

LEXAN™ COPOLYMER EXL9330

REGION ASIA

DESCRIPTION

Opaque PC-Siloxane copolymer with excellent processability. Non-chlorinated, non-brominated flame retardant product in most colors. UV-stabilized. UL rated f1 /V-0/5VA.

TYPICAL PROPERTY VALUES

Revision 20200423

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 58 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 61 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 130 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2100 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 88 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2060 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 55 | 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 | 125 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2100 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 85 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2200 | MPa | ISO 178 |
| Ball Indentation Hardness, H358/30 | 90 | MPa | ISO 2039-1 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 801 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 678 | J/m | ASTM D 256 |
| Izod Impact, notched, -50°C | 587 | J/m | ASTM D 256 |
| Izod Impact, notched, 23°C, 6.4mm | 640 | J/m | ASTM D 256 |
| Izod Impact, double-gated, 23°C | 1068 | J/m | SABIC method |
| Instrumented Impact Total Energy, 23°C | 52 | J | ASTM D 3763 |
| Izod Impact, unnotched 80*10*3 +23°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*3 -30°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*3 +23°C | 70 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 55 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 63.5*12.7*3.2, 23°C | 80 | kJ/m ² | ISO 180/4A |
| Izod Impact, notched 63.5*12.7*3.2, -30°C | 65 | kJ/m ² | ISO 180/4A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 75 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 60 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 142 | °C | ASTM D 1525 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------------|----------------|
| HDT, 0.45 MPa, 3.2 mm, unannealed | 134 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 120 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 124 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.66E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 6.66E-05 | 1/°C | ASTM E 831 |
| CTE, 23°C to 80°C, flow | 7.2E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 7.7E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASSES | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 140 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 142 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 135 | °C | ISO 75/Be |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 124 | °C | ISO 75/Ae |
| Relative Temp Index, Elec ⁽¹⁾ | 125 | °C | UL 746B |
| Relative Temp Index, Mech w/impact ⁽¹⁾ | 115 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact ⁽¹⁾ | 125 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.18 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.4 – 0.8 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 0.4 – 0.8 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 10 | g/10 min | ASTM D 1238 |
| Density | 1.19 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.35 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.15 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 9 | cm ³ /10 min | ISO 1133 |
| ELECTRICAL | | | |
| Dielectric Strength, in oil, 3.2 mm | 17 | kV/mm | ASTM D 149 |
| Relative Permittivity, 50/60 Hz | 2.95 | - | ASTM D 150 |
| Relative Permittivity, 1 MHz | 2.9 | - | ASTM D 150 |
| Dissipation Factor, 50/60 Hz | 0.0024 | - | ASTM D 150 |
| Dissipation Factor, 1 MHz | 0.0085 | - | ASTM D 150 |
| Volume Resistivity | >1.E+15 | Ohm-cm | IEC 60093 |
| Surface Resistivity, ROA | >1.E+15 | Ohm | IEC 60093 |
| Dielectric Strength, in oil, 3.2 mm | 16 | kV/mm | IEC 60243-1 |
| Relative Permittivity, 1 MHz | 2.7 | - | IEC 60250 |
| Dissipation Factor, 50/60 Hz | 0.001 | - | IEC 60250 |
| Dissipation Factor, 1 MHz | 0.0085 | - | IEC 60250 |
| Comparative Tracking Index | 225 | V | IEC 60112 |
| Relative Permittivity, 50/60 Hz | 2.6 | - | IEC 60250 |
| Comparative Tracking Index (UL) {PLC} | 3 | PLC Code | UL 746A |
| Hot-Wire Ignition (HWI), PLC 1 | ≥3 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 2 | ≥1.5 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 3 | ≥0.6 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 0 | ≥2.3 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 1 | ≥0.6 | mm | UL 746A |
| FLAME CHARACTERISTICS ⁽¹⁾ | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|--------------------------|-------|----------------|
| UL Yellow Card Link | <u>E207780-102516601</u> | - | - |
| UL Yellow Card Link 2 | <u>E207780-228378</u> | - | - |
| UL Recognized, 94-5VA Flame Class Rating | ≥3 | mm | UL 94 |
| UL Recognized, 94-5VB Flame Class Rating | ≥2.5 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5 | mm | UL 94 |
| UL Recognized, 94V-1 Flame Class Rating | ≥0.8 | mm | UL 94 |
| UL Recognized, 94HB Flame Class Rating | ≥0.6 | mm | UL 94 |
| Glow Wire Ignitability Temperature, 3.0 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 2.5 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 2.3 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 2.0 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 1.5 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 1.0 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Flammability Index, 3.0 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 2.5 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 2.3 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 2.0 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 1.5 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 1.0 mm | 960 | °C | IEC 60695-2-12 |
| Oxygen Index (LOI) | 35 | % | ISO 4589 |
| UV-light, water exposure /immersion | F1 | - | UL 746C |
| INJECTION MOLDING | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 3 – 4 | hrs | |
| Drying Time (Cumulative) | 48 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 265 – 315 | °C | |
| Nozzle Temperature | 260 – 310 | °C | |
| Front - Zone 3 Temperature | 265 – 315 | °C | |
| Middle - Zone 2 Temperature | 255 – 305 | °C | |
| Rear - Zone 1 Temperature | 245 – 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) 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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.