

Ultradur® B 4040 G10 BK5110

Polybutylene Terephthalate

BASF Corporation

Message:

Ultradur B 4040 G10 BK5110 is a pigmented black, injection molding PBT with 50% glass fiber reinforced for technical parts with excellent surface finish.

Applications

Typical applications include automotive exterior, door handles, exterior mirror housings, rear screen, wiper arms.

General Information			
Filler / Reinforcement	Glass Fiber,50% Filler by Weight		
Features	Good Surface Finish		
Uses	Automotive Exterior Parts		
	Engineering Parts		
	Handles		
	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
Specific Gravity	1.73	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	6.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.20	%	
Water Absorption			
Saturation	0.40	%	ASTM D570
Saturation, 23°C	0.40	%	ISO 62
Equilibrium, 50% RH	0.12	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.12	%	ISO 62
Viscosity Number (Reduced Viscosity)	97.0	ml/g	ISO 1628
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	16500	MPa	ISO 527-2
Tensile Strength			
Break, 23°C	140	MPa	ASTM D638
Break, 23°C	155	MPa	ISO 527-2
Tensile Elongation (Break, 23°C)	1.5	%	ASTM D638, ISO 527-2
Flexural Modulus			
23°C	13600	MPa	ASTM D790
23°C	15000	MPa	ISO 178

Flexural Stress (23°C)	225	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-30°C	8.5	kJ/m ²	
23°C	10	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	69	kJ/m ²	
23°C	52	kJ/m ²	
Notched Izod Impact			
-40°C	64	J/m	ASTM D256
23°C	75	J/m	ASTM D256
-40°C	8.1	kJ/m ²	ISO 180
23°C	8.2	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	220	°C	ASTM D648
0.45 MPa, Unannealed	221	°C	ISO 75-2/B
1.8 MPa, Unannealed	215	°C	ASTM D648
1.8 MPa, Unannealed	205	°C	ISO 75-2/A
Peak Melting Temperature	223	°C	ASTM D3418, ISO 3146
CLTE - Flow	2.5E-5	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
1.50 mm	1.0E+13	ohms	ASTM D257
--	1.0E+13	ohms	IEC 60093
Volume Resistivity			
1.50 mm	> 1.0E+15	ohms · cm	ASTM D257
--	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Constant			IEC 60250
100 Hz	4.00		
1 MHz	4.00		
Dissipation Factor			IEC 60250
100 Hz	1.2E-3		
1 MHz	0.015		
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		

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