

Lexan* Resin FST9705

Americas: COMMERCIAL

High viscosity PC Copolymer, OSU 55/55 compliant, low smoke, flame retardant resin

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	72	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	73	MPa	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	2610	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	115	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2500	MPa	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	Value	Unit	Standard
Izod Impact, notched, 23°C	194	J/m	ASTM D 256
Izod Impact, notched, -30°C	112	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	80	J	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	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	140	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	121	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.7E-06	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-06	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.7E-06	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-06	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	Value	Unit	Standard
Specific Gravity	1.34	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	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	Value	Unit	Standard
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

Source GMD, last updated:01/30/2007

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	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 - 95	°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

Source GMD, last updated:01/30/2007

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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