

LEXANTM COPOLYMER EXL4019

REGION ASIA

DESCRIPTION

LEXAN EXL4019 is an opaque 9% Glass Fiber (GF) reinforced polycarbonate (PC) siloxane copolymer resin for injection molding (IM) applications requiring improved stiffness. This resin also offers improved ductility over conventional GF reinforced PC resins in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times when compared to standard PC. LEXAN EXL4019 resin is a product that may be an excellent candidate for a wide variety of applications.

Available in limited colors only.

TYPICAL PROPERTY VALUES

Revision 20230607

PROPERTIES TYPICAL VALUES UNITS TEST METHODS MECHANICAL. ⁽¹⁾ ************************************				
Tensile Stress, brd, Type I, 5 mm/min 55 Mra ASTM DGSR Tensile Stress, brk, Type I, 5 mm/min 45 Mra ASTM DGSR Tensile Strain, Jrk, Type I, 5 mm/min 14 % ASTM DGSR Tensile Strain, Jrk, Type I, 5 mm/min 3950 Mra ASTM DGSR Flexural Modulus, 5 mm/min, 50 mm span 103 Mra ASTM DGSR Flexural Modulus, 1 mm/min, 50 mm span 43 Mra STM DGSR Tensile Stress, yield, 5 mm/min 44 Mra SD 527 Tensile Stress, break, 5 mm/min 43 Mra SD 527 Tensile Stress, break, 5 mm/min 43 Mra SD 527 Tensile Stress, break, 5 mm/min 43 Mra SD 527 Tensile Strain, break, 5 mm/min 43 Mra SD 527 Tensile Strain, break, 5 mm/min 43 Mra SD 527 Tensile Strain, break, 5 mm/min 43 Mra SD 527 Tensile Strain, break, 5 mm/min 43 Mra Mra SD 527 Tensile Strain, break, 5 mm/min Mra Mra	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, br.k. Type I. 5 mm/min 45 Mman ASTM DG38 Tensile Strain, Job. Type I. 5 mm/min 4.3 % ASTM DG38 Tensile Strain, Job. Type I. 5 mm/min 3950 MPa ASTM DG38 Flexural Stress, Job. 1.3 mm/min, 50 mm span 3950 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 3900 MPa ASTM D790 Tensile Stress, Job. 1.3 mm/min, 50 mm span 48 MPa ASTM D790 Tensile Stress, Job. 1.3 mm/min, 50 mm span 48 MPa ASTM D790 Tensile Stress, Job. 1.3 mm/min 48 MPa 50 527 Tensile Stress, Job. 5 mm/min 48 MPa 50 527 Tensile Strain, Jobel, 5 mm/min 8.7 8 10 527 Tensile Strain, Jobel, 5 mm/min 8.7 8 10 527 Tensile Strain, Jobel, 5 mm/min 8.7 8 10 527 Tensile Strain, Jobel, 5 mm/min 8.7 8 10 527 Tensile Strain, Jobel, 5 mm/min 8.7 8 10 527 Tensile Strain, Jobel, 5 mm/min 8 7	MECHANICAL (1)			
Tensile Strain, yld, Type I, 5 mm/min 4.3 % ASTM DG38 Tensile Strain, brk, Type I, 5 mm/min 14 % ASTM DG38 Tensile Strain, brk, Type I, 5 mm/min 3950 MPa ASTM DG38 Tensile Modulus, 5 mm/min 3950 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 3500 MPa ASTM D790 Tensile Stress, yleld, 5 mm/min 48 MPa ISO 527 Tensile Stress, break, 5 mm/min 8.7 % ISO 527 Tensile Stress, break, 5 mm/min 8.7 % ISO 527 Tensile Modulus, 1 mm/min 990 MPa ISO 527 Flexural Modulus, 2 mm/min 98 MPa ISO 178 Elexural Modulus, 2 mm/min 98 MPa ISO 178 Elexural Stress, yield, 2 mm/min 98 MPa ISO 178 Izabata Maculus, 1 mm/min </td <td>Tensile Stress, yld, Type I, 5 mm/min</td> <td>55</td> <td>MPa</td> <td>ASTM D638</td>	Tensile Stress, yld, Type I, 5 mm/min	55	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min 14 % ASTM D638 Tensile Modulus, 5 mm/min 3950 MPa ASTM D790 Flexural Stress, yld, 1.3 mm/min, 50 mm span 103 MPa ASTM D790 Tensile Stress, yld, 1.5 mm/min 54 MPa ASTM D790 Tensile Stress, break, 5 mm/min 48 MPa 105 27 Tensile Stress, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 % 105 27 Tensile Strain, break, 5 mm/min 4.3 MPa 105 27 Tensile Strain, break, 5 mm/min 4.3 4.0 105 27 Tensile Strain, break, 5 mm/min 4.3 4.0 107 28 107 28 Elexural Modulus, 2 mm/min 4.0 1.0 1.0 1.0 <td>Tensile Stress, brk, Type I, 5 mm/min</td> <td>45</td> <td>MPa</td> <td>ASTM D638</td>	Tensile Stress, brk, Type I, 5 mm/min	45	MPa	ASTM D638
Tensile Modulus, 5 mm/min 3990 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 103 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 3500 MPa ASTM D790 Tensile Stress, yild, 5 mm/min 48 MPa ISO 527 Tensile Stress, break, 5 mm/min 48 MPa ISO 527 Tensile Strain, yield, 5 mm/min 4.3 % ISO 527 Tensile Strain, break, 5 mm/min 48.7 % ISO 527 Tensile Modulus, 1 mm/min 3900 MPa ISO 527 Tensile Modulus, 7 mm/min 3450 MPa ISO 178 Flexural Modulus, 2 mm/min 98 MPa ISO 178 Flexural Modulus, 2 mm/min 3450 MPa ISO 178 Tensile Modulus, 1 mm/min 98 MPa ISO 178 Elexural Modulus, 2 mm/min 98 MPa ISO 180 Illexural Strain, yield, 5 mm/min 43 MPa ISO 180 Illexural Strain, yield, 5 mm/min 43 MPa ISO 180 Illexural	Tensile Strain, yld, Type I, 5 mm/min	4.3	%	ASTM D638
