LEXAN™ COPOLYMER HPX8REU

REGION EUROPE

DESCRIPTION

Very high flow specialty polycarbonate with outstanding processability and ductility. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). ETO sterilizable. Contains mold release.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	118.9	%	ASTM D 638
Tensile Modulus, 50 mm/min	2360	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	99	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2350	MPa	ASTM D 790
Hardness, Rockwell L	90	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	59	MPa	ISO 527
Tensile Stress, break, 50 mm/min	56	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.4	%	ISO 527
Tensile Strain, break, 50 mm/min	118.6	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	92	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	702	J/m	ASTM D 256
Izod Impact, notched, -30°C	220	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	79	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	60	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	30	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	45	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*3 sp=62mm	60	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	30	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	54	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate A/50	138	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D 648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 95°C, flow	6.5E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	7.4E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	6.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.4E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	117	°C	ISO 75/Af
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	35	g/10 min	ASTM D 1238
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.24	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	33	cm³/10 min	ISO 1133
OPTICAL			
Light Transmission, 2.54 mm	82	%	ASTM D 1003
Haze, 2.54 mm	3	%	ASTM D 1003
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+15	Ohm	ASTM D 257
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.8 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	850	°C	IEC 60695-2-13
INJECTION MOLDING			
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	

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