

Ultradur® S 4090 G4 High Speed

Polybutylene Terephthalate + ASA

BASF Corporation

Message:

Low-warpage, easy-flowing injection molding grade with 20 % glass fibres for technical parts, for which dimensional stability is very important (eg, housings, plug-and-socket connectors).

General Information			
Filler / Reinforcement	Glass Fiber,20% 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		
Resin ID (ISO 1043)	PBT-ASA-GF20		
Physical	Nominal Value	Unit	Test Method
Density	1.39	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
Molding Shrinkage			ISO 294-4
Across Flow	0.80	%	
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	0.17	%	
free, transverse	0.80	%	

Maximum Service Temperature - short cycle operation	170	°C	
Automotive Materials (> 1.00 mm)	Passed		FMVSS 302
Screw Speed	< 250	mm/sec	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	6900	MPa	ISO 527-2
Tensile Stress (Break)	100	MPa	ISO 527-2
Tensile Strain (Break)	2.4	%	ISO 527-2
Flexural Modulus	6800	MPa	ISO 178
Flexural Stress	155	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	30	kJ/m ²	
23°C	43	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	210	°C	ISO 75-2/B
1.8 MPa, Unannealed	180	°C	ISO 75-2/A
Melting Temperature	223	°C	ISO 11357-3
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	3.70		
1 MHz	3.60		
Dissipation Factor			IEC 60250
100 Hz	3.0E-3		
1 MHz	0.019		
Comparative Tracking Index (Solution A)	325	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flammability Classification (1.60 mm)	HB		IEC 60695-11-10, -20
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		
1.	solution 0,005 g/ml Phenole/1,2 Dichlorbenzol 1:1	
2.	plate with film gate 150*150*3 mm ³	

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