

LEXANT™ HEALTHCARE RESIN HPS4

REGION EUROPE

DESCRIPTION

LEXANT™ HPS4 resin is a 11 MFR polycarbonate, MVR of 10. Mold release. Biocompatible (ISO10993 or USP Class VI) grade for medical devices and pharmaceutical applications. It is EtO, steam, e-beam and gamma sterilizable. Subject to SABIC healthcare management of change process.

TYPICAL PROPERTY VALUES

Revision 20220721

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	74	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	140	%	ASTM D638
Tensile Modulus, 50 mm/min	2300	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	61	MPa	ISO 527
Tensile Stress, break, 50 mm/min	73	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	128	%	ISO 527
Tensile Modulus, 1 mm/min	2390	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	93	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	840	J/m	ASTM D256
Izod Impact, notched, -30°C	220	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	88	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy Impact, notched, 23°C	82	kJ/m ²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate B/50	143	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	126	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	138	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.8E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.6E-05	1/°C	ASTM E831

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CTE, -40°C to 40°C, flow	7.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.6E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	127	°C	ISO 75/Ae
PHYSICAL			
Specific Gravity	1.19	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.14	%	ASTM D570
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10.5	g/10 min	ASTM D1238
Density	1.19	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.26	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm ³ /10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 110	°C	

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