# LEXAN™ Copolymer EXL8454

REGION EUROPE

## DESCRIPTION

LEXAN EXL8454 is a PC/siloxane copolymer resin with medium flow, excellent low temperature impact and 50% post consumer recycle content. Limited availability and restricted color only. Higher color variability and contamination risks including black specs needs to be considered before approval for use in applications.

## TYPICAL PROPERTY VALUES

Revision 20260203

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 57 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 50 mm/min | 55 | MPa | ASTM D638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6 | % | ASTM D638 |
| Tensile Strain, brk, Type I, 50 mm/min | 100 | % | ASTM D638 |
| Tensile Modulus, 5 mm/min | 2200 | MPa | ASTM D638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 90 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2100 | MPa | ASTM D790 |
| IMPACT [1] | | | |
| Izod Impact, notched, 23°C | 800 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 700 | J/m | ASTM D256 |
| Izod Impact, notched, -40°C | 650 | J/m | ASTM D256 |
| Instrumented Dart Impact Total Energy, 23°C | 70 | J | ASTM D3763 |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 67 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 58 | kJ/m² | ISO 179/1eA |
| Charpy -40°C, V-notch Edgew 80*10*3 sp=62mm | 54 | kJ/m² | ISO 179/1eA |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 65 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 27 | kJ/m² | ISO 179/1eA |
| THERMAL [1] | | | |
| Vicat Softening Temp, Rate B/50 | 145 | °C | ASTM D1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 123 | °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 |
| 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 | 1.2 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm [3] | 0.4 – 0.8 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 10 | g/10 min | ASTM D1238 |
| Water Absorption, 23°C/24hrs | 0.15 | % | SABIC method |
| ELECTRICAL [1] | | | |
| Volume Resistivity | >1.E+15 | Ω.cm | ASTM D257 |
| Surface Resistivity | >1.E+15 | Ω | ASTM D257 |

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|---|---|---|---|
| Dielectric Strength, in oil, 0.8 mm | 15 | kV/mm | ASTM D149 |
| Relative Permittivity, 1 MHz | 3 | - | ASTM D150 |
| Dissipation Factor, 1 MHz | 0.0093 | - | ASTM D150 |
| Hot-Wire Ignition (HWI), PLC 3 | ≥3 | mm | UL 746A |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E207780-100656423 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥0.75 | mm | UL 94 |
| Glow Wire Ignitability Temperature, 3.0 mm | 875 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 1.5 mm | 875 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 1.0 mm | 875 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 0.75 mm | 850 | °C | IEC 60695-2-13 |
| Glow Wire Flammability Index, 3.0 mm | 960 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 1.5 mm | 850 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 1.0 mm | 850 | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 0.75 mm | 825 | °C | IEC 60695-2-12 |
| INJECTION MOLDING [4] | | | |
| 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 | |
| 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) 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.

## MORE INFORMATION

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

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