

LEXAN™ FL905 resin

Polycarbonate

SABIC Innovative Plastics

Message:

Lexan® FL905 provides high impact, 3 mm V0, 6 mm 5VA performance in foamed applications.

General Information			
Features	Foamable		
	High Impact Resistance		
Uses	Foam		
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)	3.2	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	3.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.60	%	
Across Flow : 3.20 mm	0.50	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2810	MPa	ASTM D638
--	2800	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	58.0	MPa	ASTM D638
Yield	57.0	MPa	ISO 527-2/50
Break ³	47.0	MPa	ASTM D638
Break	44.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.7	%	ASTM D638
Yield	5.9	%	ISO 527-2/50
Break ⁵	30	%	ASTM D638
Break	25	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2670	MPa	ASTM D790
-- ⁷	2690	MPa	ISO 178
Flexural Stress			
--	91.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	98.0	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	16	kJ/m ²	
23°C	31	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	310	kJ/m ²	
23°C	340	kJ/m ²	
Notched Izod Impact			
-30°C	140	J/m	ASTM D256
23°C	520	J/m	ASTM D256
-30°C ¹¹	12	kJ/m ²	ISO 180/1A
23°C ¹²	27	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	170	kJ/m ²	
23°C	170	kJ/m ²	
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	46.0	J	
23°C, Total Energy	53.0	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	146	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹⁴	145	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	140	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁵	134	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	148	°C	ASTM D1525 ¹⁶
--	147	°C	ISO 306/B50
--	149	°C	ISO 306/B120
CLTE			
Flow : -40 to 95°C	5.4E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	5.2E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 95°C	8.0E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.6E-5	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
3.00 mm	V-0		
6.00 mm	5VA		
Foam - Flame Class Minimum Density	900	kg/m ³	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	

Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	271 to 293	°C
Middle Temperature	282 to 304	°C
Front Temperature	293 to 316	°C
Nozzle Temperature	288 to 310	°C
Processing (Melt) Temp	293 to 316	°C
Mold Temperature	71.1 to 93.3	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

1.	50 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.	80*10*4 mm
16.	Rate A (50°C/h), Loading 2 (50 N)

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