Flexural Stress, yield, 1.3 mm/min, 50 mm span 103 MPa ASTM D790 Tensile Stress, yield, 5 mm/min 54 MPa 150 527 Tensile Stress, yield, 5 mm/min 48 MPa 150 527 Tensile Stress, break, 5 mm/min 48 MPa 150 527 Tensile Strain, break, 5 mm/min 87 80 150 527 Tensile Stress, yield, 5 mm/min 98 MPa 150 527 Tensile Strain, break, 5 mm/min 98 MPa 150 178 Flexural Stress, yield, 2 mm/min 3450 MPa 150 178 Flexural Modulus, 2 mm/min 3450 MPa 351 178 Elexural Modulus, 2 mm/min 3450 Jm ASTM D256 Elexural Modulus, 2 mm/min 3450 Jm ASTM D256 Elexural Modulus, 2 mm/min 3450 Jm 351 MC STM Elexural Modulus, 2 mm/min 3450 Jm 351 MC STM Elexural Modulus, 2 mm/min 3450 Jm 351 MC STM Elexural Modulus, 2 mm/min 345 Jm 351 MC STM 351 MC STM <td>Tensile Strain, brk, Type I, 5 mm/min</td> <td>14</td> <td>%</td> <td>ASTM D638</td>	Tensile Strain, brk, Type I, 5 mm/min	14	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 3500 MPa ASTM D790 Tensile Stress, yield, 5 mm/min 54 MPa 150 527 Tensile Stress, break, 5 mm/min 48 MPa 150 527 Tensile Stress, break, 5 mm/min 43 50 527 150 527 Tensile Modulus, 1 mm/min 3900 MPa 150 527 Flexural Stress, yield, 2 mm/min 3900 MPa 150 178 Flexural Stress, yield, 2 mm/min 3450 MPa 150 178 Flexural Modulus, 2 mm/min 3450 J/m ASTM D256 Impact Instrumented Part Impact Total Energy, 23°C 35 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 40 J/m² ASTM D256 Izod Impact, untotched 80°10°3 +23°C 80 J/m² ISO 180/10 Izod Impact, untotched 80°10°3 +23°C 80 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 80 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 80 J/m² ISO 180/10 Izod Impact, notched 80°10°3 spe 62mm 82 <td>Tensile Modulus, 5 mm/min</td> <td>3950</td> <td>MPa</td> <td>ASTM D638</td>	Tensile Modulus, 5 mm/min	3950	MPa	ASTM D638
Tensile Stress, yield, 5 mm/min 54 MPa ISO 527 Tensile Stress, break, 5 mm/min 48 MPa ISO 527 Tensile Strain, yield, 5 mm/min 4.3 % ISO 527 Tensile Strain, break, 5 mm/min 8.7 % ISO 527 Tensile Modulus, 1 mm/min 3900 MPa ISO 178 Flexural Modulus, 2 mm/min 450 MPa ISO 178 Flexural Modulus, 2 mm/min 450 MPa ISO 178 Flexural Modulus, 2 mm/min 450 MPa ISO 178 IMPACT (1) V V V Izod Impact, notched, 23°C 345 J/m ASTM D256 Izod Impact, notched, 30°C 150 J/m ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C 8 J/m² ISO 180/10 Izod Impact, unnotched 80°10°3 +23°C 25 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 25 J/m² ISO 180/10 Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 15 J/m² ISO 179/1eA Charpy 23°C, V-notch Ed	Flexural Stress, yld, 1.3 mm/min, 50 mm span	103	MPa	ASTM D790
Tensile Stress, break, 5 mm/min 48 MPa ISO 527 Tensile Strain, yield, 5 mm/min 4.3 % ISO 527 Tensile Strain, break, 5 mm/min 8.7 % ISO 527 Tensile Modulus, 1 mm/min 3900 MPa ISO 527 Flexural Stress, yield, 2 mm/min 98 MPa ISO 178 Elexural Modulus, 2 mm/min 3450 MPa ISO 178 Impact, 10 J/m ASTM D256 ASTM D256 Lood Impact, notched, 23°C 150 J/m ASTM D256 Ist zool impact, notched, 30°C 150 J/m ASTM D3763 Ist zool impact, notched 80°10°3 +23°C 88 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C NB J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 J/m² ISO 180/10 <t< td=""><td>Flexural Modulus, 1.3 mm/min, 50 mm span</td><td>3500</td><td>MPa</td><td>ASTM D790</td></t<>	Flexural Modulus, 1.3 mm/min, 50 mm span	3500	MPa	ASTM D790
Tensile Strain, yield, 5 mm/min 4.3 % ISO 527 Tensile Strain, break, 5 mm/min 8.7 % ISO 527 Tensile Modulus, 1 mm/min 3900 MPa ISO 527 Flexural Stress, yield, 2 mm/min 98 MPa ISO 178 Impact, 1 MPACT (*) WF ISO 178 Impact, not, 1 MPACT (*) WF ASTM D256 Izod Impact, not, 23°C 35 J/m ASTM D256 Izod Impact, not, 1 mm/min 40 J ASTM D256 Izod Impact, not, 23°C 40 J 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, unnotched 80°10°3 +23°C 10 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C <	Tensile Stress, yield, 5 mm/min	54	MPa	ISO 527
