

LEXAN™ HF1840R resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

LEXAN HF1840R polycarbonate resin, MVR (300C/1.2kg) 36 cm³/10min, extreme low viscosity, injection molding, mold release, transparent. FDA foodcontact compliant in limited colors. FDA 21CFR177.1580, European food contacto regulation EC Directive 2002/72/EC.

General Information			
Additive	Mold Release		
Features	Food Contact Acceptable		
	Low Viscosity		
Agency Ratings	EU 2002/72/EC		
	FDA 21 CFR 177.1580		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/1.2 kg	6.00	cm ³ /10min	
300°C/1.2 kg	36.0	cm ³ /10min	
Molding Shrinkage - Flow ¹	0.50 to 0.70	%	Internal Method
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	2300	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	60.0	MPa	
Break	55.0	MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	70	%	
Flexural Modulus ²	2300	MPa	ISO 178
Flexural Stress	85.0	MPa	ISO 178
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 ³			ISO 179/1eA
-30°C	11	kJ/m ²	
23°C	55	kJ/m ²	
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁵			ISO 180/1A
-30°C	11	kJ/m ²	
23°C	55	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed, 100 mm Span ⁷	133	°C	ISO 75-2/Be
0.45 MPa, Unannealed, 64.0 mm Span ⁸	130	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 100 mm Span ⁹	121	°C	ISO 75-2/Ae
1.8 MPa, Unannealed, 64.0 mm Span ¹⁰	120	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	145	°C	ISO 306/A50
--	139	°C	ISO 306/B50
--	140	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (23 to 80°C)	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Elec	80.0	°C	UL 746
RTI Imp	80.0	°C	UL 746
RTI Str	80.0	°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			IEC 60243-1
0.800 mm, in Oil	35	kV/mm	
1.60 mm, in Oil	27	kV/mm	
3.20 mm, in Oil	17	kV/mm	
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		
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 μm)	88.0 to 90.0	%	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.	2.0 mm/min		
3.	80*10*3 sp=62mm		
4.	80*10*3 sp=62mm		
5.	80*10*3		
6.	80*10*3		
7.	120*10*4 mm		
8.	80*10*4 mm		
9.	120*10*4 mm		
10.	80*10*4 mm		

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