LEXAN™ HPS6 resin

Polycarbonate

SABIC Innovative Plastics

Message:

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

General Information			
Additive	Mold Release		
Features	Biocompatible E-beam Sterilizable Ethylene Oxide Sterilizable Medium Flow Radiation Sterilizable Steam Sterilizable		
Uses	Medical/Healthcare Applications Pharmaceuticals		
Agency Ratings	ISO 10993 USP Class VI		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.20	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238
300°C/1.2 kg	7.0	g/10 min	
300°C/5.0 kg	110	g/10 min	
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	6.50	cm³/10min	ISO 1133
Molding Shrinkage			Internal Method
Flow [1]	0.50 to 0.70	%	
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Water Absorption			
24 hr	0.15	%	ASTM D570
Saturation, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus			
-- [2]	2310	MPa	ASTM D638
--	2300	MPa	ISO 527-2/1
Tensile Strength			
Yield [3]	62.1	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break [4]	68.9	MPa	ASTM D638
Break	75.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield [5]	6.5	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break [6]	140	%	ASTM D638
Break	140	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span [7]	2340	MPa	ASTM D790
-- [8]	2250	MPa	ISO 178
Flexural Stress			
--	95.0	MPa	ISO 178
Yield, 50.0 mm Span [9]	97.9	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [10]			ISO 179/1eA
-30°C	15	kJ/m^2	
23°C	75	kJ/m^2	
Charpy Unnotched Impact Strength [11]			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	140	J/m	ASTM D256
23°C	910	J/m	ASTM D256
-30°C [12]	10	kJ/m^2	ISO 180/1A
23°C [13]	70	kJ/m^2	ISO 180/1A
Unnotched Izod Impact			
23°C	3200	J/m	ASTM D4812
-30°C [14]	No Break		ISO 180/1U
23°C [15]	No Break		ISO 180/1U
Instrumented Dart Impact			ASTM D3763
23°C, Energy at Peak Load	65.0	J	
23°C, Total Energy	65.0	J	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	135	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138	°C	ASTM D648

1.8 MPa, Unannealed, 3.20 mm	124	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	132	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span [16]	124	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	154	°C	ASTM D1525 [17]
--	143	°C	ISO 306/B50
--	140	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	6.2E-5	cm/cm/°C	ASTM E831
Flow : -40 to 40°C	6.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	5.7E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	ISO 11359-2

Injection	Nominal Value	Unit
Drying Temperature	121	°C
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	288 to 310	°C
Middle Temperature	299 to 321	°C
Front Temperature	310 to 332	°C
Nozzle Temperature	304 to 327	°C
Processing (Melt) Temp	310 to 332	°C
Mold Temperature	82.2 to 116	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE	
1.	Tensile Bar
2.	5.0 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	Type I, 50 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*3 sp=62mm
11.	80*10*3 sp=62mm
12.	80*10*3
13.	80*10*3

14.	80*10*3
15.	80*10*3
16.	80*10*4 mm
17.	Rate B (120°C/h), Loading 2 (50 N)

Recommended distributors for this material

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