

Ultradur® B 4040 G4

Polybutylene Terephthalate + PET

BASF Corporation

Message:

Injection molding grade with 20 % glass fibers for industrial parts with excellent surface quality, for example external door handles in vehicles, visible sunroof frames, oven door handles, toaster casings, external mirrors, rear screen wiper arms in vehicles and sunroof wind deflectors. Formerly called KR 4040 G4.

General Information			
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Features	Good Surface Finish		
Uses	Appliance Components		
	Automotive Applications		
	Handles		
	Industrial Parts		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS Compliant		
Appearance	Black		
	Colors Available		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
Resin ID (ISO 1043)	PBT-PET-GF20		
Physical	Nominal Value	Unit	Test Method
Density	1.47	g/cm ³	ISO 1183
Apparent Density	0.70 to 0.80	g/cm ³	
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	22.0	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.90	%	
Flow	0.40	%	
Water Absorption			ISO 62
Saturation, 23°C	0.40	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Viscosity Number ¹	105	cm ³ /g	ISO 307
Mold Shrinkage ²			

free, longitudinal	0.21	%	
free, transverse	1.1	%	
Maximum Service Temperature - short cycle operation	210	°C	
Automotive Materials (> 1.00 mm)	Passed		FMVSS 302
Screw Speed	< 250	mm/sec	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	190	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	7500	MPa	ISO 527-2
Tensile Stress (Break)	120	MPa	ISO 527-2
Tensile Strain (Break)	2.8	%	ISO 527-2
Flexural Modulus	7010	MPa	ISO 178
Flexural Stress	190	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.5	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	40	kJ/m ²	
23°C	40	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	215	°C	ISO 75-2/B
1.8 MPa, Unannealed	180	°C	ISO 75-2/A
Melting Temperature	223	°C	ISO 11357-3
CLTE - Flow (23 to 80°C)	2.0E-5 to 3.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat	1100	J/kg/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+13	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms · cm	IEC 60093
Relative Permittivity			IEC 60250
100 Hz	3.70		
1 MHz	3.50		
Dissipation Factor			IEC 60250
100 Hz	1.4E-3		
1 MHz	0.018		
Comparative Tracking Index (Solution A)	300	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flammability Classification			IEC 60695-11-10, -20
0.800 mm	HB		
1.60 mm	HB		
Injection	Nominal Value	Unit	
Drying Temperature	80.0 to 120	°C	

Drying Time	4.0	hr
Suggested Max Moisture	0.040	%
Hopper Temperature	80.0	°C
Rear Temperature	260	°C
Middle Temperature	265	°C
Front Temperature	270	°C
Nozzle Temperature	270	°C
Processing (Melt) Temp	250 to 280	°C
Mold Temperature	60.0 to 100	°C

NOTE

1. solution 0,005 g/ml Phenole/1,2
Dichlorbenzol 1:1
2. plate with film gate 150*150*3
mm³

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