

Lexan* Resin HPS6

Americas: COMMERCIAL

Med/low flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, steam e-beam and gamma sterilizable. Contains mold release.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	68	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	135	%	ASTM D 638
Tensile Modulus, 5 mm/min	2310	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	97	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Hardness, Rockwell R	118	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	75	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	140	%	ISO 527
Tensile Modulus, 1 mm/min	2300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D 4812
Izod Impact, notched, 23°C	907	J/m	ASTM D 256
Izod Impact, notched, -30°C	139	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	64	J	ASTM D 3763
Instrumented Impact Total Energy, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	75	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	154	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	135	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.7E-05	1/°C	ASTM E 831
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
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.2	-	ASTM D 792
Water Absorption, 24 hours	0.15	%	ASTM D 570
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	7	g/10 min	ASTM D 1238
Melt Flow Rate, 300°C/5.0 kgf	112.2	g/10 min	ASTM D 1238
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm ³ /10 min	ISO 1133

Source GMD, last updated:01/21/2004

Processing

Parameter	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	310 - 330	°C
Nozzle Temperature	305 - 325	°C
Front - Zone 3 Temperature	310 - 330	°C
Middle - Zone 2 Temperature	300 - 320	°C
Rear - Zone 1 Temperature	290 - 310	°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

Source GMD, last updated:01/21/2004

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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