

LEXAN™ HFD1810 resin

Polycarbonate
SABIC Innovative Plastics

Message:
40 MFR LEXAN High Flow Ductile Copolymer

General Information			
UL YellowCard	E121562-100910157		
Features	Copolymer		
	Ductile		
	High Flow		
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)	40	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	38.0	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	2270	MPa	ASTM D638
--	2180	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	60.0	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Break ³	56.0	MPa	ASTM D638
Break	56.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.5	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁵	130	%	ASTM D638
Break	97	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2240	MPa	ASTM D790

-- ⁷	2180	MPa	ISO 178
Flexural Stress			
--	91.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	100	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	64	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
0°C	700	J/m	ASTM D256
23°C	730	J/m	ASTM D256
-30°C ¹¹	11	kJ/m ²	ISO 180/1A
23°C ¹²	58	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	56.0	J	ASTM D3763
--	95.0	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	121	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	110	°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	
RTI Elec	105	°C	UL 746
RTI Imp	105	°C	UL 746
RTI Str	105	°C	UL 746
Flammability	Nominal Value		Test Method
Flame Rating (0.300 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method

Refractive Index	1.582	ASTM D542
Transmittance (2540 μm)	88.0	% 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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