SABIC Innovative Plastics™

Valox* Resin 310HP

Americas: COMMERCIAL

Unreinforced, neat resin for compounding only. Not intended for injection molding. Medium viscosity 5000-7000 P. Available in natural (1001) color. FDA Food Contact Compliant

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	51	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	51	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	200	%	ASTM D 638
Tensile Modulus, 5 mm/min	2400	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	82	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Hardness, Rockwell R	117	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	80	%	ISO 527
Tensile Modulus, 1 mm/min	2650	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	81	MPa	ISO 178
Flexural Modulus, 2 mm/min	2290	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	1602	J/m	ASTM D 4812
Izod Impact, notched, 23°C	53	J/m	ASTM D 256
Izod Impact, notched, -30°C	32	J/m	ASTM D 256
Modified Gardner, 23°C	40	J	ASTM D 3029
Instrumented Impact Total Energy, 23°C	24	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	3	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	170	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	52	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	154	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	54	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.1E-05	1/°C	ASTM E 831
CTE, 60°C to 138°C, flow	1.39E-04	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	1.2E-04	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	1.3E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	170	°C	ISO 306
Vicat Softening Temp, Rate B/120	170	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	51	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard

Specific Gravity	1.31	-	ASTM D 792
Specific Volume	0.76	cm³/g	ASTM D 792
Water Absorption, 24 hours	0.08	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	1.2 - 1.3	%	SABIC Method
Mold Shrinkage, flow, 0.75-2.3 mm	0.9 - 1.6	%	SABIC Method
Mold Shrinkage, flow, 2.3-4.6 mm	1.5 - 2.3	%	SABIC Method
Mold Shrinkage, xflow, 0.75-2.3 mm	1 - 1.7	%	SABIC Method
Mold Shrinkage, xflow, 2.3-4.6 mm	1.6 - 2.4	%	SABIC Method
Melt Flow Rate, 250°C/5.0 kgf	34.6	g/10 min	ASTM D 1238
Density	1.31	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.08	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	33	cm³/10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Volume Resistivity	>4.E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	15.7	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	23.2	kV/mm	ASTM D 149
Relative Permittivity, 100 Hz	3.3	-	ASTM D 150
Relative Permittivity, 1 MHz	3.1	-	ASTM D 150
Dissipation Factor, 100 Hz	0.002	-	ASTM D 150
Dissipation Factor, 1 kHz	0.4193	-	ASTM D 150
Dissipation Factor, 1 MHz	0.02	-	ASTM D 150

Source GMD, last updated:05/12/2006

Processing

Parameter Compounding Extrusion	Value	Unit
Drying Temperature	110 - 120	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0	%
Melt Temperature	245 - 260	°C
Barrel - Zone 1 Temperature	200 - 230	°C
Barrel - Zone 2 Temperature	240 - 255	°C
Barrel - Zone 3 Temperature	240 - 275	°C
Barrel - Zone 4 Temperature	240 - 275	°C
Adapter Temperature	240 - 275	°C
Die Temperature	240 - 275	°C
Waterbath Temperature	25 - 35	°C

Source GMD, last updated:05/12/2006

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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