Ultradur® B 4300 G2

Polybutylene Terephthalate

BASF Corporation

Product Description
Ultradur B 4300 G2 is an easy flowing injection molding PBT with 10% glass fiber reinforcement for rigid, tough, and dimensionally stable parts.

General			
Material Status	• Commercial: Active		
Availability	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber Reinforcement, 10% Filler by Weight		
Additive	• Lubricant	• Mold Release	
Features	• Good Dimensional Stability • Good Flow • Good Toughness	• High Rigidity • Lubricated • Medium Rigidity	• Semi Crystalline
Uses	• Automotive Applications • Automotive Electronics	• Cams • Electrical/Electronic Applications	• Handles • Household Goods
Agency Ratings	• NSF 14	• NSF 61	
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Injection Molding		
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1)	• Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1)	• Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.37	g/cm³	ASTM D792
--	1370	kg/m³	ISO 1183[2]
Melt volume-flow rate (250°C/2.16 kg)	16.0	cm³/10min	ISO 1133[2]
Molding Shrinkage			
Flow: 3.18 mm	0.80	%	ASTM D955
Across Flow	1.2	%	ISO 294-4
Flow	1.4	%	ISO 294-4
Water Absorption			
Saturation	0.40	%	ASTM D570 ISO 62[2]
Equilibrium, 50% RH	0.20	%	ASTM D570
Equilibrium	0.20	%	ISO 62[2]
Viscosity Number	115	cm³/g	ISO 1628

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	4500	MPa	ISO 527-2[2]
Tensile Strength			
Break, 23°C	90.0	MPa	ASTM D638
Break, -40°C	111	MPa	ISO 527-2
Break	90.0	MPa	ISO 527-2[2]
Tensile Elongation			
Break, 23°C	3.5	%	ASTM D638
Break	3.5	%	ISO 527-2[2]
Flexural Modulus			
23°C	3930	MPa	ASTM D790
23°C	3900	MPa	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength (23°C)	5.00	kJ/m²	ISO 179/1eA [2]
Charpy Unnotched Impact Strength			ISO 179
-30°C	38	kJ/m²	
23°C	40	kJ/m²	
Notched Izod Impact			
23°C	48.0	J/m	ASTM D256
23°C	5.00	kJ/m²	ISO 180

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	220	°C	ASTM D648
0.45 MPa	220	°C	ISO 75-2 [2]
1.8 MPa, Unannealed	200	°C	ASTM D648
1.8 MPa	200	°C	ISO 75-2 [2]
Melting Temperature	223	°C	ASTM D3418 ISO 3146
CLTE - Flow	0.000045	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	3.60		
1 MHz	3.60		
Dissipation Factor			IEC 60250 [2]
100 Hz	12		
1 MHz	150		
Comparative tracking index	300		IEC 60112 [2]

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (1.50 mm)	HB		UL 94

UL 746	Nominal Value	Unit	Test Method
RTI Str (1.50 mm)	125	°C	UL 746
RTI Imp (1.50 mm)	125	°C	UL 746
RTI Elec (1.50 mm)	130	°C	UL 746

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 Rate	Fast	
Back Pressure	< 1.00	MPa

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