

LEXAN™ FST9705 resin

Polycarbonate

SABIC Innovative Plastics

Message:

High viscosity Proprietary Polycarbonate Ester, OSU 55/55 compliant, low smoke, flame retardant resin

General Information			
Additive	Flame Retardant		
Features	Copolymer		
	Flame Retardant		
	High Viscosity		
	Low Smoke Emission		
Agency Ratings	OSU 55/55		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.34	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
300°C/1.2 kg	4.00	cm ³ /10min	
300°C/5.0 kg	16.8	cm ³ /10min	
Molding Shrinkage - Flow (3.20 mm)	0.60 to 0.80	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.28	%	
Equilibrium, 23°C, 50% RH	0.11	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2620	MPa	ASTM D638
--	2500	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	72.3	MPa	ASTM D638
Yield	74.0	MPa	ISO 527-2/50
Break ³	73.2	MPa	ASTM D638
Break	76.6	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.7	%	ASTM D638
Yield	6.8	%	ISO 527-2/50
Break ⁵	100	%	ASTM D638
Break	110	%	ISO 527-2/50
Flexural Modulus			

50.0 mm Span ⁶	2500	MPa	ASTM D790
-- ⁷	2330	MPa	ISO 178
Flexural Stress			
--	107	MPa	ISO 178
Yield, 50.0 mm Span ⁸	115	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	24	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
23°C	190	J/m	ASTM D256
-30°C ¹⁰	10	kJ/m ²	ISO 180/1A
23°C ¹¹	16	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	80.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	121	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	117	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	140	°C	ASTM D1525 ¹³
--	137	°C	ISO 306/B50
--	139	°C	ISO 306/B120
Ball Pressure Test ¹⁴ (125°C)	Pass		IEC 60695-10-2
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	5.7E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	
Flammability	Nominal Value	Unit	Test Method
NBS Smoke Density - Flaming, Dmax	< 25.0		ASTM E662
OSU Peak Heat Release Rate ¹⁵	< 55.0	kW/m ²	FAR 25.853
OSU Total Heat Release ¹⁶	< 55.0	kW · min/m ²	FAR 25.853
Vertical Burn Test			FAR 25.853
Test a (60 s), passes at	2.4	sec	
Test b (12 s), passes at	0.5	sec	
Injection	Nominal Value	Unit	
Drying Temperature	107	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	260 to 282	°C	
Middle Temperature	271 to 293	°C	
Front Temperature	282 to 304	°C	

Nozzle Temperature	277 to 299	°C
Processing (Melt) Temp	282 to 304	°C
Mold Temperature	71.1 to 104	°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.	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*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)
14.	Approximate maximum
15.	5 minute test
16.	2 minute test

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