

# LEXAN<sup>TM</sup> FR RESINS 945

REGION ASIA

## DESCRIPTION

LEXAN 945 Polycarbonate (PC) is an injection moldable non-chlorinated and non-brominated, unfilled flame retardant grade with medium flow. It has an MVR of 10 (300°C/1.2kg) and a UL94 V0@1.0mm, 5VA at 3.0mm rating and is available in various opaque color options.

## TYPICAL PROPERTY VALUES

Revision 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	125	%	ASTM D 638
Tensile Modulus, 50 mm/min	2270	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	101	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Hardness, Rockwell M	70	-	ASTM D 785
Hardness, Rockwell R	118	-	ASTM D 785
<b>IMPACT</b>			
Izod Impact, notched, 23°C	801	J/m	ASTM D 256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Instrumented Impact Total Energy, 23°C	73	J	ASTM D 3763
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	143	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	126	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.66E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.66E-05	1/°C	ASTM E 831
Specific Heat	1.25	J/g-°C	ASTM C 351
Thermal Conductivity	0.27	W/m-°C	ASTM C177
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D 1238
Moisture Absorption, (23°C/50% RH/24 hrs)	0.15	%	ASTM D 570
Water Absorption, (23°C/24hrs)	0.15	%	ASTM D 570
Water Absorption, (23°C/Saturated)	0.23	%	ASTM D 570
<b>ELECTRICAL</b>			
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Yellow Card Link	<u>E207780-228407</u>	-	-
UL Recognized, 94V-2 Flame Class Rating	0.8	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	1.0	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	3.0	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1.0	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	875	°C	IEC 60695-2-13
Glow Wire Flammability Index 850°C, passes at	3	mm	IEC 60695-2-12
Oxygen Index (LOI)	35	%	ISO 4589
<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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