


## SABIC Innovative Plastics Lexan® EXL9335 PC Copolymer (Unverified Data\*\*)





Categories: [Polymer](#); [Thermoplastic](#); [Polycarbonate \(PC\)](#)

**Material Notes:** Opaque PC-Siloxane copolymer with excellent processability. Non-chlorinated, non-brominated flame retardant product. UV-stabilized. UL rated V-0.

This data was supplied by SABIC-IP for the Americas and Asia Pacific regions. MatWeb with separate data for the Europe-Africa-Middle East region as supplied by SABIC-IP as of August 2009.

**Vendors:** No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

| Physical Properties   | Metric   | English  | Comments   |
|---|--|--|--|
| Specific Gravity  | 1.18 g/cc  | 1.18 g/cc  | ASTM D 792   |
| Density   | 1.19 g/cc  | 0.0430 lb/in <sup>3</sup>                            | ISO 1183   |
| Moisture Absorption at Equilibrium  | 0.15 %   | 0.15 %   | 23°C/50% RH; ISO 62                                  |
| Water Absorption at Saturation  | 0.35 %   | 0.35 %   | ISO 62   |
| Linear Mold Shrinkage, Flow   | 0.0040 - 0.0080 cm/cm<br>@Thickness 3.20 mm          | 0.0040 - 0.0080 in/in<br>@Thickness 0.126 in         | SABIC Method   |
| Linear Mold Shrinkage, Transverse   | 0.0040 - 0.0080 cm/cm<br>@Thickness 3.20 mm          | 0.0040 - 0.0080 in/in<br>@Thickness 0.126 in         | SABIC Method   |
| Melt Flow  | 9.0 g/10 min<br>@Load 1.20 kg,<br>Temperature 300 °C | 9.0 g/10 min<br>@Load 2.65 lb,<br>Temperature 572 °F | Melt Volume Rate (cm <sup>3</sup> /10 min); ISO 1133 |
|   | 10 g/10 min<br>@Load 1.20 kg,<br>Temperature 300 °C  | 10 g/10 min<br>@Load 2.65 lb,<br>Temperature 572 °F  | ASTM D 1238  |

| Mechanical Properties  | Metric  | English  | Comments                           |
|--|---|--|------------------------------------|
| Tensile Strength at Break  | 60.0 MPa  | 8700 psi   | 50 mm/min; ISO 527                 |
|  | 61.0 MPa  | 8850 psi   | Type I, 50 mm/min; ASTM D 638      |
| Tensile Strength, Yield  | 55.0 MPa  | 7980 psi   | 50 mm/min; ISO 527                 |
|  | 58.0 MPa  | 8410 psi   | Type I, 50 mm/min; ASTM D 638      |
| Elongation at Break  | 125 %   | 125 %  | 50 mm/min; ISO 527                 |
|  | 130 %   | 130 %  | Type I, 50 mm/min; ASTM D 638      |
| Elongation at Yield  | 6.0 %   | 6.0 %  | 50 mm/min; ISO 527                 |
|  | 6.0 %   | 6.0 %  | Type I, 50 mm/min; ASTM D 638      |
| Tensile Modulus  | 2.10 GPa  | 305 ksi  | 1 mm/min; ISO 527                  |
|  | 2.10 GPa  | 305 ksi  | 50 mm/min; ASTM D 638              |
| Flexural Yield Strength  | 85.0 MPa  | 12300 psi  | 2 mm/min; ISO 178                  |
|  | 88.0 MPa  | 12800 psi  | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Flexural Modulus   | 2.06 GPa  | 299 ksi  | 1.3 mm/min, 50 mm span; ASTM D 790 |
|  | 2.20 GPa  | 319 ksi  | 2 mm/min; ISO 178                  |
| Izod Impact, Notched            | 10.68 J/cm  | 20.01 ft-lb/in   | double-gated; SABIC Method         |
|  | 5.87 J/cm<br>@Temperature -50.0 °C                                    | 11.0 ft-lb/in<br>@Temperature -58.0 °F                                     | ASTM D 256                         |
|  | 6.78 J/cm<br>@Temperature -30.0 °C                                    | 12.7 ft-lb/in<br>@Temperature -22.0 °F                                     | ASTM D 256                         |
|  | 8.01 J/cm<br>@Temperature 23.0 °C                                     | 15.0 ft-lb/in<br>@Temperature 73.4 °F                                      | ASTM D 256                         |
|  | 6.40 J/cm<br>@Thickness 6.40 mm,<br>Temperature 23.0 °C               | 12.0 ft-lb/in<br>@Thickness 0.252 in,<br>Temperature 73.4 °F               | ASTM D 256                         |
| Izod Impact, Notched (ISO)    | 55.0 kJ/m <sup>2</sup><br>@Thickness 3.00 mm,<br>Temperature -30.0 °C | 26.2 ft-lb/in <sup>2</sup><br>@Thickness 0.118 in,<br>Temperature -22.0 °F | 80*10*3; ISO 180/1A                |
|  | 65.0 kJ/m <sup>2</sup><br>@Thickness 3.20 mm,<br>Temperature -30.0 °C | 30.9 ft-lb/in <sup>2</sup><br>@Thickness 0.126 in,<br>Temperature -22.0 °F | 63.5*12.7*3.2; ISO 180/4A          |
|  | 70.0 kJ/m <sup>2</sup><br>@Thickness 3.00 mm,<br>Temperature 23.0 °C  | 33.3 ft-lb/in <sup>2</sup><br>@Thickness 0.118 in,<br>Temperature 73.4 °F  | 80*10*3; ISO 180/1A                |
|  | 80.0 kJ/m <sup>2</sup><br>@Thickness 3.20 mm,<br>Temperature 23.0 °C  | 38.1 ft-lb/in <sup>2</sup><br>@Thickness 0.126 in,<br>Temperature 73.4 °F  | 63.5*12.7*3.2; ISO 180/4A          |
| Izod Impact, Unnotched (ISO)  | NB<br>@Thickness 3.00 mm,<br>Temperature -30.0 °C                     | NB<br>@Thickness 0.118 in,<br>Temperature -22.0 °F                         | 80*10*3; ISO 180/1U                |
|  | NB<br>@Thickness 3.00 mm,<br>Temperature 23.0 °C                      | NB<br>@Thickness 0.118 in,<br>Temperature 73.4 °F                          | 80*10*3; ISO 180/1U                |
| Charpy Impact Unnotched       | NB<br>@Thickness 3.00 mm,   | NB<br>@Thickness 0.118 in,   | Edgew 80*10*3 sp=62mm; ISO 179/1eU |

