SABIC Innovative Plastics™

Wednesday, December 03, 2008

LEXAN* HP2 Resin

SABIC Innovative Plastics - *Polycarbonate*

Unit System: English

Actions **Legend (Open)**

General Information

Product Description

Med/high 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	• North America		
Additive	• Mold Release		
Features	• Biocompatible • Ethylene Oxide Sterilizable	• High Flow • Steam Sterilizable	
Uses	• Medical/Healthcare Applications	• Pharmaceuticals	
Agency Ratings	• ISO 10993	• USP Class VI	
Forms	• Pellets		
Processing Method	• Injection Molding		
Multi-Point Data	• Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065)	• Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417)	• Tensile Creep (ASTM D2990) • Tensile Stress vs. Strain (ASTM D638)

ASTM and ISO Properties [1]

Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.19		ASTM D792
Melt Mass-Flow Rate (MFR) (300° C/1.2 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300° C/1.2 kg)	0.976	in³/10min	ISO 1133
Molding Shrinkage - Flow (0.126 in)	0.0050 to 0.0070	in/in	ASTM D955
Water Absorption (24 hr)	0.15	%	ASTM D570
Water Absorption			ASTM D570
Equilibrium, 73° F	0.35	%	
Equilibrium, 212° F	0.58	%	
Specific Volume	0.830	cm³/g	ASTM D792
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2]	344000	psi	ASTM D638
Tensile Modulus	341000	psi	ISO 527-2/1
Tensile Strength [3] (Yield)	8990	psi	ASTM D638
Tensile Stress (Yield)	9140	psi	ISO 527-2/50
Tensile Strength [3] (Break)	9860	psi	ASTM D638
Tensile Stress (Break)	9430	psi	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)	100	%	ISO 527-2/50
Flexural Modulus [4] (1.97 in Span)	339000	psi	ASTM D790
Flexural Modulus [5]	334000	psi	ISO 178
Flexural Strength [5, 6]	13100	psi	ISO 178
Flexural Strength [4] (Yield, 1.97 in Span)	13900	psi	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73° F)	16.7	ft • lb/in²	ISO 179/2C
Charpy Unnotched Impact Strength			ISO 179/1eU
-22° F	No Break		
73° F	No Break		
Notched Izod Impact (73° F)	13.0	ft • lb/in	ASTM D256
Notched Izod Impact Strength			ISO 180/1A

-22° F	4.76	ft • lb/in²	
73° F	5.71	ft • lb/in²	
Unnotched Izod Impact (73° F)	60.0	ft • lb/in	ASTM D4812
Unnotched Izod Impact Strength			ISO 180/1U
-22° F	No Break		
73° F	No Break		
Instrumented Dart Impact (73° F, Energy at Peak Load)	549	in • lb	ASTM D3763
Gardner Impact (73° F)	1500	in • lb	ASTM D3029
Tensile Impact Strength [7]	260	ft • lb/in²	ASTM D1822
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed, 0.252 in)	279	° F	ASTM D648
Heat Deflection Temperature [8] (66 psi, Unannealed, 3.94 Span)	271	° F	ISO 75-2/Be
Deflection Temperature Under Load (264 psi, Unannealed, 0.252 in)	264	° F	ASTM D648
Heat Deflection Temperature [8] (264 psi, Unannealed, 3.94 in Span)	252	° F	ISO 75-2/Ae
Vicat Softening Temperature	309	° F	ASTM D1525 [9]
Vicat Softening Temperature			
--	284	° F	ISO 306/B50
--	286	° F	ISO 306/B120
CLTE - Flow (-40 to 203° F)	0.000038	in/in/° F	ASTM E831
CLTE - Flow (73 to 176° F)	0.000039	in/in/° F	ISO 11359-2
Specific Heat	0.299	Btu/lb/° F	ASTM C351
Thermal Conductivity	1.3	Btu • in/hr/ft²/° F	ASTM C177
Thermal Conductivity	1.4	Btu • in/hr/ft²/° F	ISO 8302
Ball Pressure Test (257° F)	Pass		IEC 60695-10-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+17	ohm • cm	ASTM D257
Volume Resistivity	> 1.0E+15	ohm • cm	IEC 60093
Dielectric Strength (0.126 in, in Air)	378	V/mil	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.170		
60 Hz	3.170		
1E+6 Hz	2.960		
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1E+6 Hz	2.70		
Dissipation Factor			ASTM D150
50 Hz	0.00090		
60 Hz	0.00090		
1E+6 Hz	0.0100		
Dissipation Factor			IEC 60250
50 Hz	0.00100		
60 Hz	0.00100		
1E+6 Hz	0.01000		
Electric Strength (0.126 in, in Oil)	431.80	V/mil	IEC 60243-1
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL (0.0579 in)	HB		UL 94
Oxygen Index	25	%	ISO 4589-2
UL 746	**Nominal Value**	**Unit**	**Test Method**
RTI Str	266	° F	UL 746
RTI Imp	266	° F	UL 746
RTI Elec	266	° F	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 2		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 2		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 1		UL 746
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.586		ASTM D542

Transmittance	88.0 %	ASTM D1003
Haze	1.0 %	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	250	° F
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	500 to 540	° F
Middle Temperature	520 to 560	° F
Front Temperature	540 to 580	° F
Nozzle Temperature	530 to 570	° F
Processing (Melt) Temp	540 to 580	° F
Mold Temperature	160 to 200	° F
Back Pressure	50.0 to 100.0	psi
Screw Speed	40 to 70	rpm
Vent Depth	0.0010 to 0.0030	in

Notes

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

[2] 2.0 in/min

[3] Type I, 2.0 in/min

[4] 0.051 in/min

[5] 0.079 in/min

[6] Yield

[7] Type S

[8] 120*10*4 mm

[9] Rate B (120° C/h), Loading 2 (50 N)

Disclaimer : **THE MATERIALS, PRODUCTS AND SERVICES OF SABIC INNOVATIVE PLASTICS HOLDING BV, ITS SUBSIDIARIES AND AFFILIATES ("SELLER"), ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH CAN BE FOUND AT http://www.sabic-ip.com. AND ARE AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION OR RECOMMENDATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SELLER'S PRODUCTS, SERVICES OR RECOMMENDATIONS. EXCEPT AS PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS PRODUCTS OR SERVICES DESCRIBED HEREIN.** Each user is responsible for making its own determination as to the suitability of Seller's products, services or recommendations for the user's particular use through appropriate end-use testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. No statement by Seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of such product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC Innovative Plastics is a trademark of SABIC Holding Europe BV

* LEXAN is a trademark of SABIC Innovative Plastics IP BV

© 1997-2008 SABIC Innovative Plastics Holding BV.All rights reserved