



LEXAN™ Resin FST9705
Americas: COMMERCIAL

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

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	730	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	740	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	102	%	ASTM D 638
Tensile Modulus, 5 mm/min	26600	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1170	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	25400	kgf/cm ²	ASTM D 790
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			
Izod Impact, notched, 23°C	19	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	11	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	815	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	16	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	24	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	140	°C	ASTM D 1525



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THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	121	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
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			
Specific Gravity	1.34	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	5	g/10 min	ASTM D 1238
Density	1.34	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.28	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.11	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	4	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	16	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
OSU total heat release (2 minute test)	<55	kW-min/m ²	FAR 25.853
OSU peak heat release rate (5 minute test)	<55	kW/m ²	FAR 25.853
Vertical Burn a (60s) passes at	2.4	sec	FAR 25.853
Vertical Burn b (12s) passes at	0.5	sec	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<25	-	ASTM E 662



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
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