

LEXAN* XHT4141 Resin

General Information

Product Description

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

General

Material Status	• Commercial: Active
Availability	• North America
Features	• Copolymer • High Flow • High Heat Resistance
Appearance	• Clear/Transparent • Opaque
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792
Density	1.21	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	25	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	24.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.60 to 0.95	%	Internal Method
Water Absorption (Saturation, 23°C)	0.50	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.25	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2730	MPa	ASTM D638
Tensile Modulus	2750	MPa	ISO 527-2/1
Tensile Strength ³ (Yield)	77.0	MPa	ASTM D638
Tensile Stress (Yield)	78.0	MPa	ISO 527-2/50
Tensile Strength ³ (Break)	69.0	MPa	ASTM D638
Tensile Stress (Break)	67.0	MPa	ISO 527-2/50
Tensile Elongation ³ (Yield)	7.0	%	ASTM D638
Tensile Strain (Yield)	7.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	50	%	ASTM D638
Tensile Strain (Break)	50	%	ISO 527-2/50
Flexural Modulus ⁴ (50.0 mm Span)	2600	MPa	ASTM D790
Flexural Modulus ⁵	2600	MPa	ISO 178
Flexural Strength ^{5, 6}	80.0	MPa	ISO 178
Flexural Strength ⁴ (Yield, 50.0 mm Span)	120	MPa	ASTM D790

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	9.0	kJ/m ²	
23°C	11	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	76	J/m	
23°C	93	J/m	
Notched Izod Impact Strength ⁸			ISO 180/1A
-30°C	8.0	kJ/m ²	
23°C	10	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)	72.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	174	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Bf
0.45 MPa, Unannealed, 64.0 mm Span	173	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	165	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Af
1.8 MPa, Unannealed, 64.0 mm Span	162	°C	
Vicat Softening Temperature	183	°C	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	183	°C	ISO 306/B50
--	181	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (-40 to 40°C)	0.000060	cm/cm/°C	ASTM E831
CLTE - Flow (-40 to 40°C)	0.000060	cm/cm/°C	ISO 11359-2
CLTE - Transverse (-40 to 40°C)	0.000060	cm/cm/°C	ASTM E831
CLTE - Transverse (-40 to 40°C)	0.000060	cm/cm/°C	ISO 11359-2
Thermal Conductivity (25°C)	0.20	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+17	ohms	ASTM D257
Volume Resistivity	> 1.0E+17	ohm·cm	ASTM D257
Dielectric Constant			ASTM D150
100 Hz	3.12		
1 MHz	3.02		

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Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
1.50 mm		HB	
3.00 mm		HB	
Glow Wire Flammability Index (3.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (3.00 mm)	875	°C	IEC 60695-2-13
UL	Nominal Value	Unit	Test Method
RTI Str	150	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Elec	150	°C	UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 3		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 0		UL 746
Additional Information	Nominal Value	Unit	Test Method
Metallized Haze Onset	175	°C	Internal Method

Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	135	°C	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	305 to 330	°C	
Middle Temperature	310 to 345	°C	
Front Temperature	310 to 355	°C	
Nozzle Temperature	305 to 350	°C	
Processing (Melt) Temp	310 to 355	°C	
Mold Temperature	95.0 to 150	°C	
Back Pressure	0.300 to 0.700	MPa	
Screw Speed	40 to 90	rpm	
Vent Depth	0.025 to 0.076	mm	

Notes

¹ Typical properties: these are not to be construed as specifications.
² 5.0 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 80*10*4 mm
¹⁰ Rate B (120°C/h), Loading 2 (50 N)