Tensile Strain, break, 5 mm/min 8.7 % ISO 527 Tensile Modulus, 1 mm/min 3900 MPa ISO 527 Flexural Stress, yield, 2 mm/min 98 MPa ISO 178 Impact Till 3450 MPa ISO 178 Impact Till V V V Impact Total Lengy, 23°C 345 J/m ASTM D256 Isod Impact, notched, 30°C 150 J/m ASTM D256 Isod Impact, unnotched 80°10°3 +23°C 40 J/m ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB J/m² ISO 180/10 Izod Impact, unnotched 80°10°3 +23°C NB J/m² ISO 180/10 Izod Impact, ontched 80°10°3 +23°C 10 J/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 10 J/m² ISO 180/10 Izod Impact, notched 80°10°3 spe2mm 5 J/m² ISO 180/10 Icotal Edgew 80°10°3 spe2mm 15 J/m² ISO 179/1e Charpy 30°C, Unnotch Edgew 80°10°3 spe2mm NB J/m² ISO 179/1e Charpy 3	Tensile Stress, break, 5 mm/min	48	MPa	ISO 527
Tensile Modulus, 1 mm/min 3900 MPa ISO 527 Flexural Stress, yield, 2 mm/min 98 MPa ISO 178 IMPACT ⁽¹⁾ USO 178 IMPACT ISO 180 ISO 178 IMPACT ⁽¹⁾ USO 178 IMPACT ISO 180 IMPAC	Tensile Strain, yield, 5 mm/min	4.3	%	ISO 527
Flexural Stress, yield, 2 mm/min 98 MPa ISO 178 Flexural Modulus, 2 mm/min 3450 MPa ISO 178 IMPACT ⁽¹⁾ V V V Izod Impact, notched, 23°C 345 J/m ASTM D256 Izod Impact, notched, 30°C 150 J/m ASTM D256 Izod Impact, unnotched 80°10°3 +23°C 40 J/m² ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C NB I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C NB I/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 25 I/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 10 I/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 15 I/m² ISO 180/1A Izod Impact, notched 80°10°3 spe62mm 15 I/m² ISO 179/1eA Charpy 30°C, V-notch Edgew 80°10°3 spe62mm NB I/m² ISO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB I/m² <th< td=""><td>Tensile Strain, break, 5 mm/min</td><td>8.7</td><td>%</td><td>ISO 527</td></th<>	Tensile Strain, break, 5 mm/min	8.7	%	ISO 527
Flexural Modulus, 2 mm/min 3450 MPa ISO 178 IMPACT (¹) ASTM D256 Izod Impact, notched, 23°C 150 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 40 J ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C NB kJ/m² ISO 180/10 Izod Impact, notched 80°10°3 +23°C 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 sp=62mm 15 kJ/m² ISO 179/1eA Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 15 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm 18 kJ/m² SO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm <td>Tensile Modulus, 1 mm/min</td> <td>3900</td> <td>MPa</td> <td>ISO 527</td>	Tensile Modulus, 1 mm/min	3900	MPa	ISO 527
IMPACT (1) izod Impact, notched, 23°C 345 J/m ASTM D256 izod Impact, notched, -30°C 150 J/m ASTM D256 ixod Impact, unnotched 80°10°3 +23°C 40 J/m ASTM D3763 izod Impact, unnotched 80°10°3 +23°C NB kJ/m² 150 180/10 izod Impact, unnotched 80°10°3 +23°C NB kJ/m² 150 180/10 izod Impact, notched 80°10°3 +23°C 10 kJ/m² 150 180/1A izod Impact, notched 80°10°3 +23°C 10 kJ/m² 150 180/1A izod Impact, notched 80°10°3 +23°C 10 kJ/m² 150 180/1A izod Impact, notched 80°10°3 +23°C 15 kJ/m² 150 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 15 kJ/m² 150 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² 150 179/1eU Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² 150 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² ASTM D1525 TERMAL (1) 1 C ASTM D1525 <	Flexural Stress, yield, 2 mm/min	98	MPa	ISO 178
Izod Impact, notched, 23°C 345 I/m ASTM D256 Izod Impact, notched, 30°C 150 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 40 J ASTM D3763 Izod Impact, unnotched 80°10°3 +23°C NB kJ/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C NB kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 +23°C 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 sp=62mm 25 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 15 kJ/m² ISO 179/1eA Charpy 23°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 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 kJ/m² SO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB K C ASTM D1525	Flexural Modulus, 2 mm/min	3450	MPa	ISO 178
Izod Impact, notched, -30°C 150 J/m ASTM D256 Instrumented Dart Impact Total Energy, 23°C 40 J 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 180/1U Izod Impact, notched 80°10°3 +23°C 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 sp=62mm 10 kJ/m² ISO 179/1eA Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 15 kJ/m² ISO 179/1eA Charpy 23°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 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 kJ/m² SO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm NB kJ/m² SO 179/1eA Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648	IMPACT (1)			
