

VALOX™ DR48 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

17% glass reinforced, flame retardant grade UL-94 rated V-0/5VA.

General Information	
UL YellowCard	E121562-220810
Filler / Reinforcement	Glass Fiber, 17% Filler by Weight
Features	Flame Retardant
Processing Method	Injection Molding
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
	Elastic Modulus vs Temperature (ASTM D4065)
	Flexural DMA (ASTM D4065)
	Pressure-Volume-Temperature (PVT - Zoller Method)
	Shear DMA (ASTM D4065)
	Specific Heat vs. Temperature (ASTM D3417)
	Tensile Creep (ASTM D2990)
	Tensile Fatigue
	Tensile Stress vs. Strain (ASTM D638)
	Thermal Conductivity vs. Temperature (ASTM E1530)
	Viscosity vs. Shear Rate (ASTM D3835)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.53	g/cm ³	ASTM D792
Specific Volume	0.660	cm ³ /g	ASTM D792
Molding Shrinkage			Internal Method
Flow ¹	0.60 to 0.90	%	
Flow ²	0.40 to 0.60	%	
Across Flow ³	0.50 to 0.80	%	
Across Flow ⁴	0.80 to 1.1	%	
Water Absorption (24 hr)	0.070	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁵ (Break)	93.1	MPa	ASTM D638
Flexural Modulus ⁶ (50.0 mm Span)	5030	MPa	ASTM D790
Flexural Strength ⁷ (Break, 50.0 mm Span)	145	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53	J/m	ASTM D256

Unnotched Izod Impact (23°C)	530	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	210	°C	
1.8 MPa, Unannealed, 6.40 mm	182	°C	
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow			ASTM E831
-40 to 40°C	2.0E-5	cm/cm/°C	
60 to 138°C	2.0E-5	cm/cm/°C	
RTI Elec	120	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	140	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	3.6E+16	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Oil	26	kV/mm	
3.20 mm, in Air	19	kV/mm	
Dielectric Constant			ASTM D150
100 Hz	3.60		
1 MHz	3.40		
Dissipation Factor			ASTM D150
100 Hz	2.0E-3		
1 MHz	0.020		
Arc Resistance ⁸	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
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			IEC 60695-2-12
1.00 mm	960	°C	
3.00 mm ⁹	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	700	°C	
3.00 mm	725	°C	
Oxygen Index	29	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	

Drying Time, Maximum	12	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 80	%
Rear Temperature	238 to 254	°C
Middle Temperature	243 to 260	°C
Front Temperature	249 to 266	°C
Nozzle Temperature	243 to 260	°C
Processing (Melt) Temp	249 to 266	°C
Mold Temperature	65.6 to 87.8	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	50 to 80	rpm
Vent Depth	0.025 to 0.038	mm

NOTE

- | | |
|----|--------------------|
| 1. | 3.2 to 4.6 mm |
| 2. | 1.5 to 3.2 mm |
| 3. | 1.5 to 3.2 mm |
| 4. | 3.2-4.6 mm |
| 5. | Type I, 5.0 mm/min |
| 6. | 1.3 mm/min |
| 7. | 1.3 mm/min |
| 8. | Tungsten Electrode |
| 9. | by VDE |

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