LEXAN™ COPOLYMER HPX4REU

REGION EUROPE

DESCRIPTION

Medium flow specialty polycarbonate - improved processability & autoclavability. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO and steam sterilizable.

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	64	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.8	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	131.4	%	ASTM D638
Tensile Modulus, 50 mm/min	2210	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	94	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2210	MPa	ASTM D790
Hardness, Rockwell L	89	-	ASTM D785
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	61	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.5	%	ISO 527
Tensile Strain, break, 50 mm/min	124.9	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2150	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	890	J/m	ASTM D256
Izod Impact, notched, -30°C	795	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	82	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	85	J	ASTM D3763
THERMAL [1]			
Vicat Softening Temp, Rate A/50	141	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D648
CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	7.93E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7.15E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.93E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.4 – 0.8	%	SABIC method

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow, 3.2 mm [2]	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D1238
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.24	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm³/10 min	ISO 1133
OPTICAL [1]			
Light Transmission, 2.54 mm	82	%	ASTM D1003
Haze, 2.54 mm	3	%	ASTM D1003
ELECTRICAL [1]			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Surface Resistivity	>1.E+15	Ω	ASTM D257
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°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) 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.

(3) 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.

DISCLAIMER