

LEXANTM COPOLYMER XHT5141

REGION ASIA

DESCRIPTION

XHT5141 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 20231130

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Stress, yld, Type I, 50 mm/min	80	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7.5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	45	%	ASTM D638
Tensile Modulus, 5 mm/min	2600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	125	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2650	MPa	ASTM D790
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
IMPACT (1)			
Izod Impact, notched, 23°C	80	J/m	ASTM D256
Izod Impact, notched, -30°C	35	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	65	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	11	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	8	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	190	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	185	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	174	°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	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.5E-05	1/°C	ISO 11359-2



Ball Pressure Test, 125°C + J- 2°C PASSES - IEC 60695-10-2 Ball Pressure Test, 165°C + J- 2°C PASSES - IEC 60695-10-2 Ball Pressure Test, 165°C + J- 2°C PASSES - IEC 60695-10-2 Ball Pressure Test, 165°C + J- 2°C PASSES - IEC 60695-10-2 Vicat Softening Temp, Rate B J50 190 °C ISO 306 HDT J81, 0.45 MPa Flatw 80°10°4 sp=64mm 183 °C ISO 75 J81 HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 170 °C ISO 75 J81 HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 180 °C SABC method HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 170 °C SABC method HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 180 °C SABC method HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 180 °C SABC method HDT J81, 1.8 MPa Flatw 80°10°4 sp=64mm 180 SABC method SABC method Metallized Haze Onset 1.2 SASTM D792 SABC method	PROPERTIES	TYPICAL VALUES	LINUTC	
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/B/I. A.5 MPa Flatw 80*10°4 sp=64mm 183 °C ISO 75/Bf Metallized Haze Onset 170 °C ABIC method PHYSICAL*** ** ASTM D792 Mold Shrinkage, flow, 3.2 mm² 1.2 ASTM D792 Mold Shrinkage, flow, 3.2 mm² 1.2 ASTM D1238 Persik Ret, 330°C/2.16 kgf 1.2 g/m² ISO 62-1 Welt Flow Rate, 330°C/2.16 kgf 1.2 g/m² ISO 62-1 Welt Volume Rate, MVR at 330°C/2.16 kgf 0.5 % ISO 62-1 Melt Volume Rate, MVR at 330°C/2.16 kg 1.5 % ISO 62-1 Drying Time 4-6 HIS * Drying Time (Cumulative) 4-6 HIS * Maximum Molsture Content 3.20-345 ° * Nozzle Temperature 3.0-345 ° *			UNITS	TEST METHODS
Vicat Softening Temp, Rate B/120 190 °C ISO 306 Vicat Softening Temp, Rate B/120 190 °C ISO 306 HDT/JRI, 0.45 MFs Flatw 80*10*4 sp=64mm 183 °C ISO 75/Bf HDT/JRI, 1.8 MPa Flatw 80*10*4 sp=64mm 180 °C ISO 75/Af Metallized Haze Onset 180 °C SABIC method Metallized Haze Onset *** SABIC method PHYSICAL*1 ** ASTM D792 Moid Shrinkage, flow, 3.2 mm (²) 1.2 2 ASTM D792 Moid Shrinkage, flow, 3.2 mm (²) 1.2 3 (m²) ASTM D1238 Water Absorption (23°C/2.16 kgf 1.2 3 (m²) ISO 1183 Water Absorption (23°C/saturated) 0.5 % SO 62-1 Moisture Absorption (23°C/saturated) 0.5 % SO 62-1 Moisture Absorption (23°C/s StH) 0.25 % SO 62-1 Invicerion MOLDING (°) % SO 62-1 Drying Time (cut attive) 4 6 Hris Drying Time (cut attive) 30 3 C </th <th>Ball Pressure Test, 125°C +/- 2°C</th> <td>PASSES</td> <td>-</td> <td>IEC 60695-10-2</td>	Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
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 JB HDT/Af, 1.8 MPa Flatw 80°10°4 sp=64mm 170 °C ISO 75 JM Metallized Haze Onset 180 °C SABIC method PHYSICAL ¹ Specific Gravity 1.2 A STM D792 Mold Shrinkage, flow, 3.2 mm ⁽²⁾ 1.2 g/m³ ASHI D792 Melt Flow Rate, 330°C/2.16 kgf 1.2 g/m³ SABIC method Melt Flow Rate, 330°C/2.16 kgf 1.2 g/m³ ISO 62-1 Water Absorption, (23°C/saturated) 0.5 % ISO 62-1 Melt Volume Rate, MVR at 330°C/2.16 kg 15 m²/l Omin ISO 1183 INJECTION MOLDING ⁽³⁾ Drying Temperature 4 - 6 HIS	Ball Pressure Test, 165°C +/- 2°C	PASSES	-	IEC 60695-10-2
