

VALOX™ RESIN HX325HP

REGION EUROPE

DESCRIPTION

VALOX™ HX325HP resin is an unreinforced polybutylene terephthalate (PBT). Mold release. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 OR USP Class VI), US FDA food contact compliant, gamma, ebeam, EtO sterilizable . Available in limited colors.

TYPICAL PROPERTY VALUES

Revision 20220825

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	10	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2550	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	15	%	ASTM D638
Tensile Modulus, 50 mm/min	2600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	85	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
IMPACT			
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
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	100	kJ/m ²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Izod Impact, notched, 23°C	40	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
THERMAL			
Vicat Softening Temp, Rate B/50	185	°C	ISO 306
Vicat Softening Temp, Rate B/120	185	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	60	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	150	°C	ISO 75/Bf
CTE, 23°C to 60°C, flow	1.30E-04	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.30E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	185	°C	ASTM D1525

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	60	°C	ASTM D648
CTE, 23°C to 60°C, flow	1.30E-04	1/°C	ASTM E831
CTE, 23°C to 60°C, xflow	1.30E-04	1/°C	ASTM E831
PHYSICAL			
Density	1.31	g/cm ³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Water Absorption, (23°C/saturated)	0.34	%	ISO 62-1
Mold Shrinkage, flow, 24 hrs	2.0 – 2.2	%	ISO 294
Mold Shrinkage, xflow, 24 hrs	2.2 – 2.3	%	ISO 294
Melt Volume Rate, MVR at 250°C/2.16 kg	20	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 250°C/5.0 kg	50	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	165	Pa-s	ISO 11443
Specific Gravity	1.31	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.03	%	ASTM D570
Water Absorption, (23°C/24hrs)	0.09	%	ASTM D570
Melt Flow Rate, 250°C/2.16 kgf	24	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 250°C/2.16 kg	20	cm ³ /10 min	ASTM D1238
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 270	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	245 – 265	°C	
Middle - Zone 2 Temperature	240 – 255	°C	
Rear - Zone 1 Temperature	230 – 245	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	40 – 100	°C	

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