

LEXANTM COPOLYMER EXL1444

REGION EUROPE

DESCRIPTION

LEXAN EXL1444 is based on Polycarbonate (PC) siloxane copolymer resin. It is a medium flow, FDA compliant and opaque injection molding (IM) grade. This resin offers extreme low temperature (-40°C) ductility, exhibits excellent processability and release with opportunities for shorter IM cycle times compared to standard PC. This product is available in a wide range of opaque colors.

TYPICAL PROPERTY VALUES

Revision 20230607

PRODERTIES TYPICAL VALUES UNITS EST METHODS MECHANICAL IIII TERSIS Stress, bit, Type I, 50 mm/min 55 MPa ASTM DG38 Tensile Stress, bit, Type I, 50 mm/min 50 MPa ASTM DG38 Tensile Strain, bit, Type I, 50 mm/min 98 8 ASTM DG38 Tensile Strain, bit, Type I, 50 mm/min 98 MPa ASTM DG38 Flexial Stress, bit, Type I, 50 mm/min 92 MPa ASTM DG38 Flexial Stress, bit, Type I, 50 mm/min 220 MPa ASTM DG38 Flexial Stress, bit, Type I, 50 mm/min 220 MPa ASTM D790 Hardness, Rockwell I. 11 4 ASTM D790 Hardness, Rockwell I. 121 4 ASTM D785 Tensile Strain, yleid, 50 mm/min 60 MPa 60 527 Tensile Strain, break, 50 mm/min 120 MPa 60 527 Tensile Strain, break, 50 mm/min 210 MPa 60 527 Tensile Strain, break, 50 mm/min 210 MPa 60 527 Tensile Strain, break, 50 mm/min 210				
Tersile Stress, yld, Type I, 50 mm/min 55 MPa ASTM D638 Tensile Stress, brk, Type I, 50 mm/min 50 MPa ASTM D638 Tensile Strain, yld, Type I, 50 mm/min 98 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 98 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 920 MPa ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 92 MPa ASTM D638 Tensile Strain, John Span 92 MPa ASTM D790 Hardness, Rockwell L 89 - ASTM D785 Hardness, Rockwell R 121 - ASTM D785 Tensile Strain, break, 50 mm/min 6 % 50.527 Tensile Strain, break, 50 mm/min 10 % 50.527 Tensile Strain, break, 50 mm/min 10 % 50.527 Tensile Strain, break, 50 mm/min 20 % 50.527 Tensile Strain, break, 50 mm/min 80 50.527 50.527 Tensile Strain, break, 50 mm/min 6 8 50.527	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, brk, Type, 1,50 mm/min 50 MPa ASTM D638 Tensile Strain, Jrk, Type, 1,50 mm/min 6 % ASTM D638 Tensile Modulus, 50 mm/min 2020 MPa ASTM D638 Flexural Stress, Jrk, Type, 1,50 mm/min 2020 MPa ASTM D638 Flexural Stress, Jrk, 1,3 mm/min, 50 mm span 92 MPa ASTM D790 Flexural Modulus, 1,3 mm/min, 50 mm span 2230 MPa ASTM D790 Hardness, Rockwell L 29 MPa ASTM D785 Hardness, Rockwell R 21 MPa ASTM D785 Tensile Stress, Dreak, 50 mm/min 60 MPa 05.27 Tensile Stress, Dreak, 50 mm/min 20 MPa 05.27 Tensile Stress, Dreak, 50 mm/min 210 MPa 05.27 Tensile Stress, break, 50 mm/min 210 MPa 05.27	MECHANICAL (1)			
Tensile Strain, lyd., Type I, 50 mm/min 6 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min 98 8 ASTM D638 Tensile Modulus, 50 mm/min 2020 MPa ASTM D638 Flexural Modulus, 1.3 mm/min, 50 mm span 22 MPa ASTM D790 Bruziral Modulus, 1.3 mm/min, 50 mm span 230 MPa ASTM D785 Hardness, Rockwell I 99 - ASTM D785 Hardness, Rockwell R 212 APP ASTM D785 Tensile Strain, Dried Strain, D	Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min 98 % ASTM D638 Tensile Modulus, 50 mm/min 2020 MPs ASTM D638 Flexural Modulus, 50 mm/min, 50 mm span 2230 MPs ASTM D790 Breuard Modulus, 1.3 mm/min, 50 mm span 2320 MPs ASTM D790 Hardness, Rockwell I 89 - ASTM D785 Hardness, Rockwell R 121 - ASTM D785 Tensile Stress, yeld, 50 mm/min 60 MPs OS 227 Tensile Strain, Jeek, 50 mm/min 60 % OS 27 Tensile Strain, Jeek, 50 mm/min 120 % OS 27 Tensile Strain, Jeek, 50 mm/min 60 % OS 27 Tensile Strain, Jeek, 50 mm/min 120 % OS 27 Tensile Strain, Jeek, 50 mm/min 80 MPs OS 27 Tensile Strain, Jeek, 50 mm/min 80 MPs OS 27 Tensile Strain, Jeek, 50 mm/min 81 MPs OS 27 Tensile Strain, Jeek, 50 mm/min 80 MPs OS 27 Tensile Strain, Jeek, 50 mm	Tensile Stress, brk, Type I, 50 mm/min	50	MPa	ASTM D638
