

VALOX™ RESIN VAC3001

REGION AMERICAS

DESCRIPTION

Unfilled PBT modified with elastomer. Targeted for flexible hinge applications.

TYPICAL PROPERTY VALUES

Revision 20190924

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	31	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	3.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	160	%	ASTM D638
Tensile Modulus, 50 mm/min	2500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	79	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	25	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	120	%	ISO 527
Tensile Modulus, 1 mm/min	2300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	75	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	59	J/m	ASTM D256
Izod Impact, notched, -30°C	25	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	54	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	156	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	118	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	47	°C	ASTM D648
CTE, -40°C to 40°C, flow	9.18E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	9.18E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	156	°C	ISO 306
Vicat Softening Temp, Rate B/120	155	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	48	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.29	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	2.1 – 2.3	%	SABIC method

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CHEMISTRY THAT MATTERS™



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow, 3.2 mm	2.1 – 2.3	%	SABIC method
Melt Flow Rate, 250°C/1.2 kgf	17	g/10 min	ASTM D1238
Density	1.3	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/1.2 kg	16	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 0.8 mm	15.9	kV/mm	ASTM D149
Relative Permittivity, 1 MHz	2.9	-	ASTM D150
Dissipation Factor, 1 MHz	0.02	-	ASTM D150
FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-102288283	-	-
UL Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
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	
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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