



LEXAN™ Resin HPH4504HEU

Europe-Africa-Middle East: COMMERCIAL

High heat specialty polycarbonate with enhanced autoclavability. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 of USP Class VI). EtO, steam, gamma and e-beam sterilizable.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	660	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	730	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	122	%	ASTM D 638
Tensile Modulus, 5 mm/min	21300	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	970	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	20600	kgf/cm ²	ASTM D 790
Hardness, Rockwell M	85	-	ASTM D 785
Hardness, Rockwell R	122	-	ASTM D 785
Tensile Stress, yield, 5 mm/min	65	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2260	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	66	MPa	ISO 178
Flexural Modulus, 2 mm/min	2120	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	326	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	65	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	14	cm-kgf/cm	ASTM D 256
Tensile Impact, Type S	589	cm-kgf/cm ²	ASTM D 1822



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IMPACT			
Falling Dart Impact (D 3029), 23°C	1520	cm-kgf	ASTM D 3029
Instrumented Impact Total Energy, 23°C	744	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	11	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	160	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	143	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, flow	9.18E-05	1/°C	ASTM E 831
Specific Heat	1.26	J/g-°C	ASTM C 351
Thermal Conductivity	0.21	W/m-°C	ASTM C 177
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	154	°C	ISO 306
Vicat Softening Temp, Rate B/120	155	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	132	°C	ISO 75/Af
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
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Specific Volume	0.83	cm³/g	ASTM D 792
Density	1.19	g/cm³	ASTM D 792



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PHYSICAL			
Water Absorption, 24 hours	0.16	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.7 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	3	g/10 min	ASTM D 1238
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.16	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.35	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	3	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 330°C/2.16kg	12	cm ³ /10 min	ISO 1133
OPTICAL			
Light Transmission, 2.54 mm	85	%	ASTM D 1003
Haze, 2.54 mm	1	%	ASTM D 1003
Refractive Index	1.6	-	ASTM D 542
ELECTRICAL			
Volume Resistivity	>2.6E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	20.3	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
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating (3)	1.47	mm	UL 94



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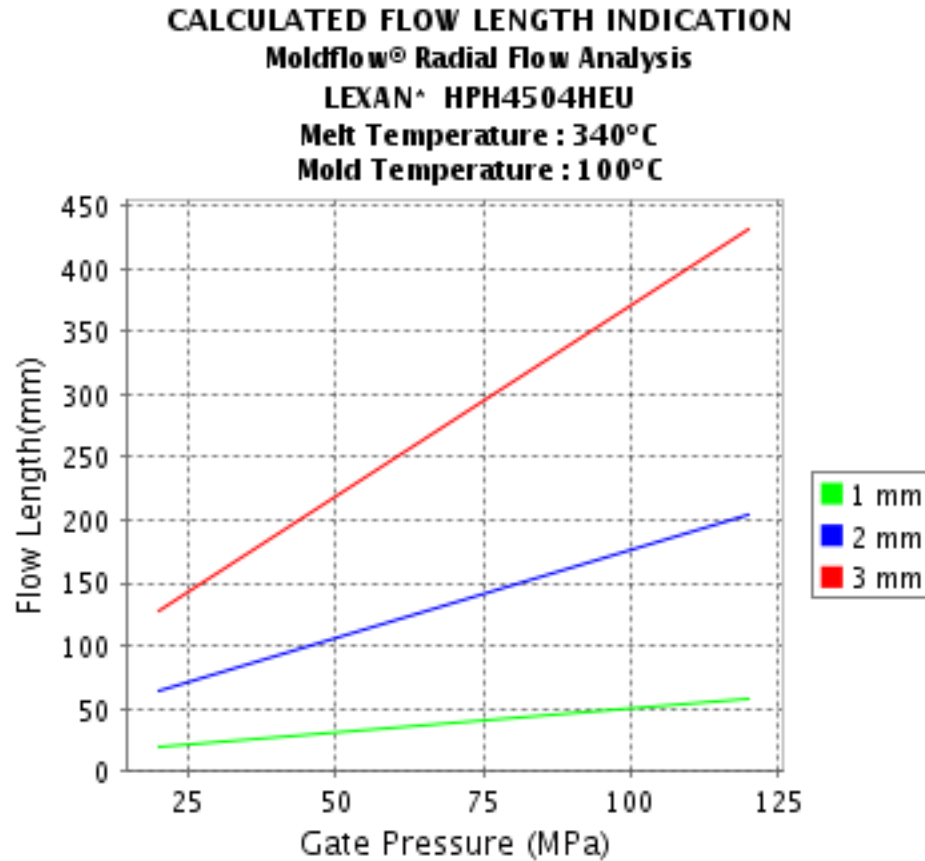
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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	340 - 360	°C
Nozzle Temperature	330 - 355	°C
Front - Zone 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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Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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