Tensile Modulus, 50 mm/min 2020 MPa ASTM D698 Flexural Stress, yld, 1.3 mm/min, 50 mm span 92 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2230 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2230 MPa ASTM D795 Hardness, Rockwell R 121 4 mm 5 mm Hardness, Rockwell R 121 MPa 850 527 Tensile Stress, yield, 50 mm/min 60 MPa 80 527 Tensile Stress, Dreak, 50 mm/min 120 % 80 527 Tensile Modulus, 1 mm/min 120 MPa 80 527 Tensile Stress, yield, 50 mm/min 120 MPa 80 527 Tensile Modulus, 1 mm/min 120 MPa 80 527 Tensile Modulus, 1 mm/min 120 MPa 80 527 Flexural Stress, yield, 2 mm/min 85 MPa 80 527 Flexural Modulus, 2 mm/min 81 MPa 80 178 Elexural Stress, yield, 2 mm/min 85 MPa 80 178 Ilexural Stress, y	Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Flexural Stress, yid, 1.3 mm/min, 50 mm span 92 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2230 MPa ASTM D790 Hardness, Rockwell L 89 - ASTM D785 Hardness, Rockwell R 121 ASTM D785 Hardness, Rockwell R 79 MPa SO5 27 Tensile Stress, yield, 50 mm/min 60 MPa SO5 27 Tensile Strain, Dreak, 50 mm/min 120 % SO5 27 Tensile Strain, Dreak, 50 mm/min 120 % SO5 27 Tensile Strain, Dreak, 50 mm/min 120 % SO5 27 Tensile Strain, Dreak, 50 mm/min 120 MPa SO5 27 Tensile Strain, Dreak, 50 mm/min 85 MPa SO5 178 Tensile Strain, Dreak, 50 mm/min 85 MPa SO 178 Becural Modulus, 2 mm/min 85 Jim MPa SO 178 Becural Modulus, 2 mm/min 85 Jim MPa ASTM D256 Ized Linguist, Notched, 23°C 865 Jim Jim ASTM D256 <t< td=""><td>Tensile Strain, brk, Type I, 50 mm/min</td><td>98</td><td>%</td><td>ASTM D638</td></t<>	Tensile Strain, brk, Type I, 50 mm/min	98	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 230 MFa ASTM D785 Hardness, Rockwell R 21 3 ASTM D785 Tensile Stress, yield, 50 mm/min 57 4 505 227 Tensile Stress, break, 50 mm/min 60 Ma 60 527 Tensile Strain, yield, 50 mm/min 120 % 50 527 Tensile Strain, break, 50 mm/min 120 % 50 527 Tensile Strain, break, 50 mm/min 120 % 50 527 Tensile Modulus, 1 mm/min 210 MPa 50 527 Tensile Strain, break, 50 mm/min 250 MPa 50 527 Tensile Modulus, 1 mm/min 210 MPa 50 527 Tensile Modulus, 1 mm/min 250 MPa 50 527 Tensile Modulus, 2 mm/min 250 MPa 50 527 Tensural Modulus, 2 mm/min 250 MPa 50 527 Tensural Modulus, 2 mm/min 85 40 mm 40 mm 50 178 Televarial Modulus, 2 mm/min 85 40 mm 41 mm 50 178 50 178	Tensile Modulus, 50 mm/min	2020	MPa	ASTM D638
Hardness, Rockwell L 99	Flexural Stress, yld, 1.3 mm/min, 50 mm span	92	MPa	ASTM D790
Hardness, Rockwell R 121 - Common March ASTM D785 Tensile Stress, yield, 50 mm/min 57 MPa ISO 527 Tensile Stress, break, 50 mm/min 60 MPa ISO 527 Tensile Stresin, break, 50 mm/min 120 % ISO 527 Tensile Modulus, 1 mm/min 120 MPa ISO 527 Flexural Stress, yield, 2 mm/min 2150 MPa ISO 178 Flexural Stress, yield, 2 mm/min 85 MPa ISO 178 Flexural Modulus, 2 mm/min 250 MPa ISO 178 Tensile Modulus, 2 mm/min 85 MPa SO 178 Impact Trout	Flexural Modulus, 1.3 mm/min, 50 mm span	2230	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min 57 MPa ISO 527 Tensile Stress, break, 50 mm/min 60 MPa ISO 527 Tensile Strain, yield, 50 mm/min 6 % ISO 527 Tensile Strain, break, 50 mm/min 120 % ISO 527 Tensile Modulus, 1 mm/min 2150 MPa ISO 527 Tensile Modulus, 2 mm/min 250 MPa ISO 178 Flexural Modulus, 2 mm/min 250 MPa ISO 178 Flexural Modulus, 2 mm/min 250 MPa ISO 178 Import Off W Pa ISO 178 Import Modulus, 2 mm/min 250 MPa MID	Hardness, Rockwell L	89	-	ASTM D785
Tensile Stress, break, 50 mm/min 60 MPa SO 527 Tensile Strain, yield, 50 mm/min 120 % SO 527 Tensile Strain, break, 50 mm/min 120 % SO 527 Tensile Modulus, 1 mm/min 2150 MPa SO 527 Flexural Stress, yield, 2 mm/min 85 MPa SO 178 Flexural Modulus, 2 mm/min 2250 MPa SOT 78 Impact, 100 J/m ASTM D256 ASTM D256 Lood Impact, notched, 23°C 865 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 70 J/m ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB J/m² SO 180/10 Izod Impact, notched 80°10°3 +23°C 70 J/m² SO 180/10 Izod Impact, notched 80°10°3 +23°C 70 J/m² SO 180/10 Izod Impact, notched 80°10°3 +23°C 70 J/m² SO 180/10 Izod Impact, notched 80°10°3 +23°C 80 J/m² SO 180/10 Izod Impact, notched 80°10°3 spe 62mm 70 J/m² SO 180/10	Hardness, Rockwell R	121	-	ASTM D785
