

# LEXAN<sup>TM</sup> FR RESINS FL905

REGION AMERICAS

## DESCRIPTION

LEXAN FL905 Polycarbonate (PC) is an injection moldable non-chlorinated/brominated, 5% glass filled, foamable flame retardant grade with good impact performance. It has an MVR of 3(300°C/1.2kg), UL94 V0@3mm, and 5VA @6.0mm.

## TYPICAL PROPERTY VALUES

Revision 20190424

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	47	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	30	%	ASTM D 638
Tensile Modulus, 50 mm/min	2810	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	98	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2670	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	44	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.9	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	2790	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	91	MPa	ISO 178
Flexural Modulus, 2 mm/min	2680	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	520	J/m	ASTM D 256
Izod Impact, notched, -30°C	137	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	53	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	46	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	171	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	172	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	27	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	31	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	16	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	335	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	313	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate A/50	148	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	146	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	140	°C	ASTM D 648
CTE, -40°C to 95°C, flow	5.4E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	8.E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	5.2E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, xflow	7.6E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	147	°C	ISO 306
Vicat Softening Temp, Rate B/120	149	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	134	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	3.2	g/10 min	ASTM D 1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Melt Volume Rate, MVR at 300°C/1.2 kg	3	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
FOAM - Flame Class Minimum Density	0.9	g/cm <sup>3</sup>	-
UL Recognized, 94V-0 Flame Class Rating	3	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	6	mm	UL 94
<b>INJECTION MOLDING</b>			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°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	

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