HDT/βf, 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 PHYSICAL (°) Specific Gravity 1.2 - ASTM D792 Mold Shrinkage, flow, 3.2 mm (²) 0.6 – 0.95 % SABIC method Melt Flow Rate, 330°C/2.16 kgf 1.2 g/cm³ ISO 1183 Water Absorption, (23°C/saturated) 0.5 % ISO 62 Melt Volume Rate, MWR at 330°C/2.16kg 15 cm³/10 min ISO 1133 INJECTION MOLDING (³) TOPYING Time (Cumulative) 48 HIS Drying Time (Cumulative) 48 HIS Melt Temperature 30 – 345 °C Mozzle Temperature 315 – 340 °C Nozzle Temperature 320 – 345 °C Mold Temperature 30 – 325 °C Middle - Zone 2 Temperature 310 – 335 °C Mold Temperature 30 – 30 – 30<	Vicat Softening Temp, Rate B/50	190	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 170 °C ISO 75/Af Metallized Haze Onset 180 °C SABIC method PHYSICAL **1 Specific Gravity 1.2 - ASTM D792 Mold Shrinkage, flow, 3.2 mm **[2] 0.6 - 0.95 % SABIC method Melt Flow Rate, 330*C/2.16 kgf 1.2 g/cm³ ISO 1183 Water Absorption, (23*C / 50% RH) 0.5 % SO6 2-1 Moisture Absorption (23*C / 50% RH) 0.25 % ISO 62-1 Melt Volume Rate, MVR at 330*C/2.16kg 15 cm³/10 min SO 133 INJECTION MOLDING** Drying Temperature Drying Time (Cumulative) 4-6 Hrs Drying Time (Cumulative) 4.8 Hrs Maximum Moisture Content 320-345 °C Nozzle Temperature 315-340 °C Nozzle Temperature 310-335 °C Rear - Zone 1 Temperature 310-335 °C Mold Temperature 310-30, 7 MPa <t< th=""><th>Vicat Softening Temp, Rate B/120</th><th>190</th><th>°C</th><th>ISO 306</th></t<>	Vicat Softening Temp, Rate B/120	190	°C	ISO 306
Metallized Haze Onset 180 °C SABIC method PHYSICAL (¹) Specific Gravity 1.2 - ASTM D792 Mold Shrinkage, flow, 3.2 mm (²) 0.6 - 0.95 % SABIC method Melt Flow Rate, 330°C/2.16 kgf 16 g/10 min ASTM D1238 Water Absorption, (23°C/saturated) 0.5 % ISO 62-1 Moisture Absorption (23°C / 50% RH) 0.25 m²/10 min ISO 62-1 Melt Volume Rate, MVR at 330°C/2.16kg 15 m²/10 min ISO 62-1 INJECTION MOLDING (³) 135 cm²/10 min SO 133 Drying Time 4 - 6 Hrs Learn (ST) Drying Time (Cumulative) 48 Hrs Maximum Moisture Content 320 - 345 °C Nozzl Temperature 320 - 345 °C Nozzl Temperature 310 - 335 °C Middle - Zone 3 Temperature 310 - 335 °C Rear - Zone 1 Temperature 300 - 325 °C Mold Temperature 300 - 30 - 7 MPa Mold Temperature 40 -	HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	183	°C	ISO 75/Bf
PHYSICAL (**) Specific Gravity 1.2 - C ASTM D792 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 D1238 Density 1.2 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 15 cm³/10 min ISO 62 Melt Tollom MOLDING (**) ** ** ** Drying Temperature 135 **C ** Drying Time (Cumulative) 4.8 Hrs ** Makimum Moisture Content 300-345 ** ** Melt Temperature 315-340 **C ** Front - Zone 3 Temperature 310-335 ** ** Moiddle- Zone 2 Temperature 300-325 ** ** Mold Temperature 300-307 MPa ** Mold Temperature 30-07 MPa **	HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	170	°C	ISO 75/Af
Specific Gravity 1.2 ASTM D792 Mold Shrinkage, flow, 3.2 mm ⁽²⁾ 0.6 - 0.95 % ASBIC method Melt Flow Rate, 330°C/2.16 kgf 16 g/10 min ASTM D1238 Density 1.2 g/cm³ ISO 1183 Water Absorption, (23°C/saturated) 0.5 % ISO 62-1 Moisture Absorption (23°C/ 50% RH) 0.25 % ISO 62-1 Melt Volume Rate, MVR at 330°C/2.16kg 15 cm³/10 min ISO 1133 INJECTION MOLDING ⁽³⁾ V V Drying Temperature 4-6 Hrs V Drying Time (Cumulative) 48 Hrs V Maximum Moisture Content 0.02 % V Melt Temperature 320 - 345 °C V Nozzle Temperature 315 - 340 °C V Moidle- Zone 2 Temperature 310 - 335 °C V Mold Temperature 300 - 325 °C V Mold Temperature 300 - 30 - 7 MPa V Mold Temperature	Metallized Haze Onset	180	°C	SABIC method
