

SABIC LEXAN™ HPS4

Medium 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. Information provided by SABIC

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Water Absorption	0.14 %	0.14 %	24 hours; ASTM D570
	0.26 %	0.26 %	23°C/sat; ISO 62
Moisture Absorption	0.100 %	0.100 %	23°C / 50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC method
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	cm ³ /10 min; ISO 1133
	10.5 g/10 min @Load 1.20 kg, Temperature 300 °C	10.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	73.0 MPa	10600 psi	50 mm/min; ISO 527
	74.0 MPa	10700 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	61.0 MPa	8850 psi	50 mm/min; ISO 527
	62.0 MPa	8990 psi	50 mm/min; ASTM D638
Elongation at Break	128 %	128 %	50 mm/min; ISO 527
	140 %	140 %	50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.5 %	6.5 %	50 mm/min; ASTM D638
Tensile Modulus	2.30 GPa	334 ksi	50 mm/min; ASTM D638
	2.39 GPa	347 ksi	1mm/min; ISO 527
Flexural Yield Strength	93.0 MPa	13500 psi	2 mm/min; ISO 178
	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.25 GPa	326 ksi	2 mm/min; ISO 178
	2.40 GPa	348 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.40 J/cm	15.7 ft-lb/in	ASTM D256
	2.20 J/cm @Temperature -30.0 °C	4.12 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU

	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	7.00 J/cm ²	33.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	8.20 J/cm ²	39.0 ft-lb/in ²	ISO 179/2C
	1.50 J/cm ² @Temperature -30.0 °C	7.14 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	88.0 J	64.9 ft-lb	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	78.0 µm/m-°C @Temperature -40.0 - 40.0 °C	43.3 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
	78.0 µm/m-°C @Temperature -40.0 - 40.0 °C	43.3 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E831
CTE, linear, Transverse to Flow	76.0 µm/m-°C @Temperature -40.0 - 40.0 °C	42.2 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E831
	76.0 µm/m-°C @Temperature -40.0 - 40.0 °C	42.2 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Hot Ball Pressure Test	125 °C	257 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	138 °C @Thickness 6.40 mm	280 °F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	127 °C	261 °F	1.8 MPa Edgew 120*10*4 sp=100mm; ISO 75/Ae
	126 °C @Thickness 3.20 mm	259 °F @Thickness 0.126 in	unannealed; ASTM D648
	132 °C @Thickness 6.40 mm	270 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	143 °C	289 °F	Rate B/50; ISO 306
	143 °C	289 °F	Rate B/50; ASTM D1525
	145 °C	293 °F	Rate B/120; ISO 306

Processing Properties	Metric	English	Comments
Processing Temperature	60.0 - 80.0 °C	140 - 176 °F	Hopper Temperature
Nozzle Temperature	270 - 290 °C	518 - 554 °F	Injection Molding
Zone 1	260 - 280 °C	500 - 536 °F	
Zone 2	270 - 290 °C	518 - 554 °F	
Zone 3	280 - 310 °C	536 - 590 °F	
Melt Temperature	280 - 310 °C	536 - 590 °F	
Mold Temperature	80.0 - 110 °C	176 - 230 °F	
Drying Temperature	120 °C	248 °F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Moisture Content	0.020 %	0.020 %	

Compliance Properties	Metric	English	Comments
USP Class VI	Yes	Yes	