

VALOX™ FR RESINS V3504

REGION ASIA

DESCRIPTION

VALOX V3504 is an unreinforced, flame retardant Polybutylene Terephthalate (PBT) injection moldable grade with excellent chemical resistance. It has a UL94V0@0.38mm and 5VA@3.0mm flame rating. This is a good candidate for thin wall applications in the electrical industry including bobbins, keyboards, switches and appliance housings.

TYPICAL PROPERTY VALUES

Revision 20190411

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield	57	MPa	SABIC - Japan Method
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Strain, break	16	%	SABIC - Japan Method
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	9	%	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2620	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	58	MPa	ISO 527
Tensile Strain, break, 50 mm/min	8	%	ISO 527
Flexural Stress, yield, 2 mm/min	88	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	52	J/m	ASTM D256
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	106	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	80	°C	ISO 75/Af
Relative Temp Index, Elec	120	°C	UL 746B
Relative Temp Index, Mech w/impact	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.4	-	ASTM D792
Melt Flow Rate, 250°C/2.16 kgf	11	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 250°C/2.16 kg	8	cm³/10 min	ISO 1133
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	4	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Voltage Arc Resistance {PLC}	6	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Volume Resistivity	1.E+15	Ω.cm	IEC 60093
FLAME CHARACTERISTICS			

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UL Recognized, 94V-0 Flame Class Rating	0.38	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	0.38	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.4 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	825	°C	IEC 60695-2-13
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 260	°C	
Nozzle Temperature	240 – 255	°C	
Front - Zone 3 Temperature	245 – 260	°C	
Middle - Zone 2 Temperature	240 – 255	°C	
Rear - Zone 1 Temperature	230 – 250	°C	
Mold Temperature	50 – 75	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.013 – 0.025	mm	

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