

LEXAN* HP3REU Resin

General Information

Product Description

Medium flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO and steam sterilizable. Contains mold release.

General

Material Status	• Commercial: Active	
Availability	• Europe	
Additive	• Mold Release	
Features	• Biocompatible • Ethylene Oxide Sterilizable	• Medium Flow • Steam Sterilizable
Uses	• Medical/Healthcare Applications	• Pharmaceuticals
Agency Ratings	• ISO 10993	• USP Class VI
RoHS Compliance	• RoHS Compliant	
Processing Method	• Injection Molding	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792
Density	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	14	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption (Saturation, 23°C)	0.35	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2370	MPa	ASTM D638
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Strength ³ (Yield)	62.0	MPa	ASTM D638
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/50
Tensile Strength ³ (Break)	68.0	MPa	ASTM D638
Tensile Stress (Break)	70.0	MPa	ISO 527-2/50
Tensile Elongation ³ (Yield)	7.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	130	%	ASTM D638
Tensile Strain (Break)	110	%	ISO 527-2/50
Flexural Modulus ⁴ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Modulus ⁵	2300	MPa	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength ^{5, 6}	90.0	MPa	ISO 178
Flexural Strength ⁴ (Yield, 50.0 mm Span)	96.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	15	kJ/m ²	
23°C	70	kJ/m ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			ASTM D256
-30°C	100	J/m	
23°C	800	J/m	
Notched Izod Impact Strength ⁸			ISO 180/1A
-30°C	10	kJ/m ²	
23°C	70	kJ/m ²	
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	63.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	132	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Ae
1.8 MPa, Unannealed, 100 mm Span	125	°C	
Vicat Softening Temperature	141	°C	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	141	°C	ISO 306/B50
--	142	°C	ISO 306/B120
CLTE - Flow (-40 to 95°C)	0.000068	cm/cm/°C	ASTM E831
CLTE - Flow (23 to 80°C)	0.000070	cm/cm/°C	ISO 11359-2
CLTE - Transverse (-40 to 95°C)	0.000068	cm/cm/°C	ASTM E831
CLTE - Transverse (23 to 80°C)	0.000070	cm/cm/°C	ISO 11359-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	120	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	260 to 280	°C
Middle Temperature	270 to 290	°C
Front Temperature	280 to 310	°C

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Injection	Nominal Value	Unit
Nozzle Temperature	270 to 290	°C
Processing (Melt) Temp	280 to 310	°C
Mold Temperature	80.0 to 110	°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 50 mm/min

³ Type I, 50 mm/min

⁴ 1.3 mm/min

⁵ 2.0 mm/min

⁶ Yield

⁷ 80*10*3 sp=62mm

⁸ 80*10*3

⁹ 120*10*4 mm

¹⁰ Rate B (120°C/h), Loading 2 (50 N)