

BASF Ultradur® S 4090 GX 14% Glass Filled PBT

Category : Polymer , Thermoplastic , ASA Polymer , Polyester, TP , Polybutylene Terephthalate (PBT) , PBT + ASA Blend, Glass Fiber Reinforced

Material Notes:

Description: Is a PBT + ASA, low-warpage, free-flowing injection-molding grades with very good processing capabilities, containing 14% of glass fibers for industrial parts with high dimensional stability, for example internal components for vehicles, plug connectors and housings. Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultradur-S-4090-GX-14-Glass-Filled-PBT.php

Physical Properties	Metric	English	Comments
Density	1.33 g/cc	0.0480 lb/in ³	ISO 1183
Water Absorption	0.40 %	0.40 %	Saturation; DIN 53495/1L
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C; 50% RH
Viscosity Measurement	110	110	[ml/g]; Viscosity number; ISO 1628
	70	70	20 mins plasticating
	@Temperature 290 °C	@Temperature 554 °F	
	75	75	30 mins plasticating
	@Temperature 280 °C	@Temperature 536 °F	
	75	75	10 mins plasticating
	@Temperature 300 °C	@Temperature 572 °F	
	90	90	30 mins plasticating
	@Temperature 270 °C	@Temperature 518 °F	
	95	95	10 mins plasticating
@Temperature 290 °C	@Temperature 554 °F		
100	100	5 mins plasticating	
@Temperature 300 °C	@Temperature 572 °F		
100	100	30 mins plasticating	
@Temperature 260 °C	@Temperature 500 °F		
105	105	10 mins plasticating	
@Temperature 280 °C	@Temperature 536 °F		
106	106	30 mins plasticating	
@Temperature 250 °C	@Temperature 482 °F		

Physical Properties	Metric	English	Comments
	@Temperature 270 °C	@Temperature 518 °F	10 mins plasticating
	115	115	10 mins plasticating
	@Temperature 260 °C	@Temperature 500 °F	
	115	115	30 mins plasticating
	@Temperature 240 °C	@Temperature 464 °F	
	117	117	10 mins plasticating
	@Temperature 250 °C	@Temperature 482 °F	
	120	120	10 mins plasticating
	@Temperature 240 °C	@Temperature 464 °F	
Linear Mold Shrinkage, Flow	0.0032 cm/cm	0.0032 in/in	Sheet
	0.0054 cm/cm	0.0054 in/in	60x60x2 mm; ISO 294
Linear Mold Shrinkage, Transverse	0.0083 cm/cm	0.0083 in/in	60x60x2 mm; ISO 294
	0.0099 cm/cm	0.0099 in/in	Sheet
Melt Flow	30.59 g/10 min	30.59 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 275 °C	@Load 4.76 lb, Temperature 527 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	100 MPa	14500 psi	50 mm/min; ISO 527-2
Elongation at Yield	3.2 %	3.2 %	50 mm/min; ISO 527-2
Modulus of Elasticity	5.50 GPa	798 ksi	ISO 527-2
Flexural Strength	140 MPa	20300 psi	ISO 178
Charpy Impact Unnotched	5.20 J/cm ²	24.7 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.0 μm/m-°C	28.9 μin/in-°F	DIN 53752
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Melting Point	220 - 225 °C	428 - 437 °F	DSC; ISO 11357-3
Maximum Service Temperature, Air	170 °C	338 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	210 °C	410 °F	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	170 °C	338 °F	ISO 75-2
Decomposition Temperature	>= 300 °C	>= 572 °F	
Flammability, UL94	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	HB	HB	
	@Diameter 0.800 mm	@Diameter 0.0315 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	9.50e+15 ohm-cm	9.50e+15 ohm-cm	IEC 93
Surface Resistance	>= 5.00e+15 ohm	>= 5.00e+15 ohm	IEC 93
Dielectric Constant	3.4	3.4	IEC 250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.6	3.6	IEC 250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	0.0039	0.0039	IEC 250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0208	0.0208	IEC 250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	375 V	375 V	Test solution A; IEC 112

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Hopper Throat
Zone 1	260 °C	500 °F	Feeding zone
Zone 2	265 °C	509 °F	Compression
Zone 3	270 °C	518 °F	Metering-zone
Zone 4	270 °C	518 °F	Nozzle
Melt Temperature	250 - 280 °C	482 - 536 °F	Injection-molding
	270 °C	518 °F	for shrinkage test, Optimal

Processing Properties	Metric	English	Comments
Mold Temperature	80.0 - 100 °C	176 - 212 °F	
	80.0 °C	176 °F	for shrinkage test, Optimal
Drying Temperature	80.0 - 120 °C	176 - 248 °F	
Dry Time	4 hour	4 hour	

Descriptive Properties	Value	Comments
Color	Natural and Black	
Commercial Status	Europe	
Ignition Temperature	>400°C	ASTM D1929
Peripheral screw speed	< 0.25 m/s	
Primary Processing Technique	Injection Molding	

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