LEXAN™ COPOLYMER 4704

REGION ASIA

DESCRIPTION

High heat resistant polycarbonate copolymer, provides DTUL of 300F 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 HPH4704.

TYPICAL PROPERTY VALUES

Revision 20260527

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	77	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	78	%	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	97	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2330	MPa	ASTM D790
Hardness, Rockwell M	92	-	ASTM D785
Hardness, Rockwell R	127	-	ASTM D785
IMPACT [1]			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D4812
Izod Impact, notched, 23°C	373	J/m	ASTM D256
Tensile Impact Strength, Type S	577	kJ/m²	ASTM D1822
Falling Dart Impact (D 3029), 23°C	149	J	ASTM D3029
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	148	°C	ASTM D648
CTE, -40°C to 95°C, flow	8.1E-05	1/°C	ASTM E831
Specific Heat	1.25	J/g-°C	ASTM C351
Thermal Conductivity	0.21	W/m-°C	ASTM C177
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	130	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.83	cm³/g	ASTM D792
Density	1.19	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.19	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [3]	0.8 – 1	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	2	g/10 min	ASTM D1238
OPTICAL [1]			
Light Transmission, 2.54 mm	85	%	ASTM D1003
Haze, 2.54 mm	1	%	ASTM D1003
Refractive Index	1.6	-	ASTM D542
ELECTRICAL [1]			
Volume Resistivity	>2.5E+17	Ω.cm	ASTM D257

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dielectric Strength, in air, 3.2 mm	20	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.27	-	ASTM D150
Relative Permittivity, 1 MHz	3.1	-	ASTM D150
Dissipation Factor			
50/60 Hz	0.0016	-	ASTM D150
100 Hz	0.026	-	ASTM D150
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥6	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-101218623	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 370	°C	
Nozzle Temperature	345 – 365	°C	
Front - Zone 3 Temperature	350 – 370	°C	
Middle - Zone 2 Temperature	340 – 360	°C	
Rear - Zone 1 Temperature	325 – 350	°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	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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