VALOX™ RESIN HX3091HP

REGION AMERICAS

DESCRIPTION

PBT for compounding/fibers only. Not intended for injection molding. Healthcare applications, biocompatible. US FDA food contact compliant. Available in Natural color only.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
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			
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/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
THERMAL			
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			
Specific Gravity	1.31	-	ASTM D 792

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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/cm³	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	cm³/10 min	ISO 1133
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	

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