

LEXAN™ 4704 resin

Polyphthalate Carbonate

SABIC Innovative Plastics

Message:

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.

General Information			
UL YellowCard	E121562-220885		
Features	Copolymer		
	Food Contact Acceptable		
	High Heat Resistance		
Agency Ratings	FDA Food Contact, Unspecified Rating		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.20	g/cm ³	ASTM D792, ISO 1183
--	1.19	g/cm ³	ASTM D792
Specific Volume	0.835	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	2.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	2.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.80 to 1.0	%	Internal Method
Water Absorption			
24 hr	0.19	%	ASTM D570
Saturation, 23°C	0.16	%	ISO 62
Equilibrium, 23°C, 50% RH	0.35	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	92		
R-Scale	127		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2080	MPa	ASTM D638
--	2170	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	65.5	MPa	ASTM D638
Yield	68.0	MPa	ISO 527-2/50
Break ³	77.9	MPa	ASTM D638

Break	68.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	8.0	%	ASTM D638
Yield	7.0	%	ISO 527-2/50
Break ⁵	78	%	ASTM D638
Break	100	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2330	MPa	ASTM D790
-- ⁷	2070	MPa	ISO 178
Flexural Stress			
--	66.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	97.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
-30°C	84	J/m	ASTM D256
23°C	370	J/m	ASTM D256
-30°C ⁹	6.0	kJ/m ²	ISO 180/1A
23°C ¹⁰	7.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812
Instrumented Dart Impact (23°C, Total Energy)	74.0	J	ASTM D3763
Gardner Impact (23°C)	149	J	ASTM D3029
Tensile Impact Strength ¹¹	578	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	149	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	150	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	173	°C	ASTM D1525 ¹³
--	165	°C	ISO 306/B50
--	167	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Flow : -40 to 95°C	8.1E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	0.21	W/m/K	ASTM C177
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 2.5E+17	ohms · cm	ASTM D257

Dielectric Strength (3.20 mm, in Air)	20	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.27		
60 Hz	3.27		
1 MHz	3.10		
Dissipation Factor			ASTM D150
50 Hz	1.6E-3		
60 Hz	1.6E-3		
100 Hz	0.026		
Arc Resistance ¹⁴	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 3		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.600		ASTM D542
Transmittance (2540 μm)	85.0	%	ASTM D1003
Haze (2540 μm)	1.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	327 to 349	°C	
Middle Temperature	338 to 360	°C	
Front Temperature	349 to 371	°C	
Nozzle Temperature	343 to 366	°C	
Processing (Melt) Temp	349 to 371	°C	
Mold Temperature	82.2 to 116	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	
NOTE			
1.	5.0 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/min		
6.	1.3 mm/min		

7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4
10.	80*10*4
11.	Type S
12.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)
14.	Tungsten Electrode

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

