

LEXANTM FR RESINS 503R

REGION AMERICAS

DESCRIPTION

10% GR PC. Optimum combination of high modulus plus excellent impact strength and flame retardance. UV-stabilized. Internal mold release.

TYPICAL PROPERTY VALUES

Revision 20191022

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	66	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	55	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	8	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	15	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	103	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3440	MPa	ASTM D 790
Hardness, Rockwell M	85	-	ASTM D 785
Hardness, Rockwell R	124	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	11	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 23°C	2136	J/m	ASTM D 4812
Izod Impact, notched, 23°C	106	J/m	ASTM D 256
Tensile Impact Strength, Type S	157	kJ/m ²	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	101	J	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	154	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	146	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	142	°C	ASTM D 648
CTE, -40°C to 95°C, flow	3.24E-05	1/°C	ASTM E 831
Specific Heat	1.21	J/g·°C	ASTM C 351
Thermal Conductivity	0.2	W/m·°C	ASTM C 177
Relative Temp Index, Elec	120	°C	UL 746B
Relative Temp Index, Mech w/impact	110	°C	UL 746B
Relative Temp Index, Mech w/o impact	125	°C	UL 746B
PHYSICAL			
Specific Gravity	1.25	-	ASTM D 792
Specific Volume	0.8	cm ³ /g	ASTM D 792
Density	1.245	g/cm ³	ASTM D 792
Water Absorption, 24 hours	0.12	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.31	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.4	%	SABIC method
ELECTRICAL			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	17.7	kV/mm	ASTM D 149

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Permittivity, 50/60 Hz	3.1	-	ASTM D 150
Relative Permittivity, 1 MHz	3.05	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0008	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0075	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-220888	-	-
UL Recognized, 94V-0 Flame Class Rating	1.52	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	2.99	mm	UL 94
Oxygen Index (LOI)	36	%	ASTM D 2863
UV-light, water exposure /immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°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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