Tensile Strain, yield, 50 mm/min 6 % 50.527 Tensile Strain, break, 50 mm/min 120 % 50.527 Tensile Modulus, 1 mm/min 2150 MPa 50.527 Flexural Stress, yield, 2 mm/min 85 MPa 50.178 Impact, modulus, 2 mm/min 2250 MPa 50.178 Impact, modulus, 2 mm/min 865 Jm ASTM D256 Izod Impact, notched, 23°C 865 Jm ASTM D256 Izod Impact, notched, 30°C 75 Jm ASTM D256 Izod Impact, unnotched 80°10°3 +23°C 70 Jm² 80.180/10 Izod Impact, unnotched 80°10°3 +23°C 70 Jm² 80.180/10 Izod Impact, notched 80°10°3 +23°C 70 Jm² 80.180/10 Izod Impact, notched 80°10°3 +23°C 70 Jm² 80.180/10 Izod Impact, notched 80°10°3 +23°C 70 Jm² 80.180/10 Charpy 23°C, V-notch Edgew 80°10°3 spe-62mm 70 Jm² 80.191/10 Charpy 30°C, V-notch Edgew 80°10°3 spe-62mm 86 Jm² 80.197/10 <th< td=""><td>Tensile Stress, yield, 50 mm/min</td><td>57</td><td>MPa</td><td>ISO 527</td></th<>	Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Strain, break, 50 mm/min 120 % ISO 527 Tensile Modulus, 1 mm/min 2150 MPa ISO 527 Flexural Stress, yield, 2 mm/min 85 MPa ISO 178 IMPACT ⁽¹⁾ Use of Impact, notched, 23°C MPa ASTM D256 Izod Impact, notched, 30°C 775 J/m ASTM D256 Izod Impact, unnotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unnotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unnotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 +23°C NB kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 sp=62mm 60 kl/m² ISO 180/10 Izod Impact, unotched 80°10°3 sp=62mm 65 kl/m² ISO 179/1e Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm	Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Modulus, 1 mm/min 2150 MPa ISO 527 Flexural Stress, yield, 2 mm/min 85 MPa ISO 178 Flexural Modulus, 2 mm/min 2250 MPa ISO 178 IMPACT (**) Use of Impact, notched, 23°C 865 J/m ASTM D256 Izod Impact, notched, 30°C 775 J/m ASTM D256 Izod Impact, unnotched 80°10°3 +23°C NB J/m² ISO 180/1U Izod Impact, unnotched 80°10°3 +23°C NB J/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 70 J/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 70 J/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 70 J/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 70 J/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 70 J/m² ISO 180/1A Izod Mpact, notched 80°10°3 sp=62mm 70 J/m² ISO 180/1A Izod Long Long C, Unnotch Edgew 80°10°3 sp=62mm 80 MB J/m² ISO 179/1eA Charpy -30°C, Unnotch E	Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Flexural Stress, yield, 2 mm/min 85 MPa ISO 178 Flexural Modulus, 2 mm/min 250 MPa ISO 178 IMPACT ⁽¹⁾ V V V Izod Impact, notched, 23°C 865 J/m ASTM D256 Izod Impact, notched, 30°C 775 J/m ASTM D256 Izod Impact, unnotched 80°10°3 +23°C NB I/m² ISO 180/10 Izod Impact, unnotched 80°10°3 +23°C NB I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 70 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 70 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 70 I/m² ISO 180/10 Izod Impact, notched 80°10°3 sp=62mm 70 I/m² ISO 180/10 Iconary 30°C, V-notch Edgew 80°10°3 sp=62mm 70 I/m² ISO 179/10 Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm NB I/m² ISO 179/10 Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB I/m² I/m² ISO 179/10 THERMAL ⁽¹⁾ Y X <	Tensile Strain, break, 50 mm/min	120	%	ISO 527
Flexural Modulus, 2 mm/min 2250 MPa ISO 178 IMPACT (¹) ASTM D256 Izod Impact, notched, 30°C 655 J/m ASTM D256 ASTM D256 Instrumented Dart Impact Total Energy, 23°C 70 J/m² SO 180/10 Izod Impact, unnotched 80°10°3 +23°C NB kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 60 kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 sp=62mm 70 kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 sp=62mm 70 kJ/m² ISO 179/10A Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm NB kJ/m² ISO 179/10A Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² ISO 179/10A Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² XJ/m² XJ/m² XJ/m² XJ/m² <td>Tensile Modulus, 1 mm/min</td> <td>2150</td> <td>MPa</td> <td>ISO 527</td>	Tensile Modulus, 1 mm/min	2150	MPa	ISO 527
