LEXAN™ FR RESINS 525RU

REGION EUROPE

DESCRIPTION

LEXAN 525RU 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, 505RU.

TYPICAL PROPERTY VALUES

Revision 20250625

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 5 mm/min	60	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5	%	ISO 527
Tensile Strain, break, 5 mm/min	10	%	ISO 527
Tensile Modulus, 1 mm/min	3800	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	100	MPa	ISO 178
Flexural Modulus, 2 mm/min	3600	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	63	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	48	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	12	%	ASTM D638
Tensile Modulus, 5 mm/min	3930	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	108	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3520	MPa	ASTM D790
Hardness, Rockwell M	85	-	ASTM D785
Hardness, Rockwell R	124	-	ASTM D785
IMPACT			
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	130	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	9	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	130	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	106	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
THERMAL			
Specific Heat	1.21	J/g-°C	ASTM C351
Thermal Conductivity	0.2	W/m-°C	ASTM C177
Vicat Softening Temp, Rate B/50	141	°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	4.70E-05	1/°C	ASTM E831

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CTE, -40°C to 40°C, xflow	6.40E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	4.45E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	9.27E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	143	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	142	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Af
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Density	1.26	g/cm³	ISO 1183
Mold Shrinkage on Tensile Bar, flow	0.4	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.3	%	SABIC method
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.31	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
ELECTRICAL			
Volume Resistivity	1.0E+15	Ω.cm	IEC 60093
Comparative Tracking Index	175	V	IEC 60112
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
High Amp Arc Ignition, 0.8 mm	0	PLC Code	UL 746A
High Amp Arc Ignition, 1.5 mm	0	PLC Code	UL 746A
High Amp Arc Ignition, 3.0 mm	0	PLC Code	UL 746A
Hot-wire Ignition, 0.8 mm	1	PLC Code	UL 746A
Hot-wire Ignition, 1.5 mm	1	PLC Code	UL 746A
Hot-wire Ignition, 3.0 mm	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
FLAME CHARACTERISTICS			
UL Recognized, 94-5VA Flame Class Rating	3.0	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	0.8	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.8 mm	825	°C	IEC 60695-2-13
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	37	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 320	°C	
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	

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Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

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