

Staramide B40

Polyamide 6
Eurostar Engineering Plastics

Message:
Staramide B40 is a High Viscosity, Unreinforced Polyamide 6 Extrusion Resin

General Information			
UL YellowCard	E340012-100750681		
Features	High Viscosity		
RoHS Compliance	RoHS Compliant		
Processing Method	Extrusion		
	Injection Molding		

Physical	Nominal Value	Unit	Test Method
Density	1.13	g/cm ³	ISO 1183
Molding Shrinkage - Flow ¹	1.1 to 1.5	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	10	%	
Equilibrium, 23°C, 50% RH	2.4	%	

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	121		ISO 2039-2
Ball Indentation Hardness (H 358/30)	121	MPa	ISO 2039-1

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3100	MPa	ISO 527-2/1
Tensile Stress (Yield)	80.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	4.0	%	
Break	15	%	
Flexural Modulus ²	2650	MPa	ISO 178
Flexural Stress	100	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA
-30°C	3.0	kJ/m ²	
23°C	3.0	kJ/m ²	
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	> 270	kJ/m ²	
23°C	> 270	kJ/m ²	
Notched Izod Impact Strength ⁵			ISO 180/1A

-40°C	3.0	kJ/m ²	
-30°C	4.0	kJ/m ²	
-20°C	4.0	kJ/m ²	
23°C	5.0	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	> 100	kJ/m ²	
23°C	> 100	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, Unannealed, 100 mm Span	180	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	65.0	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	217	°C	ISO 306/B50
--	215	°C	ISO 306/B120
Ball Pressure Test ⁸ (125°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 60°C	7.0E-5	cm/cm/°C	
Transverse : 23 to 60°C	7.0E-5	cm/cm/°C	
Thermal Conductivity	0.29	W/m/K	ISO 8302
RTI Elec	65.0	°C	UL 746
RTI Imp	65.0	°C	UL 746
RTI Str	65.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ⁹	> 1.0E+16	ohms	IEC 60093
Volume Resistivity	> 1.0E+16	ohms · cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.30		
60 Hz	3.30		
1 MHz	3.00		
Dissipation Factor			IEC 60250
50 Hz	5.8E-3		
60 Hz	5.8E-3		
1 MHz	0.018		
Comparative Tracking Index			IEC 60112
--	600	V	
Solution B	600	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.750 mm	HB		
3.00 mm	HB		
Oxygen Index	24	%	ISO 4589-2

Injection	Nominal Value	Unit
Drying Temperature	75.0 to 85.0	°C
Drying Time	4.0 to 6.0	hr
Suggested Max Moisture	0.20	%
Rear Temperature	230 to 240	°C
Middle Temperature	240 to 250	°C
Front Temperature	250 to 260	°C
Processing (Melt) Temp	250 to 260	°C
Mold Temperature	60.0 to 80.0	°C

NOTE

1.	Tensile Bar
2.	2.0 mm/min
3.	80*10*4 sp=62mm
4.	80*10*4 sp=62mm
5.	80*10*4
6.	80*10*4
7.	120*10*4
8.	125°C ±2°C
9.	ROA

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