

Ultradur® B 4406 G6

Polybutylene Terephthalate

BASF Corporation

Message:

Injection molding grade with 30 % glass fibers for parts requiring enhanced fire resistance (eg potentiometer parts, plug-and-socket connectors, switches).

General Information			
UL YellowCard	E36632-531671	E41871-233791	E36632-101116599
	E36632-101117278		
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	Flame retardancy		
Uses	Electrical components		
	Switch		
	Connector		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Appearance	Black		
	Available colors		
	Natural color		
Forms	Particle		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Resin ID (ISO 1043)	PBT FR(17)		
Physical	Nominal Value	Unit	Test Method
Density	1.65	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	8.00	cm³/10min	ISO 1133
Water Absorption			ISO 62
Saturated, 23°C	0.40	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Viscosity Number ¹	108	cm³/g	ISO 307
Mold Shrinkage ²			
free, longitudinal	0.20	%	
free, transverse	1.0	%	

Temperature index-at 50% loss of tensile strength			IEC 60216
-- ³	125	°C	IEC 60216
-- ⁴	150	°C	IEC 60216
Maximum operating temperature-short cycle operation	210	°C	
Flammability by Electrical Sources of Ignition (4.00 mm) ⁵	BH2		IEC 60707
Automotive Materials (> 1.00 mm)	Pass		FMVSS 302
ISO Type	PBT, MFGHLNR, 11-110, GF30		ISO 7792
Screw Speed		mm/sec	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 961/30)	220	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	11300	MPa	ISO 527-2
Tensile Stress (Break)	145	MPa	ISO 527-2
Tensile Strain (Break)	2.3	%	ISO 527-2
Tensile Creep Modulus ⁶ (1000 hr)	7500	MPa	ISO 899-1
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	55	kJ/m ²	ISO 179/1eU
23°C	60	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	220	°C	ISO 75-2/B
1.8 MPa, not annealed	205	°C	ISO 75-2/A
Melting Temperature	223	°C	ISO 11357-3
CLTE - Flow (23 to 80°C)	2.0E-5 - 3.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat	1400	J/kg/°C	
Thermal Conductivity	0.32	W/m/K	DIN 52612
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	3.90		IEC 60250
1 MHz	3.90		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	2.0E-3		IEC 60250
1 MHz	0.015		IEC 60250
Comparative Tracking Index			IEC 60112
Solution a	200	V	IEC 60112
Solution B	125	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flammability Classification			IEC 60695-11-10, -20
0.400 mm	V-0		IEC 60695-11-10, -20
1.60 mm	V-0		IEC 60695-11-10, -20

Injection	Nominal Value	Unit
Drying Temperature	80.0 - 120	°C
Drying Time	4.0	hr
Hopper Temperature	80.0	°C
Rear Temperature	240	°C
Middle Temperature	245	°C
Front Temperature	250	°C
Nozzle Temperature	250	°C
Processing (Melt) Temp	250 - 275	°C
Mold Temperature	60.0 - 100	°C

Injection instructions

Residence time: <10 min.

NOTE

1.	solution 0,005 g/ml Phenole/1,2 Dichlorbenzol 1:1
2.	plate with film gate 150*150*3 mm ³
3.	20000 h
4.	5000 h
5.	Method BH
6.	strain <= 0,5%, 23°C

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