

Valox* Resin IQ325HP

Asia Pacific: COMMERCIAL

FDA compliant PBT resin, using chemically recycled post consumer PET Bottles. Fit to food contact applications.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	56	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	29	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.2	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	282.4	%	ASTM D 638
Tensile Modulus, 5 mm/min	2850	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	84	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2560	MPa	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	3	%	ISO 527
Tensile Strain, break, 50 mm/min	14.4	%	ISO 527
Tensile Modulus, 1 mm/min	2030	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2430	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	50	J/m	ASTM D 256
Izod Impact, notched, -30°C	46	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	61	J	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	2	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	161	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	49	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	58	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.8E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.1E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.1E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	172	°C	ISO 306
Vicat Softening Temp, Rate B/120	165	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	48	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.34	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	1.6 - 2.4	%	SABIC Method
Melt Flow Rate, 250°C/2.16 kgf	23	g/10 min	ASTM D 1238
Density	1.34	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.16	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62

Melt Volume Rate, MVR at 250°C/2.16 kg	21	cm ³ /10 min	ISO 1133
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Source GMD, last updated:2009/08/11

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	245 - 260	°C
Nozzle Temperature	240 - 255	°C
Front - Zone 3 Temperature	245 - 260	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 250	°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	0.013 - 0.025	mm

Source GMD, last updated:2009/08/11

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.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

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