

Ultraform® H 4320

Acetal (POM) Copolymer

BASF Corporation

Message:

High-molecular-weight grade for the extrusion of semifinished product; particularly thick walled product can be extruded at high output rates; the material also features high thermal stability and low discoloration.

General Information			
UL YellowCard	E36632-531677	E41871-233586	
Features	High molecular weight		
	Thermal stability, good		
Uses	Thick wall fittings (parts)		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Forms	Particles		
Processing Method	Extrusion		
	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	1.39	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	2.20	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Vertical flow direction	2.1	%	ISO 294-4
Flow direction	2.2	%	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)	125	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus	2600	MPa	ISO 527-2
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/50
Tensile Strain (Yield)	10	%	ISO 527-2/50
Nominal Tensile Strain at Break	31	%	ISO 527-2/50
Tensile Creep Modulus ¹ (1000 hr)	1300	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	6.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	180	kJ/m ²	ISO 179/1eU
23°C	250	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	95.0	°C	ISO 75-2/A
Melting Temperature	166	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	1.2E-4	cm/cm/°C	ISO 11359-2
Maximum operating temperature-short cycle operation	100	°C	
Automotive Materials (> 1.00 mm)	Pass		FMVSS 302
ISO Type	POM-K, E-GNR, 01-002		ISO 9988-1
Screw Speed		mm/sec	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Relative Permittivity (1 MHz)	3.80		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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