LEXAN™ COPOLYMER XHT4141

REGION AMERICAS

DESCRIPTION

XHT4141 is a high flow, high heat polycarbonate copolymer. It is available in a range of opaque and limited transparent colors.

TYPICAL PROPERTY VALUES

Revision 20231130

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	77	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	69	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	50	%	ASTM D638
Tensile Modulus, 5 mm/min	2730	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	120	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	78	MPa	ISO 527
Tensile Stress, break, 50 mm/min	67	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2750	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	93	J/m	ASTM D256
Izod Impact, notched, -30°C	76	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	72	J	ASTM D3763
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	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	9	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
THERMAL [1]			
Vicat Softening Temp, Rate B/50	183	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	174	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	165	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E831
Thermal Conductivity @ 25 °C	0.2	W/m-°C	ASTM C177
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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Ball Pressure Test, 165°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	183	°C	ISO 306
Vicat Softening Temp, Rate B/120	181	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	173	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	162	°C	ISO 75/Af
Metallized Haze Onset	175	°C	SABIC method
Relative Temp Index, Elec [2]	150	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	150	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.6 – 0.95	%	SABIC method
Melt Flow Rate, 330°C/2.16 kgf	25	g/10 min	ASTM D1238
Density	1.21	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.5	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.25	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	24	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	>1.E+17	Ω.cm	ASTM D257
Surface Resistivity	>1.E+17	Ω	ASTM D257
Relative Permittivity, 100 Hz	3.12	-	ASTM D150
Relative Permittivity, 1 MHz	3.02	-	ASTM D150
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 3	1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	1.5	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-100025116	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
INJECTION MOLDING [4]			
Drying Temperature	135	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 345	°C	
Nozzle Temperature	295 – 340	°C	
Front - Zone 3 Temperature	300 – 345	°C	
Middle - Zone 2 Temperature	290 – 335	°C	
Rear - Zone 1 Temperature	280 – 325	°C	
Mold Temperature	95 – 130	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 90	rpm	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.08	mm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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