

LEXAN™ HPF1 resin

Polycarbonate
SABIC Innovative Plastics

Message:
25 MFR LEXAN High Flow Ductile Copolymer Healthcare Grade

General Information			
Features	Copolymer		
	Ductile		
	High Flow		
Uses	Medical/Healthcare Applications		
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)	25	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	23.0	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	0.30	%	
Equilibrium, 23°C, 50% RH	0.15	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2230	MPa	ASTM D638
--	2180	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	59.0	MPa	ASTM D638
Yield	62.0	MPa	ISO 527-2/50
Break ³	60.0	MPa	ASTM D638
Break	65.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	130	%	ASTM D638
Break	120	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2220	MPa	ASTM D790

-- ⁷	2180	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	99.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	13	kJ/m ²	
23°C	73	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	130	J/m	ASTM D256
0°C	790	J/m	ASTM D256
23°C	810	J/m	ASTM D256
-30°C ¹¹	13	kJ/m ²	ISO 180/1A
23°C ¹²	64	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	67.5	J	ASTM D3763
--	110	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	122	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	111	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁴	115	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	135	°C	ASTM D1525 ¹⁵
--	129	°C	ISO 306/B50
--	130	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	8.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	8.0E-5	cm/cm/°C	
Flammability	Nominal Value		Test Method
Flame Rating (0.750 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.582		ASTM D542
Transmittance (2540 μm)	80.0	%	ASTM D1003
Haze (2540 μm)	< 1.0	%	ASTM D1003

Injection	Nominal Value	Unit
Drying Temperature	104 to 110	°C
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	24	hr
Suggested Shot Size	40 to 60	%
Rear Temperature	238 to 282	°C
Middle Temperature	249 to 293	°C
Front Temperature	260 to 304	°C
Nozzle Temperature	254 to 299	°C
Processing (Melt) Temp	260 to 304	°C
Mold Temperature	48.9 to 82.2	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	35 to 75	rpm
Vent Depth	0.038 to 0.076	mm

NOTE		
1.	5.0 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.	80*10*4 mm	
15.	Rate B (120°C/h), Loading 2 (50 N)	

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