

LEXAN* XHT3143 Resin

General Information

Product Description

XHT3143 is a high flow, UV stabilized, high heat polycarbonate copolymer. It is available in a range of opaque and limited transparent colors.

General

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

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.21		ASTM D792
Density	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	33	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	1.83	in ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.126 in)	0.0060 to 0.0090	in/in	Internal Method
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.30	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	392000	psi	ASTM D638
Tensile Modulus	363000	psi	ISO 527-2/1
Tensile Strength ³ (Yield)	10200	psi	ASTM D638
Tensile Stress (Yield)	10200	psi	ISO 527-2/50
Tensile Strength ³ (Break)	7980	psi	ASTM D638
Tensile Stress (Break)	8700	psi	ISO 527-2/50
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	70	%	ASTM D638
Tensile Strain (Break)	70	%	ISO 527-2/50
Flexural Modulus ⁴ (1.97 in Span)	377000	psi	ASTM D790
Flexural Modulus ⁵	363000	psi	ISO 178
Flexural Strength ^{5, 6}	11600	psi	ISO 178
Flexural Strength ⁴ (Yield, 1.97 in Span)	17400	psi	ASTM D790

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-22°F	4.3	ft-lb/in ²	
73°F	5.2	ft-lb/in ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact			ASTM D256
-22°F	1.0	ft-lb/in	
73°F	1.8	ft-lb/in	
Notched Izod Impact Strength ⁸			ISO 180/1A
-22°F	4.3	ft-lb/in ²	
73°F	4.3	ft-lb/in ²	
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-22°F	No Break		
73°F	No Break		
Instrumented Dart Impact (73°F, Total Energy)	602	in-lb	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.126 in	331	°F	
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.126 in	313	°F	
Heat Deflection Temperature ⁹			ISO 75-2/Af
264 psi, Unannealed, 2.52 in Span	306	°F	
Vicat Softening Temperature	338	°F	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	334	°F	ISO 306/B50
--	338	°F	ISO 306/B120
CLTE - Flow (-40 to 104°F)	0.000033	in/in/°F	ASTM E831
CLTE - Flow (-40 to 104°F)	0.000033	in/in/°F	ISO 11359-2
CLTE - Transverse (-40 to 104°F)	0.000033	in/in/°F	ASTM E831
CLTE - Transverse (-40 to 104°F)	0.000033	in/in/°F	ISO 11359-2

Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	275	°F	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	518 to 563	°F	
Middle Temperature	536 to 581	°F	
Front Temperature	554 to 599	°F	
Nozzle Temperature	545 to 590	°F	

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Injection	Nominal Value	Unit
Processing (Melt) Temp	554 to 599	°F
Mold Temperature	185 to 266	°F
Back Pressure	43.5 to 102	psi
Screw Speed	40 to 90	rpm
Vent Depth	0.00098 to 0.0030	in

Notes

¹ Typical properties: these are not to be construed as specifications.
² 0.20 in/min
³ Type I, 2.0 in/min
⁴ 0.051 in/min
⁵ 0.079 in/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)