VALOX™ DR48 - CS1049 resin

Polybutylene Terephthalate

SABIC Innovative Plastics Europe

Message:

VALOX DR48 is a 15 % glass reinforced, flame retardant injection moulding PBT resin. Applications: lamp sockets, connectors, switches, electrical housings and bases, bobbins, trimmers and electromotor housings.

General Information			
Filler / Reinforcement	Glass Fiber,15% Filler by Weight		
Features	Flame Retardant		
Uses	Bobbins Connectors Electric Motor Housings Electrical Housing Electrical/Electronic Applications Switches		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.50	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/2.16 kg	8.00	cm³/10min	
250°C/5.0 kg	24.0	cm³/10min	
Molding Shrinkage [1]			Internal Method
Flow	0.50 to 0.80	%	
Across Flow	0.60 to 0.90	%	
Water Absorption			ISO 62
Saturation, 23°C	0.17	%	
Equilibrium, 23°C, 50% RH	0.070	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	120		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	6300	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield	102	MPa	
Break	102	MPa	
Tensile Strain			ISO 527-2/5
Yield	3.0	%	
Break	3.0	%	

Flexural Modulus [2]	5200	MPa	ISO 178
Flexural Stress	150	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	16.0	mg	Internal Method
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
-30°C [3]	4.0	kJ/m²	ISO 179/1eA
-30°C	5.0	kJ/m²	ISO 179/2C
23°C [4]	5.0	kJ/m²	ISO 179/1eA, ISO 179/2C
Notched Izod Impact Strength [5]			ISO 180/1A
-30°C	5.0	kJ/m²	
0°C	5.0	kJ/m²	
23°C	5.0	kJ/m²	
Unnotched Izod Impact Strength [6]			ISO 180/1U
-30°C	27	kJ/m²	
23°C	30	kJ/m²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature [7] (1.8 MPa, Unannealed, 64.0 mm Span)	170	°C	ISO 75-2/Af
Vicat Softening Temperature	200	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : -40 to 40°C	2.8E-5	cm/cm/°C	
Flow : 23 to 80°C	3.5E-5	cm/cm/°C	
Flow : 23 to 150°C	2.6E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	
Transverse : 23 to 80°C	9.5E-5	cm/cm/°C	
Transverse : 23 to 150°C	1.5E-4	cm/cm/°C	
Thermal Conductivity	0.19	W/m/K	ISO 8302
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	140	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257, IEC 60093
Dielectric Strength			
0.800 mm, in Oil	29	kV/mm	ASTM D149, IEC 60243-1
1.60 mm, in Oil	23	kV/mm	ASTM D149, IEC 60243-1
3.20 mm, in Oil	16	kV/mm	ASTM D149, IEC 60243-1
1.00 mm [8]	19	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.10		ASTM D150, IEC 60250
50 Hz	3.20		IEC 60250

60 Hz	3.20		IEC 60250
Dissipation Factor			
1 MHz	0.012		ASTM D150, IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
Arc Resistance [9]	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index			IEC 60112
--	175	V	
Solution B	150	V	
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.890 mm	V-0		
3.00 mm	5VA		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	31	%	ISO 4589-2
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Filler Content	15	%	ASTM D229
Injection	**Nominal Value**	**Unit**	
Drying Temperature	110 to 120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 to 60.0	°C	
Rear Temperature	230 to 245	°C	
Middle Temperature	240 to 255	°C	
Front Temperature	245 to 265	°C	
Nozzle Temperature	240 to 260	°C	
Processing (Melt) Temp	250 to 270	°C	
Mold Temperature	40.0 to 100	°C	
NOTE			
1.	Tensile Bar		
2.	2.0 mm/min		
3.	80*10*4 sp=62mm		
4.	80*10*4 sp=62mm		
5.	80*10*4		
6.	80*10*4		
7.	80*10*4 mm		
8.	Short-Time		
9.	Tungsten Electrode		

Recommended distributors for this material

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