Instrumented Dart Impact Total Energy, 23°C 40 J 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 180/1U Izod Impact, notched 80°10°3 +23°C 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 spe62mm 10 kJ/m² ISO 179/1eA Charpy 23°C, V-notch Edgew 80°10°3 spe62mm 15 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² ISO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² ISO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² ISO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² ISO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² SO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm NB kJ/m² SO 179/1eU Charpy 30°C, Unnotch Edgew 80°10°3 spe62mm 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 146 °C ASTM D	Izod Impact, notched, 23°C	345	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 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 -30°C 10 kJ/m² ISO 179/1eA Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 25 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 15 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 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 ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, flow 7.E-05 1/°C ASTM E831	Izod Impact, notched, -30°C	150	J/m	ASTM D256
Izod Impact, unnotched 80°10°3 -30°C NB kJ/m² ISO 180/1U Izod Impact, notched 80°10°3 +23°C 25 kJ/m² ISO 180/1A Izod Impact, notched 80°10°3 -30°C 10 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 25 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 15 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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM E831 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831	Instrumented Dart Impact Total Energy, 23°C	40	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C 25 Izof Impact, notched 80*10*3 -30°C ISO 180/1A Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm 25 Izof Impact, notched 80*10*3 sp=62mm ISO 179/1eA Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm 15 Izof Impact, notched Edgew 80*10*3 sp=62mm Izof Impact, notched Impact, notched Impact, notched Edgew 80*10*3 sp=62mm Izof Impact, notched Impa	Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80°10°3 -30°C 10 kJ/m² ISO 180/1A Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm 25 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 15 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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM E831 CTE, -40°C to 40°C, flow 4.7E-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 25 kJ/m² ISO 179/1eA Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm 15 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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Izod Impact, notched 80*10*3 +23°C	25	kJ/m²	ISO 180/1A
Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm 15 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 THERMAL¹¹¹ Vicat Softening Temp, Rate B/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, 40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Izod Impact, notched 80*10*3 -30°C	10	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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, 40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	25	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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	15	kJ/m²	ISO 179/1eA
THERMAL (1) Vicat Softening Temp, Rate B/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-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/50 146 °C ASTM D1525 HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
HDT, 1.82 MPa, 3.2mm, unannealed 137 °C ASTM D648 CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	THERMAL (1)			
CTE, -40°C to 40°C, flow 4.7E-05 1/°C ASTM E831 CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	Vicat Softening Temp, Rate B/50	146	°C	ASTM D1525
CTE, -40°C to 40°C, xflow 7.E-05 1/°C ASTM E831	HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D648
	CTE, -40°C to 40°C, flow	4.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow 4.7E-05 1/°C ISO 11359-2	CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E831
	CTE, -40°C to 40°C, flow	4.7E-05	1/°C	ISO 11359-2



