

# LEXAN™ COPOLYMER FST9405

REGION EUROPE

## DESCRIPTION

Lexan\* FST9405 resin is a high flow PC Copolymer Resin, suitable for injection molding. This halogen-free flame retardant resin is OSU55/55 and FAR25.583 compliant and an ideal candidate for aircraft interior applications. Available in opaque colors.

## TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	77	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	70	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	75	%	ASTM D 638
Tensile Modulus, 5 mm/min	2600	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	2700	MPa	ASTM D 790
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
<b>IMPACT</b>			
Izod Impact, notched, 23°C	130	J/m	ASTM D 256
Izod Impact, notched, -30°C	85	J/m	ASTM D 256
Multiaxial Impact	130	J	ISO 6603
Instrumented Impact Total Energy, 23°C	60	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	11	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m <sup>2</sup>	ISO 180/1A

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Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	114	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	105	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	95	°C	ASTM D 648
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
<b>PHYSICAL</b>			
Specific Gravity	1.33	-	ASTM D 792
Mold Shrinkage, flow (5)	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow (5)	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	9	g/10 min	ASTM D 1238
Density	1.33	g/cm <sup>3</sup>	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	10	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
OSU total heat release (2 minute test)	<55	kW-min/m <sup>2</sup>	FAR 25.853
OSU peak heat release rate (5 minute test)	<55	kW/m <sup>2</sup>	FAR 25.853
Vertical Burn a (60s) passes at	1	sec	FAR 25.853
NBS Smoke Density, Flaming, Dmax	<75	-	ASTM E 662
<b>INJECTION MOLDING</b>			
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	

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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	

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