

LEXAN™ HPS1 resin

Polycarbonate

SABIC Innovative Plastics

Message:

High flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, e-beam and gamma sterilizable. Contains mold release.

General Information			
Additive	demoulding		
Features	Electron beam disinfection		
	Radiation disinfection		
	Ethylene oxide disinfection		
	High liquidity		
	Biocompatibility		
Uses	Drug		
	Medical/nursing supplies		
Agency Ratings	ISO 10993		
	USP Class VI		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	23.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	63.0	MPa	ISO 527-2/50
Fracture	50.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	6.0	%	ISO 527-2/50
Fracture	70	%	ISO 527-2/50

Flexural Modulus ²	2300	MPa	ISO 178
Flexural Stress	90.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	32.0	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA
-30°C	15	kJ/m ²	ISO 179/1eA
23°C	60	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact ⁵			ISO 180/1A
-30°C	10	kJ/m ²	ISO 180/1A
23°C	60	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, unannealed, 100 mm span	133	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	121	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	139	°C	ISO 306/B50
--	140	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (23 to 80°C)	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		IEC 60250
60 Hz	2.70		IEC 60250
1 MHz	2.70		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
1 MHz	0.010		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (1.00 mm)	850	°C	IEC 60695-2-12
Oxygen Index	25	%	ISO 4589-2

Injection	Nominal Value	Unit
Drying Temperature	120	°C
Drying Time	2.0 - 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 - 80.0	°C
Rear Temperature	260 - 280	°C
Middle Temperature	270 - 290	°C
Front Temperature	280 - 300	°C
Nozzle Temperature	270 - 290	°C
Processing (Melt) Temp	280 - 300	°C
Mold Temperature	80.0 - 100	°C

NOTE

1.	Tensile Bar
2.	2.0 mm/min
3.	80*10*3 sp=62mm
4.	80*10*3 sp=62mm
5.	80*10*3
6.	80*10*3
7.	120*10*4 mm

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