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	146	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Ae
Relative Temp Index, Elec (2)	80	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	80	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	80	°C	UL 746B
PHYSICAL (1)			
Specific Gravity	1.25	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm (3)	0.2 - 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm (3)	0.2 – 0.6	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	7.5	g/10 min	ASTM D1238
Density	1.25	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.15	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.4	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	6	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E207780-572220	-	
UL Recognized, 94HB Flame Class Rating	≥0.75	mm	UL 94
INJECTION MOLDING (4)			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)			
	48	Hrs	
Maximum Moisture Content	0.02	Hrs %	
Maximum Moisture Content Melt Temperature			
	0.02	%	
Melt Temperature	0.02 310 – 330	% °C	
Melt Temperature Nozzle Temperature	0.02 310 – 330 305 – 325	% °C °C	
Melt Temperature Nozzle Temperature Front - Zone 3 Temperature	0.02 310 - 330 305 - 325 310 - 330	% °C °C	
Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature	0.02 310 - 330 305 - 325 310 - 330 300 - 320	% °C °C °C	
Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature	0.02 310 - 330 305 - 325 310 - 330 300 - 320 290 - 310	% °C °C °C	
Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature Mold Temperature	0.02 310 - 330 305 - 325 310 - 330 300 - 320 290 - 310 80 - 115	% °C °C °C °C	
Melt Temperature Nozzle Temperature Front - Zone 3 Temperature Middle - Zone 2 Temperature Rear - Zone 1 Temperature Mold Temperature Back Pressure	0.02 310 - 330 305 - 325 310 - 330 300 - 320 290 - 310 80 - 115 0.3 - 0.7	% °C °C °C °C °C MPa	

⁽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

⁽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⁾ 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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