

# LEXAN<sup>TM</sup> COPOLYMER XHT5 146

REGION AMERICAS

## DESCRIPTION

XHT5 146 is a high flow, high heat polycarbonate copolymer with a haze onset of 185C. It is available in a range of opaque colors.

## TYPICAL PROPERTY VALUES

Revision 20190104

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	80	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	45	%	ASTM D 638
Tensile Modulus, 5 mm/min	2600	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	125	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2650	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	80	MPa	ISO 527
Tensile Stress, break, 50 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	45	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	120	MPa	ISO 178
Flexural Modulus, 2 mm/min	2550	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	80	J/m	ASTM D 256
Izod Impact, notched, -30°C	35	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	11	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	8	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	190	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	185	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	174	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
Thermal Conductivity @ 25 °C	0.2	W/m·°C	ASTM C 177
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.5E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, 165°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	190	°C	ISO 306
Vicat Softening Temp, Rate B/120	190	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	183	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	170	°C	ISO 75/Af
Metallized Haze Onset	180	°C	SABIC method
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 – 0.95	%	SABIC method
Melt Flow Rate, 330°C/2.16 kgf	16	g/10 min	ASTM D 1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.5	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.25	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	15	cm <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING</b>			
Drying Temperature	135	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	320 – 345	°C	
Nozzle Temperature	315 – 340	°C	
Front - Zone 3 Temperature	320 – 345	°C	
Middle - Zone 2 Temperature	310 – 335	°C	
Rear - Zone 1 Temperature	300 – 325	°C	
Mold Temperature	110 – 140	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.08	mm	

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