

LEXAN™ HP1REU resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

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

General Information			
UL YellowCard	E45329-100106607		
Additive	Mold Release		
Features	Biocompatible		
	Ethylene Oxide Sterilizable		
	High Flow		
Uses	Medical/Healthcare Applications		
	Pharmaceuticals		
Agency Ratings	ISO 10993		
	USP Class VI		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	28	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	26.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.15	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2370	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	62.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Break ³	65.0	MPa	ASTM D638
Break	50.0	MPa	ISO 527-2/50
Tensile Elongation			

Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	120	%	ASTM D638
Break	70	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2300	MPa	ASTM D790
-- ⁷	2300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	93.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	10	kJ/m ²	
23°C	65	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	100	J/m	ASTM D256
23°C	640	J/m	ASTM D256
-30°C ¹¹	10	kJ/m ²	ISO 180/1A
23°C ¹²	60	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	54.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	126	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁴	121	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	139	°C	ASTM D1525, ISO 306/B50 ¹¹ ¹⁵
--	140	°C	ISO 306/B120
CLTE			
Flow : -40 to 95°C	6.8E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 95°C	6.8E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	

Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	260 to 280	°C
Middle Temperature	270 to 290	°C
Front Temperature	280 to 300	°C
Nozzle Temperature	270 to 290	°C
Processing (Melt) Temp	280 to 300	°C
Mold Temperature	80.0 to 100	°C

NOTE

1.	50 mm/min
2.	Type I, 50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*3 sp=62mm
10.	80*10*3 sp=62mm
11.	80*10*3
12.	80*10*3
13.	80*10*3
14.	120*10*4 mm
15.	Rate B (120°C/h), Loading 2 (50 N)

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