LEXAN™ COPOLYMER FST9405

REGION AMERICAS

DESCRIPTION

LEXAN FST9405 is based on Polycarbonate (PC) copolymer high flow resin suitable for injection molding. This halogen-free flame retardant resin is OSU55/55 and FAR25.853 compliant and is targeted for aircraft interior applications. Available in opaque colors.

TYPICAL PROPERTY VALUES

Revision 20260205

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	77	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	70	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	75	%	ASTM D638
Tensile Modulus, 5 mm/min	2600	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	2700	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	77	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	95	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	130	J/m	ASTM D256
Izod Impact, notched, -30°C	85	J/m	ASTM D256
Multiaxial Impact	130	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	60	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	12	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate B/50	114	°C	ASTM D1525

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	105	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	95	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	113	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	94	°C	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.33	-	ASTM D792
Mold Shrinkage, flow (2)	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow (2)	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	9	g/10 min	ASTM D1238
Density	1.33	g/cm³	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS (1)			
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	1	Seconds	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<75	-	ASTM E662
INJECTION MOLDING (2)			
Drying Temperature	95 – 100	°C	
Drying Time	6 – 8	Hrs	
Melt Temperature	250 – 280	°C	
Nozzle Temperature	245 – 275	°C	
Front - Zone 3 Temperature	250 – 280	°C	
Middle - Zone 2 Temperature	240 – 270	°C	
Rear - Zone 1 Temperature	230 – 250	°C	
Mold Temperature	50 – 80	°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.

MORE INFORMATION

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

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