Ultradur® S 4090 G6

Polybutylene Terephthalate + ASA

BASF Corporation

Message:

Ultradur S 4090 G6 is a 30% glass reinforced PBT+ASA blend. It produces moldings with good surface finish,is resistant to chemicals and stress cracking, and has low shrinkage and warpage.
Applications
Applications include highly stressed equipment housings in the automotive, electrical and household sectors.

General Information	
UL YellowCard	E41871-233618
Filler / Reinforcement	Glass Fiber,30% Filler by Weight
Features	Good Chemical Resistance Good Surface Finish High ESCR (Stress Crack Resist.) Low Shrinkage Low Warpage
Uses	Automotive Applications Electrical Housing Household Goods Housings
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS Compliant
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)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.47	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	20.0	cm³/10min	ISO 1133
Molding Shrinkage			
Flow : 3.18 mm	0.30	%	
Across Flow	0.75	%	ISO 294-4

Flow	0.29	%	ISO 294-4
Water Absorption			
Saturation	0.40	%	ASTM D570
Saturation, 23°C	0.40	%	ISO 62
Equilibrium, 50% RH	0.20	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Viscosity Number (Reduced Viscosity)	105.0	ml/g	ISO 1628
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	9700	MPa	ISO 527-2
Tensile Strength			
Break, 23°C	125	MPa	ASTM D638, ISO 527-2
Break, -40°C	195	MPa	ISO 527-2
Break, 80°C	79.0	MPa	ISO 527-2
Break, 121°C	47.0	MPa	ISO 527-2
Tensile Elongation (Break, 23°C)	2.2	%	ASTM D638, ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	7600	MPa	
1000 hr	6700	MPa	
Flexural Modulus			
23°C	8270	MPa	ASTM D790
23°C	8300	MPa	ISO 178
Flexural Strength (23°C)	194	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	9.0	kJ/m^2	ISO 179
Charpy Unnotched Impact Strength			ISO 179
-30°C	50	kJ/m^2	
23°C	59	kJ/m^2	
Notched Izod Impact			ASTM D256
-40°C	69	J/m	
23°C	85	J/m	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	210	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	177	°C	ASTM D648
1.8 MPa, Unannealed	175	°C	ISO 75-2/A
Peak Melting Temperature	223	°C	ASTM D3418, ISO 3146
CLTE - Flow	4.0E-5	cm/cm/°C	
RTI Elec			UL 746
0.690 mm	130	°C	
1.50 mm	130	°C	
3.00 mm	130	°C	
RTI Imp			UL 746

0.690 mm	90.0	°C	
1.50 mm	90.0	°C	
3.00 mm	90.0	°C	
RTI Str			UL 746
0.690 mm	130	°C	
1.50 mm	130	°C	
3.00 mm	130	°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity [1]	1.0E+14	ohms	ASTM D257, IEC 60093
Volume Resistivity			
1.50 mm	> 1.0E+13	ohms·cm	ASTM D257
--	> 1.0E+13	ohms·cm	IEC 60093
Dielectric Constant			IEC 60250
100 Hz	3.80		
1 MHz	3.70		
Dissipation Factor			IEC 60250
100 Hz	3.0E-3		
1 MHz	0.018		
Comparative Tracking Index	500	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.690 mm	HB		
1.50 mm	HB		
3.00 mm	HB		
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 Pressure	3.50 to 12.5	MPa	
Injection Rate	Fast		
Back Pressure	< 1.00	MPa	
NOTE			
1.	1.5 mm		

Recommended distributors for this material

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