

Valox* Resin 357

Americas: COMMERCIAL

PBT, Unreinforced, impact modified, UL94V-0 rated. Applications like bobbins, switches and enclosures.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	41	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	48	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	54	%	ASTM D 638
Tensile Modulus, 5 mm/min	2020	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	78	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	82	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
Hardness, Rockwell R	117	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	NB3204	J/m	ASTM D 4812
Izod Impact, notched, 23°C	319	J/m	ASTM D 256
Izod Impact, notched, -30°C	153	J/m	ASTM D 256
Gardner, 23°C	43	J	ASTM D 3029
Modified Gardner, 23°C	43	J	ASTM D 3029
Instrumented Impact Total Energy, 23°C	35	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	134	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	135	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	98	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	98	°C	ASTM D 648
CTE, -40°C to 40°C, flow	9.18E-05	1/°C	ASTM E 831
CTE, 60°C to 138°C, flow	1.24E-04	1/°C	ASTM E 831
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	1.35	-	ASTM D 792
Specific Volume	0.74	cm ³ /g	ASTM D 792
Water Absorption, 24 hours	0.08	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	1 - 1.4	%	SABIC Method
Mold Shrinkage, flow, 0.75-2.3 mm	0.8 - 1.1	%	SABIC Method
Mold Shrinkage, flow, 2.3-4.6 mm	1 - 1.4	%	SABIC Method
Mold Shrinkage, xflow, 0.75-2.3 mm	0.9 - 1.3	%	SABIC Method
Mold Shrinkage, xflow, 2.3-4.6 mm	1.2 - 1.6	%	SABIC Method
Melt Flow Rate, 250°C/5.0 kgf	9.6	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	>1.2E+16	Ohm-cm	ASTM D 257

Dielectric Strength, in air, 3.2 mm	18.5	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	25.1	kV/mm	ASTM D 149
Dielectric Strength, in oil, 3.2 mm	18.5	kV/mm	ASTM D 149
Relative Permittivity, 100 Hz	3.2	-	ASTM D 150
Relative Permittivity, 1 MHz	3.2	-	ASTM D 150
Dissipation Factor, 100 Hz	0.003	-	ASTM D 150
Dissipation Factor, 1 MHz	0.03	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94HB Flame Class Rating (3)	0.45	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	0.63	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.99	mm	UL 94
CSA (See File for complete listing)	LS88480	File No.	CSA LISTED
Oxygen Index (LOI)	30	%	ASTM D 2863
UV-light, water exposure/immersion	F2	-	UL 746C

Source GMD, last updated:09/26/2008

Processing

Parameter	Value	Unit
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

Source GMD, last updated:09/26/2008

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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