

Ultradur® S 4090 G2

Polybutylene Terephthalate + ASA

BASF Corporation

Message:

Low-warpage, easy-flowing injection molding grade with 10 % glass fibres for technical parts, for which dimensional stability is very important (eg, housings, plug-and-socket connectors).

General Information			
UL YellowCard	E41871-233616		
Filler / Reinforcement	Glass Fiber,10% Filler by Weight		
Features	Good Dimensional Stability		
	Good Flow		
	Low Warpage		
Uses	Connectors		
	Engineering Parts		
	Housings		
Agency Ratings	EC 1907/2006 (REACH)		
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)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Resin ID (ISO 1043)	PBT-ASA-GF10		
Physical	Nominal Value	Unit	Test Method
Density	1.31	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)	35.0	cm ³ /10min	ISO 1133
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	0.46	%	
free, transverse	0.85	%	
Maximum Service Temperature - short cycle operation	170	°C	
Temperature Index - at 50% loss of tensile strength			IEC 60216
-- ³	110	°C	
-- ⁴	140	°C	
Automotive Materials (> 1.00 mm)	Passed		FMVSS 302
Screw Speed	< 250	mm/sec	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 961/30)	140	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4500	MPa	ISO 527-2
Tensile Stress (Break)	75.0	MPa	ISO 527-2
Tensile Strain (Break)	2.9	%	ISO 527-2
Tensile Creep Modulus ⁵ (1000 hr)	3300	MPa	ISO 899-1
Flexural Modulus	4100	MPa	ISO 178
Flexural Stress	119	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	24	kJ/m ²	
23°C	37	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	190	°C	ISO 75-2/B
1.8 MPa, Unannealed	105	°C	ISO 75-2/A
Melting Temperature	223	°C	ISO 11357-3
CLTE - Flow (23 to 80°C)	5.5E-5	cm/cm/°C	ISO 11359-2
Specific Heat	1200	J/kg/°C	
Thermal Conductivity	0.27	W/m/K	DIN 52612
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms · cm	IEC 60093
Relative Permittivity			IEC 60250
100 Hz	3.60		
1 MHz	3.40		
Dissipation Factor			IEC 60250
100 Hz	3.1E-3		

1 MHz	0.021		
Comparative Tracking Index			IEC 60112
Solution A	375	V	
Solution B	125	V	
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 275	°C	
Mold Temperature	60.0 to 100	°C	
NOTE			

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| 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. | strain <= 0,5%, 23°C |

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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