

# LEXAN™ COPOLYMER 4504

REGION ASIA

## DESCRIPTION

High heat resistant polycarbonate copolymer, provides DTUL of 290F at 264 psi. FDA food contact compliant in limited colors. Effective January 15th, 2008 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HPH4504.

## TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	71	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	122	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2020	MPa	ASTM D 790
Hardness, Rockwell M	85	-	ASTM D 785
Hardness, Rockwell R	122	-	ASTM D 785
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D 4812
Izod Impact, notched, 23°C	640	J/m	ASTM D 256
Tensile Impact, Type S	577	kJ/m <sup>2</sup>	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	149	J	ASTM D 3029
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2mm, unannealed	143	°C	ASTM D 648
CTE, -40°C to 95°C, flow	9.18E-05	1/°C	ASTM E 831
Specific Heat	1.25	J/g-°C	ASTM C 351
Thermal Conductivity	0.21	W/m-°C	ASTM C177
Relative Temp Index, Elec	125	°C	UL 746B
Relative Temp Index, Mech w/impact	125	°C	UL 746B
Relative Temp Index, Mech w/o impact	125	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D 792
Specific Volume	0.83	cm <sup>3</sup> /g	ASTM D 792
Density	1.19	g/cm <sup>3</sup>	ASTM D 792
Water Absorption, 24 hours	0.16	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.7 – 0.8	%	SABIC method

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 300°C/1.2 kgf	3	g/10 min	ASTM D 1238
<b>OPTICAL</b>			
Light Transmission, 2.54 mm	85	%	ASTM D 1003
Haze, 2.54 mm	1	%	ASTM D 1003
Refractive Index	1.6	-	ASTM D542
<b>ELECTRICAL</b>			
Volume Resistivity	>2.6E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	20.2	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.15	-	ASTM D 150
Relative Permittivity, 1 MHz	3	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0012	-	ASTM D 150
Dissipation Factor, 100 Hz	0.024	-	ASTM D 150
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94V-2 Flame Class Rating (3)	1.47	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	340 – 360	°C	
Nozzle Temperature	330 – 355	°C	
Front - Zone 3 Temperature	340 – 360	°C	
Middle - Zone 2 Temperature	325 – 350	°C	
Rear - Zone 1 Temperature	315 – 340	°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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