LEXAN™ COPOLYMER FST9705

REGION AMERICAS

DESCRIPTION

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

TYPICAL PROPERTY VALUES

Revision 20260205

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	72	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	73	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D638
Tensile Modulus, 5 mm/min	2610	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	115	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	74	MPa	ISO 527
Tensile Stress, break, 50 mm/min	76	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6.8	%	ISO 527
Tensile Strain, break, 50 mm/min	109	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	107	MPa	ISO 178
Flexural Modulus, 2 mm/min	2320	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	194	J/m	ASTM D256
Izod Impact, notched, -30°C	112	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	80	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	16	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	24	kJ/m²	ISO 179/1eA
THERMAL [1]			
Vicat Softening Temp, Rate B/50	140	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	121	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	5.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Ball Pressure Test, approximate maximum	125	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	139	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	117	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.34	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.6 – 0.8	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 300°C/1.2 kgf	5	g/10 min	ASTM D1238
Density	1.34	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.28	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.11	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	4	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	16	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS			
OSU total heat release (2 minute test)	<55	kW-min/m²	FAR 25.853
OSU peak heat release rate (5 minute test)	<55	kW/m²	FAR 25.853
Vertical Burn a (60s) passes at	2.4	Seconds	FAR 25.853
Vertical Burn b (12s) passes at	0.5	Seconds	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<25	-	ASTM E662
INJECTION MOLDING [3]			
Drying Temperature	105	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 305	°C	
Nozzle Temperature	275 – 300	°C	
Front - Zone 3 Temperature	280 – 305	°C	
Middle - Zone 2 Temperature	270 – 295	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	70 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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