Ultradur® B 4040 G10 BK5110

Polybutylene Terephthalate

BASF Corporation

IDES | Prospector

Product Description

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

General

Material Status	• Commercial: Active	
Availability	• North America	
Filler / Reinforcement	• Glass Fiber Reinforcement, 50% Filler by Weight	
Additive	• Mold Release	
Features	• Good Surface Finish	
Uses	• Automotive Exterior Parts • Engineering Parts	• Handles • Housings
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.73	g/cm³	ASTM D792
--	1730	kg/m³	ISO 1183 [2]
Melt volume-flow rate (275°C/5.0 kg)	6.00	cm³/10min	ISO 1133 [2]
Molding Shrinkage - Flow (3.18 mm)	0.20	%	ASTM D955
Water Absorption			
Saturation	0.40	%	ASTM D570 ISO 62 [2]
Equilibrium, 50% RH	0.12	%	ASTM D570
Equilibrium	0.12	%	ISO 62 [2]
Viscosity Number	97.0	cm³/g	ISO 1628

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	16500	MPa	ISO 527-2 [2]
Tensile Strength			
Break, 23°C	140	MPa	ASTM D638
Break	155	MPa	ISO 527-2 [2]
Tensile Elongation			
Break, 23°C	1.5	%	ASTM D638
Break	1.5	%	ISO 527-2 [2]
Flexural Modulus			
23°C	13600	MPa	ASTM D790
23°C	15000	MPa	ISO 178
Flexural Strength (23°C)	225	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA [2]
-30°C	8.50	kJ/m²	
23°C	10.0	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	69	kJ/m²	
23°C	52	kJ/m²	
Notched Izod Impact			
-40°C	64.0	J/m	ASTM D256
23°C	75.0	J/m	ASTM D256
-40°C	8.10	kJ/m²	ISO 180
23°C	8.20	kJ/m²	ISO 180

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	220	°C	ASTM D648
0.45 MPa	221	°C	ISO 75-2 [2]
1.8 MPa, Unannealed	215	°C	ASTM D648
1.8 MPa	205	°C	ISO 75-2 [2]
Melting Temperature	223	°C	ASTM D3418 ISO 3146
CLTE - Flow	0.000025	cm/cm/°C	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity [3]	1.0E+13	ohms	ASTM D257 IEC 60093 [2]
Volume Resistivity			
1.50 mm	> 1.0E+13	ohm·cm	ASTM D257
--	> 1.0E+11	ohm·m	IEC 60093 [2]
Relative Permittivity			IEC 60250 [2]
100 Hz	4.00		
1 MHz	4.00		
Dissipation Factor			IEC 60250 [2]
100 Hz	12		
1 MHz	150		

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

[3] 1.5 mm

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