISO 527-2/50
Nominal Tensile Strain at Break	25	%	ISO 527-2/50
Tensile Creep Modulus ¹ (1000 hr)	1450	MPa	ISO 899-1
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	5.5	kJ/m ²	ISO 179/1eA
23°C	5.5	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	170	kJ/m ²	ISO 179/1eU
23°C	170	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	100	°C	ISO 75-2/A
Melting Temperature	171	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	1.1E-4	cm/cm/°C	ISO 11359-2
Maximum operating temperature-short cycle operation	100	°C	
Automotive Materials (> 1.00 mm)	Passed		FMVSS 302
ISO Type	POM-K, M-GNR, 04-002		ISO 9988-1
Screw Speed		mm/sec	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Relative Permittivity (1 MHz)	3.70		IEC 60250
Dissipation Factor (1 MHz)	5.0E-3		IEC 60250
Comparative Tracking Index (Solution A)	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	100	°C	
Drying Time	3.0	hr	
Suggested Max Moisture	0.20	%	
Hopper Temperature	200	°C	
Rear Temperature	200	°C	
Middle Temperature	200	°C	
Front Temperature	200	°C	
Nozzle Temperature	200	°C	
Processing (Melt) Temp	190 - 230	°C	
Mold Temperature	60.0 - 120	°C	
Injection instructions			
Residence Time : <10 min			

NOTE

1. strain $\leq 0,5\%$, 23°C

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