

Valox* Resin HX3091HP

Americas: COMMERCIAL

PBT for compounding/fibers only. Not intended for injection molding. Biocompatible. Melt viscosity at 250C and 21.6kgf is 3500-4500 poise. Available in Natural color (1001) only.

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	30	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	300	%	ASTM D 638
Tensile Modulus, 5 mm/min	2530	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	77	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	46	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	60	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	77	MPa	ISO 178
Flexural Modulus, 2 mm/min	2150	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	55	J/m	ASTM D 256
Izod Impact, notched, -30°C	50	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	35	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	170	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	112	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	49	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	170	°C	ISO 306
Vicat Softening Temp, Rate B/120	171	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	50	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.31	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.8 - 2.2	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	1.8 - 2.2	%	SABIC Method
Melt Flow Rate, 250°C/2.16 kgf	21	g/10 min	ASTM D 1238
Melt Viscosity	400	Pa-s	SABIC Method

Density	1.31	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.34	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/2.16 kg	19	cm ³ /10 min	ISO 1133

Source GMD, last updated:01/16/2007

Processing

Parameter	Value	Unit
Compounding Extrusion		
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:01/16/2007

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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