LEXAN™ FR RESINS 505RU

REGION ASIA

DESCRIPTION

LEXAN 505RU Polycarbonate (PC) is an injection moldable non-chlorinated and non-brominated flame retardant grade that is 10% glass fiber filled. It is UV stabilized and has a UL94 V0@1.5mm rating and is available in various opaque color options. This is an alternative to LEXAN 503R, 503R, 503RS.

INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays, Lighting, Electrical Components and Infrastructure
Hydrocarbon and Energy	Electric Vehicle, Energy Storage
Hygiene and Healthcare	Patient Testing
Industrial	Servomotor, Electronic Material
Mass Transportation	Specialty Vehicles

TYPICAL PROPERTY VALUES

Revision 20241030

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	74	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	62	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D638
Tensile Modulus, 5 mm/min	3600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	114	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3200	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	72	MPa	ISO 527
Tensile Stress, break, 5 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	6	%	ISO 527
Tensile Modulus, 1 mm/min	3500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	122	MPa	ISO 178
Flexural Modulus, 2 mm/min	3500	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	1200	J/m	ASTM D4812
Izod Impact, notched, 23°C	90	J/m	ASTM D256
Izod Impact, notched, -30°C	70	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	25	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB75	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	73	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB87	kJ/m²	ISO 179/1eU

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB85	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	144	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	143	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	145	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	142	°C	ISO 75/Bf
HDT/Bf, 0.45 MPa Flatw, Annealed 120°C, 2 hrs	144	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Af
HDT/Af, 1.8 MPa Flatw, Annealed 120°C, 2 hrs	140	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.26	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	8	g/10 min	ASTM D1238
Density	1.26	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	7	cm³/10 min	ISO 1133
ELECTRICAL			
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index	175	V	IEC 60112
Volume Resistivity	>1.E+17	Ω.cm	IEC 60093
FLAME CHARACTERISTICS			
UL Yellow Card Link	E207780-100059995	-	-
UL Recognized, 94V-2 Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	3.0	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	39	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 320	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	290 – 320	°C	
Middle - Zone 2 Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	270 – 300	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.