



Valox* Resin IQ3001

Europe-Africa-Middle East: COMMERCIAL

Valox IQ3001 is an unfilled environmentally responsible iQ-PBT resin modified with elastomer. Targeted for flexible hinge applications.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	570	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	520	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D 638
Tensile Modulus, 5 mm/min	26500	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	830	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	25400	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	60	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2400	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	173	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	2	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	2	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	234	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	4	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m ²	ISO 179/1eA



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THERMAL			
Vicat Softening Temp, Rate B/50	177	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	54	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	148	°C	ASTM D 648
CTE, -40°C to 150°C, flow	8.5E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	7.9E-05	1/°C	ASTM E 831
CTE, -30°C to 80°C, flow	8.5E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	7.9E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	178	°C	ISO 306
Vicat Softening Temp, Rate B/120	177	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	135	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	48	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.31	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	2.1 - 2.7	%	GE Method
Mold Shrinkage, xflow, 3.2 mm	2.1 - 2.7	%	GE Method
Melt Flow Rate, 250°C/1.2 kgf	26	g/10 min	ASTM D 1238
Density	1.31	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.11	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/1.2 kg	24	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
Glow Wire Ignitability Temperature, 1.0 mm	0	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	0	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	0	°C	IEC 60695-2-13



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PROCESSING PARAMETERS	TYPICAL 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	65 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	50 - 80	rpm
Shot to Cylinder Size	40 - 80	%
Vent Depth	0.025 - 0.038	mm