IMPACT (1) Impact, notched, 23°C 865 J/m ASTM D256 Izod Impact, notched, 30°C 775 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 70 J/m ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB kJ/m² ISO 180/1U Izod Impact, unnotched 80°10°3 +23°C NB kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 60 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm NB kJ/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB R I/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm 145 C ASTM D1525	Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Izod Impact, notched, 23°C 865 J/m ASTM D256 Izod Impact, notched, 30°C 775 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 70 J ASTM D3763 Izod Impact, unnotched 80°10°3 + 23°C NB kl/m² ISO 180/1U Izod Impact, unnotched 80°10°3 - 23°C NB kl/m² ISO 180/1U Izod Impact, notched 80°10°3 - 30°C 70 kl/m² ISO 180/1A Izod Impact, notched 80°10°3 - 23°C 60 kl/m² ISO 180/1A Izod Impact, notched 80°10°3 sp=62mm 70 kl/m² ISO 179/1eA Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 70 kl/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kl/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kl/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kl/m² So 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB R kl/m² So 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm 14 C ASTM D1525	Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
Instrumented Dart Impact Total Energy, 23°C 70 J ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB Izod Impact, unnotched 80°10°3 +23°C NB Izod Impact, unnotched 80°10°3 +23°C NB Izod Impact, unnotched 80°10°3 -30°C NB Izod Impact, unnotched 80°10°3 -30°C NB Izod Impact, notched 80°10°3 -30°C Izod Impact, notched 80°10°3 -120°C Izod Impact, notched 80°10°3 - Izo	IMPACT (1)			
Instrumented Dart Impact Total Energy, 23°C 70 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 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 -30°C 60 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy 30°C, V-notch 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 Charpy -30°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 Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eU Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eU THERMAL (¹) C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MP	Izod Impact, notched, 23°C	865	J/m	ASTM D256
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 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 -30°C 60 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 65 kJ/m² ISO 179/1eU Charpy -30°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 Charpy -30°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 (¹¹) Vicat Softening Temp, Rate B/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 124 °C ASTM D648 Charpy - 20°C, 100°C ASTM D648 C ASTM D648 <td>Izod Impact, notched, -30°C</td> <td>775</td> <td>J/m</td> <td>ASTM D256</td>	Izod Impact, notched, -30°C	775	J/m	ASTM D256
Izod Impact, unnotched 80°10°3-30°C NB kJ/m² ISO 180/10 Izod Impact, notched 80°10°3-23°C 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3-30°C 60 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 65 kJ/m² ISO 179/1eA Charpy -30°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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Instrumented Dart Impact Total Energy, 23°C	70	J	ASTM D3763