Mold Shrinkage, flow, 3.2 mm (²) 0.6 - 0.95 % SABIC method Melt Flow Rate, 330°C/2.16 kgf 16 g/10 min ASTM D1238 Density 1.2 g/cm³ ISO 1183 Water Absorption, (23°C/saturated) 0.5 % ISO 62-1 Melt Volume Rate, MVR at 330°C/2.16kg 15 cm³/10 min ISO 133 INJECTION MOLDING (³) Drying Temperature 135 °C Drying Time (Cumulative) 48 Hrs Maximum Moisture Content 320 - 345 °C Melt Temperature 320 - 345 °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 mpm	PHYSICAL (1)			
Melt Flow Rate, 330°C/2.16 kgf 16 g/10 min ASTM D1238 Density 1.2 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/2.16 kg 15 cm³/10 min ISO 1133 INJECTION MOLDING (³) Drying Temperature 4-6 Hrs	Specific Gravity	1.2	-	ASTM D792
Density 1.2 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 15 cm³/10 min ISO 1133 INJECTION MOLDING (3) ** ** ** Drying Temperature 135 °C ** ** Drying Time (Cumulative) 4-6 Hrs **	Mold Shrinkage, flow, 3.2 mm ⁽²⁾	0.6 – 0.95	%	SABIC method
Water Absorption (23°C / 50% RH) 50 \$ 150 62-1 Moisture Absorption (23°C / 50% RH) 0.25 % 150 62-1 Melt Volume Rate, MVR at 330°C / 2.16kg 15 cm³/10 min 150 1133 INJECTION MOLDING ⁽³⁾ Drying Temperature 135 °C ** Drying Time (Cumulative) 4-6 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 ** ** Mold Temperature 110 - 140 °C ** ** Mold Temperature 110 - 140 °C ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** **	Melt Flow Rate, 330°C/2.16 kgf	16	g/10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH) 0.25 % ISO 62 Melt Volume Rate, MVR at 330°C/2.16kg 15 cm³/10 min ISO 1133 INJECTION MOLDING (3) Drying Temperature 135 °C Drying Time (Cumulative) 4 - 6 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 Mod 1 Temperature 110 - 140 °C Back Pressure 0.3 - 0.7 MPa Screw Speed 40 - 70 rpm	Density	1.2	g/cm³	ISO 1183
Melt Volume Rate, MVR at 330°C/2.16kg 15 cm³/10 min ISO 1133 INJECTION MOLDING (3) Drying Temperature 135 °C Drying Time 4 – 6 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	Water Absorption, (23°C/saturated)	0.5	%	ISO 62-1
INJECTION MOLDING (3) 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	Moisture Absorption (23°C / 50% RH)	0.25	%	ISO 62
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	Melt Volume Rate, MVR at 330°C/2.16kg	15	cm³/10 min	ISO 1133
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	INJECTION MOLDING (3)			
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	Drying Temperature	135	°C	
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	Drying Time	4 – 6	Hrs	
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	Drying Time (Cumulative)	48	Hrs	
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	Maximum Moisture Content	0.02	%	
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	Melt 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	Nozzle Temperature	315 – 340	°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	Front - Zone 3 Temperature	320 – 345	°C	
Mold Temperature 110 – 140 °C Back Pressure 0.3 – 0.7 MPa Screw Speed 40 – 70 rpm	Middle - Zone 2 Temperature	310 – 335	°C	
Back Pressure 0.3 – 0.7 MPa Screw Speed 40 – 70 rpm	Rear - Zone 1 Temperature	300 – 325	°C	
Screw Speed 40 – 70 rpm	Mold Temperature	110 – 140	°C	
·	Back Pressure	0.3 – 0.7	MPa	
Shot to Cylinder Size 40 – 60 %	Screw Speed	40 – 70	rpm	
	Shot to Cylinder Size	40 – 60	%	
Vent Depth 0.025 – 0.08 mm	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.

MORE INFORMATION

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

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.

⁽²⁾ 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.

⁽³⁾ 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.



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