

# LEXAN<sup>TM</sup> COPOLYMER FST3002

REGION EUROPE

## DESCRIPTION

LEXAN FST3002 resin is a halogen-free flame retardant PC Copolymer Resin with MVR of 8, suitable for injection molding. This resin is EN45545 R6 HL2 compliant and an ideal candidate for train interior applications (category R6). Available in opaque colors

## TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	75	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	>50	%	ASTM D 638
Tensile Modulus, 50 mm/min	2450	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	110	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	74	MPa	ISO 527
Tensile Stress, break, 50 mm/min	59	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2450	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	107	MPa	ISO 178
Flexural Modulus, 2 mm/min	2400	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	70	J/m	ASTM D 256
Izod Impact, notched, -30°C	60	J/m	ASTM D 256
Multiaxial Impact	130	J	ISO 6603
Instrumented Impact Total Energy, 23°C	70	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	7	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	6	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	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	9	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	7	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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	130	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	108	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate A/120	141	°C	ISO 306
Vicat Softening Temp, Rate B/50	130	°C	ISO 306
Vicat Softening Temp, Rate B/120	130	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	125	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	111	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.22	-	ASTM D 792
Mold Shrinkage, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	9	g/10 min	ASTM D 1238
Density	1.22	g/cm <sup>3</sup>	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	8	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
Heat release, MAHRE, 50 kW/m <sup>2</sup> , 3 mm	<90	kW/m <sup>2</sup>	ISO 5660-1
Smoke density, DS-4, 50 kW/m <sup>2</sup> , 3mm	<300	-	ISO 5659-2
Smoke density, VOF4, 50 kW/m <sup>2</sup> , 3mm	<600	-	ISO 5659-2
Smoke toxicity, CITG (8 min), 50 kW/m <sup>2</sup> , 3 mm	<0.9	-	ISO 5659-2
Fire Safety Hazard Level - Requirement set R6	HL2	-	EN 45545-2:2013
<b>INJECTION MOLDING</b>			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 100	°C	

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