

Valox* Resin IQ357U

Americas: COMMERCIAL

Valox* Resin iQ357U: Environmentally responsible, low carbon footprint iQ* PBT + PC alloy. UL94 V-0 @0.78mm. Impact modified.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	41	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.9	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	74	%	ASTM D 638
Tensile Modulus, 5 mm/min	2000	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	75	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	48	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.6	%	ISO 527
Tensile Strain, break, 50 mm/min	74.8	%	ISO 527
Tensile Modulus, 1 mm/min	2190	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	73	MPa	ISO 178
Flexural Modulus, 2 mm/min	2050	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	490	J/m	ASTM D 256
Izod Impact, notched, -30°C	167	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	50	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	31	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	34	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	130	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	127	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	88	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.74E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.16E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.74E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	130	°C	ISO 306
Vicat Softening Temp, Rate B/120	133	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	84	°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	Value	Unit	Standard
Specific Gravity	1.35	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.1 - 1.4	%	SABIC Method

Melt Flow Rate, 250°C/5.0 kgf	9.3	g/10 min	ASTM D 1238
Density	1.32	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.08	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	7	cm ³ /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Hot Wire Ignition {PLC}	2	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}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Compliant, 94V-0 Flame Class Rating (3)(4)	0.75	mm	UL 94 by GE
UL Compliant, 94-5VA Rating (3)(4)	3	mm	UL 94 by GE

Source GMD, last updated:10/16/2008

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:10/16/2008

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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