

Product Texts

LEXAN HPH4504H resin is based on high heat Polycarbonate (PC) siloxane copolymer with enhanced autoclavability for medical devices and pharmaceutical applications. Added features of this grade include: Biocompatible (ISO10993 of USP Class VI). EtO, Steam, Gamma and e-Beam Sterilizable.

UL Yellow Card Link [E121562-101338226](https://www.ul.com/yellow-card/E121562-101338226)

UL Yellow Card Link [E207780-104532457](https://www.ul.com/yellow-card/E207780-104532457)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	12	cm ³ /10min	ISO 1133
Temperature	330	°C	-
Load	2.16	kg	-
ASTM Data			
Melt Flow Index, MFI	3	g/10min	ASTM D 1238
Temperature	300	°C	-
Load	1.2	kg	-
Mold Shrinkage, MD	0.0075	mm/mm	ASTM D 955
Mechanical properties			
ISO Data			
Tensile Modulus	2260	MPa	ISO 527
Yield stress	65	MPa	ISO 527
Yield strain	7	%	ISO 527
Stress at break	65	MPa	ISO 527
Strain at break	>50	%	ISO 527
Flexural modulus	2120	MPa	ISO 178
Flexural strength	66	MPa	ISO 178
Charpy notched impact strength, +23°C	15	kJ/m ²	ISO 179/1eA
Izod notched impact strength, +23°C, 4mm	13	kJ/m ²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	11	kJ/m ²	ISO 180/1A
Izod notched impact strength, +23°C	13	kJ/m ²	ISO 180/1A
Izod notched impact strength	11	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
ASTM Data			
Tensile Modulus	2090	MPa	ASTM D 638
Tensile Strength at Yield	65	MPa	ASTM D 638
Tensile Strength at Break	71	MPa	ASTM D 638
Elongation at Yield	7	%	ASTM D 638
Elongation at Break	122	%	ASTM D 638
Flexural Modulus	2020	MPa	ASTM D 790
Flexural Strength	95	MPa	ASTM D 790
Rockwell Hardness	R 122	-	ASTM D 785
Izod Impact notched, 1/8 in	640	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	144	J/m	ASTM D 256
Temperature	-30	°C	-
Izod Impact unnotched, 1/8 in	3200	J/m	ASTM D 256
Thermal properties			
ISO Data			
Temp. of deflection under load, 1.80 MPa	132	°C	ISO 75-1/-2
Vicat softening temperature, B	154	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	155	°C	ISO 306
Coeff. of linear therm. expansion, parallel	60	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	60	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-

LEXAN™ Copolymer HPH4504H

PC

Saudi Basic Industries Corporation (SABIC)

Yellow Card available

yes

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ASTM Data

Coefficient of Thermal Expansion, MD	60	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	60	E-6/K	ASTM D 696
DTUL @ 264 psi	143	°C	ASTM D 648
Vicat Temperature	160	°C	ASTM D 1525
Thermal Conductivity, solid state	0.21	W/(m K)	ASTM C 177
Specific Heat	1260	J/(kg K)	ASTM C 351

Electrical properties

Value

Unit

Test Standard

ASTM Data

Dielectric Strength, Short Time	20.3	kV/mm	ASTM D 149
Dissipation Factor, 60 Hz	0.0012	-	ASTM D 150
Dielectric Constant, 60 Hz	3.15	-	ASTM D 150
Dielectric Constant, 1 MHz	3	-	ASTM D 150
Volume Resistivity	2.6E17	Ohm*cm	ASTM D 257

Optical properties

Value

Unit

Test Standard

ASTM Data

Haze	1	%	ASTM D 1003
Light Transmittance	85	%	ASTM D 1003
Index of Refraction	1.6	-	ASTM D 542

Other properties

Value

Unit

Test Standard

Water absorption	0.16	%	Sim. to ISO 62
Humidity absorption	0.35	%	Sim. to ISO 62
Density	1200	kg/m ³	ISO 1183
Water Absorption, 24hr	0.16	%	ASTM D 570
Density	1190	kg/m ³	ASTM D 792

Processing Recommendation Injection Molding

Value

Unit

Test Standard

Pre-drying - Temperature	120	°C	-
Pre-drying - Time	3 - 4	h	-
Processing humidity	≤0.02	%	-
Melt temperature	340 - 360	°C	-
Mold temperature	80 - 115	°C	-
Zone 1	315 - 340	°C	-
Zone 2	325 - 350	°C	-
Zone 3	340 - 360	°C	-
Screw speed	40 - 70	rpm	-
Back pressure	0.3 - 0.7	MPa	-

Characteristics**Processing**

Injection Molding

Special Characteristics

Heat stabilized or stable to heat, Transparent, Translucent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization, Electron beam (e-beam) sterilization

Features

Copolymer

Certifications

Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Applications

Medical, Packaging

Regional Availability

North America, Europe, Asia Pacific, South and Central America

Chemical Resistance

Radiation Resistance