

VALOX™ FR RESIN 364

REGION ASIA

DESCRIPTION

VALOX 364 Polycarbonate/Polybutylene Terephthalate (PC/PBT) resin is a non-reinforced, injection moldable grade. This brominated flame retardant PC/PBT has a UL V0 rating. VALOX 364 resin is a general purpose resin that is an excellent candidate for a wide variety of applications including outdoor telecommunication enclosure applications

TYPICAL PROPERTY VALUES

Revision 20180528

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	46	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	36	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	50	%	ASTM D 638
Tensile Modulus, 5 mm/min	1960	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	66	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	1800	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	46	MPa	ISO 527
Tensile Stress, break, 50 mm/min	36	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	36	%	ISO 527
Tensile Modulus, 1 mm/min	1950	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	69	MPa	ISO 178
Flexural Modulus, 2 mm/min	1830	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	747	J/m	ASTM D 256
Izod Impact, notched, -20°C	694	J/m	ASTM D 256
Izod Impact, notched, -40°C	427	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	45	J	ASTM D 3763
Instrumented Impact Total Energy, -20°C	44	J	ASTM D 3763
Instrumented Impact Total Energy, -40°C	47	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	51	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	17	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	51	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	115	°C	ASTM D 1525

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	103	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	68	°C	ASTM D 648
CTE, -40°C to 40°C, flow	9.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.8E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	9.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	1.E-04	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	119	°C	ISO 306
Vicat Softening Temp, Rate B/120	122	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	74	°C	ISO 75/Af
Relative Temp Index, Elec	75	°C	UL 746B
Relative Temp Index, Mech w/impact	75	°C	UL 746B
Relative Temp Index, Mech w/o impact	75	°C	UL 746B
PHYSICAL			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.8 – 1	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm (5)	0.8 – 1	%	SABIC method
Melt Flow Rate, 266°C/5.0 kgf	19	g/10 min	ASTM D 1238
Density	1.31	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.09	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Melt Volume Rate, MVR at 265°C/5.0 kg	17	cm ³ /10 min	ISO 1133
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.47	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.99	mm	UL 94
Oxygen Index (LOI)	28	%	ASTM D 2863
UV-light, water exposure/immersion	F2	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	12	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 265	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Nozzle Temperature	245 – 260	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 260	°C	
Rear - Zone 1 Temperature	240 – 255	°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	0.025 – 0.038	mm	

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