Izod Impact, notched 80°10°3 +23°C 70 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 -30°C 60 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 65 kJ/m² ISO 179/1eU Charpy -30°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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 HDT, 0.45 of 40°C, flow 6.97E-05 1/°C ASTM E831	Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3-30°C 60 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy 30°C, V-notch Edgew 80*10*3 sp=62mm 65 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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm 70 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm 65 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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Izod Impact, notched 80*10*3 +23°C	70	kJ/m²	ISO 180/1A
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm 65 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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Izod Impact, notched 80*10*3 -30°C	60	kJ/m²	ISO 180/1A
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/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m²	ISO 179/1eA
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm NB kJ/m² ISO 179/1eU THERMAL ⁽¹⁾ Vicat Softening Temp, Rate B/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	65	kJ/m²	ISO 179/1eA
THERMAL (1) Vicat Softening Temp, Rate B/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Vicat Softening Temp, Rate B/50 145 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
HDT, 0.45 MPa, 3.2 mm, unannealed 140 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	THERMAL (1)			
HDT, 1.82 MPa, 3.2mm, unannealed 124 °C ASTM D648 CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	Vicat Softening Temp, Rate B/50	145	°C	ASTM D1525
CTE, -40°C to 40°C, flow 6.97E-05 1/°C ASTM E831	HDT, 0.45 MPa, 3.2 mm, unannealed	140	°C	ASTM D648
,	HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D648
CTE, -40°C to 40°C, xflow 7.47E-05 1/°C ASTM E831	CTE, -40°C to 40°C, flow	6.97E-05	1/°C	ASTM E831
	CTE, -40°C to 40°C, xflow	7.47E-05	1/°C	ASTM E831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, flow	7.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.2E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	145	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	140	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	128	°C	ISO 75/Ae
Relative Temp Index, Elec (2)	130	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	120	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	130	°C	UL 746B
PHYSICAL (1)			
Specific Gravity	1.18	-	ASTM D792
Mold Shrinkage on Tensile Bar, flow ⁽³⁾	0.4 - 0.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.4 - 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽³⁾	0.4 - 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D1238
Density	1.19	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	9	cm³/10 min	ISO 1133
ELECTRICAL (1)			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Surface Resistivity	>1.E+15	Ω	ASTM D257
Dielectric Strength, in oil, 0.8 mm	16.3	kV/mm	ASTM D149
Relative Permittivity, 100 Hz	2.68	-	ASTM D150
Relative Permittivity, 1 MHz	2.64	-	ASTM D150
Dissipation Factor, 100 Hz	0.0012	-	ASTM D150
Dissipation Factor, 1 MHz	0.0093	-	ASTM D150
Hot-Wire Ignition (HWI), PLC 0	≥0.7	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥0.7	mm	UL 746A
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E45329-100079883	-	-
UL Yellow Card Link 2	E45329-462651	-	-
UL Recognized, 94HB Flame Class Rating	≥0.7	mm	UL 94
Glow Wire Flammability Index 960°C, passes at ⁽⁴⁾	1	mm	IEC 60695-2-12
UV-light, water exposure/immersion	F1		UL 746C
Oxygen Index (LOI)	37	%	ISO 4589
INJECTION MOLDING (5)			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
		-	



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 - 0.076	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) Value shown here is based on internal measurement.
- (5) 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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