

LEXAN™ HP2REU resin

Polycarbonate
SABIC Innovative Plastics Europe

Message:
Med/high flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO and steam sterilizable. Contains a higher amount of release than HP2EU.

General Information			
UL YellowCard	E45329-100106609		
Additive	Mold Release		
Features	Biocompatible		
	Ethylene Oxide Sterilizable		
	High Flow		
	Steam Sterilizable		
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)	22	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	21.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow			Internal Method
-- ¹	0.50 to 0.70	%	
3.20 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.15	%	
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			
-- ²	2400	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			

Yield ³	63.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Break ⁴	70.0	MPa	ASTM D638
Break	65.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	7.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁶	130	%	ASTM D638
Break	100	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2350	MPa	ASTM D790
-- ⁸	2300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm Span ⁹	98.0	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ¹⁰	12	kJ/m ²	ISO 179/1eA
23°C ¹¹	65	kJ/m ²	ISO 179/1eA
23°C	35	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ¹²			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	30	J/m	ASTM D256
23°C	70	J/m	ASTM D256
-30°C ¹³	11	kJ/m ²	ISO 180/1A
23°C ¹⁴	65	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁵			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	633	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed, 100 mm Span ¹⁶	133	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	129	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁷	122	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	139	°C	ASTM D1525 ¹⁸
--	140	°C	ISO 306/B50

--	141	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
125°C	Pass		
140°C ¹⁹	Pass		
CLTE			
Flow : -40 to 40°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 40°C	6.8E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
60 Hz	1.0E-3		
1 MHz	0.010		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (1.00 mm)	850	°C	IEC 60695-2-12
Oxygen Index	25	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 µm)	88.0	%	ASTM D1003
Haze (2540 µm)	< 0.80	%	ASTM D1003
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.	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 sp=62mm	
13.	80*10*3	
14.	80*10*3	
15.	80*10*3	
16.	120*10*4 mm	
17.	120*10*4 mm	
18.	Rate B (120°C/h), Loading 2 (50 N)	
19.	Approximate maximum	

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