

Ultradur® S 4090 G4 BK5110

Polybutylene Terephthalate + ASA

BASF Corporation

Message:

Ultradur S 4090 G4 BK5110 is a 20% glass reinforced, pigmented black PBT+ASA blend. It produces moldings with good surface finish, is resistant to chemicals and stress cracking, and has low shrinkage and warpage.

Applications

Applications include highly stressed equipment housings in the automotive, electrical and household sectors.

General Information			
UL YellowCard	E41871-233617		
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Features	Good Chemical Resistance		
	Good Surface Finish		
	High ESCR (Stress Crack Resist.)		
	Low Shrinkage		
	Low Warpage		
Uses	Automotive Applications		
	Electrical Housing		
	Household Goods		
	Housings		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS Compliant		
Appearance	Black		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.39	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	20.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.74	%	
Flow	0.43	%	
Water Absorption			ISO 62
Saturation, 23°C	0.40	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	6900	MPa	ISO 527-2
Tensile Stress			ISO 527-2

Break, -40°C	160	MPa	
Break, 23°C	100	MPa	
Break, 80°C	68.0	MPa	
Break, 121°C	42.0	MPa	
Tensile Strain (Break, 23°C)	2.5	%	ISO 527-2
Flexural Modulus (23°C)	6400	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength			ISO 179
-30°C	43	kJ/m ²	
23°C	55	kJ/m ²	
Notched Izod Impact Strength (23°C)	7.0	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	205	°C	ISO 75-2/B
1.8 MPa, Unannealed	160	°C	ISO 75-2/A
Melting Temperature (DSC)	223	°C	ISO 3146
CLTE - Flow	4.0E-5	cm/cm/°C	
RTI Elec			UL 746
0.710 mm	130	°C	
1.50 mm	130	°C	
3.00 mm	130	°C	
RTI Imp			UL 746
0.710 mm	90.0	°C	
1.50 mm	90.0	°C	
3.00 mm	90.0	°C	
RTI Str			UL 746
0.710 mm	130	°C	
1.50 mm	130	°C	
3.00 mm	130	°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Constant			IEC 60250
100 Hz	3.70		
1 MHz	3.60		
Dissipation Factor			IEC 60250
100 Hz	3.0E-3		
1 MHz	0.019		
Comparative Tracking Index	450	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94

0.710 mm	HB	
1.50 mm	HB	
3.00 mm	HB	
Injection	Nominal Value	Unit
Drying Temperature	100 to 120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.040	%
Processing (Melt) Temp	250 to 270	°C
Mold Temperature	60.0 to 100	°C
Injection Pressure	3.50 to 12.5	MPa
Injection Rate	Fast	
Back Pressure	< 1.00	MPa

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

