

LEXAN™ HFD1810 resin

Polycarbonate

SABIC Innovative Plastics

Message:

40 MFR LEXAN High Flow Ductile Copolymer

General Information			
UL YellowCard	E207780-100910180		
Features	Copolymer		
	High liquidity		
	ductility		
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 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
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
Fracture ³	56.0	MPa	ASTM D638
Fracture	56.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.5	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Fracture ⁵	130	%	ASTM D638
Fracture	97	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2240	MPa	ASTM D790

-- ⁷	2180	MPa	ISO 178
Flexural Stress			
--	91.0	MPa	ISO 178
Yield, 50.0mm 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	ISO 179/1eA
23°C	64	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
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		ISO 180/1U
23°C	No Break		ISO 180/1U
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, 3.20mm	121	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	110	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm 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
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	8.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	8.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
RTI Elec	105	°C	UL 746
RTI Imp	105	°C	UL 746
RTI	105	°C	UL 746
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.300 mm	HB		UL 94

1.00 mm	V-2	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 - 110	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	24	hr	
Suggested Shot Size	40 - 60	%	
Rear Temperature	238 - 282	°C	
Middle Temperature	249 - 293	°C	
Front Temperature	260 - 304	°C	
Nozzle Temperature	254 - 299	°C	
Processing (Melt) Temp	260 - 304	°C	
Mold Temperature	48.9 - 82.2	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	35 - 75	rpm	
Vent Depth	0.038 - 0.076	mm	
NOTE			
1.	5.0 mm/min		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/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.	标准 B (120°C/h), 载荷2 (50N)		

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