|   | Temperature -30.0 °C                                      | Temperature -22.0 °F   |  |
|---|---|--|--|
|   | NB<br>@Thickness 3.00 mm,<br>Temperature 23.0 °C          | NB<br>@Thickness 0.118 in,<br>Temperature 73.4 °F              | Edgew 80*10*3 sp=62mm; ISO 179/1eU                 |
| Charpy Impact, Notched                      | 6.00 J/cm²<br>@Thickness 3.00 mm,<br>Temperature -30.0 °C | 28.6 ft-lb/in²<br>@Thickness 0.118 in,<br>Temperature -22.0 °F | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA         |
|   | 7.50 J/cm²<br>@Thickness 3.00 mm,<br>Temperature 23.0 °C  | 35.7 ft-lb/in²<br>@Thickness 0.118 in,<br>Temperature 73.4 °F  | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA         |
| Impact Test                                 | 52.0 J  | 38.4 ft-lb   | Instrumented Impact Total Energy; ASTM D 3763      |
| <b>Electrical Properties</b>                | <b>Metric</b>   | <b>English</b>   | <b>Comments</b>                                    |
| Volume Resistivity                          | >= 1.00e+15 ohm-cm  | >= 1.00e+15 ohm-cm   | IEC 60093  |
| Surface Resistance                          | >= 1.00e+15 ohm   | >= 1.00e+15 ohm  | IEC 60093  |
| Dielectric Constant                         | 2.6<br>@Frequency 50.0 - 60.0 Hz                          | 2.6<br>@Frequency 50.0 - 60.0 Hz                               | IEC 60250  |
|   | 2.7<br>@Frequency 1.00e+6 Hz                              | 2.7<br>@Frequency 1.00e+6 Hz                                   | IEC 60250  |
|   | 2.9<br>@Frequency 1.00e+6 Hz                              | 2.9<br>@Frequency 1.00e+6 Hz                                   | ASTM D 150   |
|   | 2.95<br>@Frequency 50.0 - 60.0 Hz                         | 2.95<br>@Frequency 50.0 - 60.0 Hz                              | ASTM D 150   |
| Dielectric Strength                         | 16.0 kV/mm<br>@Thickness 3.20 mm                          | 406 kV/in<br>@Thickness 0.126 in                               | in oil; IEC 60243-1                                |
|   | 17.0 kV/mm<br>@Thickness 3.20 mm                          | 432 kV/in<br>@Thickness 0.126 in                               | in oil; ASTM D 149                                 |
| Dissipation Factor                          | 0.0010<br>@Frequency 50.0 - 60.0 Hz                       | 0.0010<br>@Frequency 50.0 - 60.0 Hz                            | IEC 60250  |
|   | 0.0024<br>@Frequency 50.0 - 60.0 Hz                       | 0.0024<br>@Frequency 50.0 - 60.0 Hz                            | ASTM D 150   |
|   | 0.0085<br>@Frequency 1.00e+6 Hz                           | 0.0085<br>@Frequency 1.00e+6 Hz                                | ASTM D 150   |
|   | 0.0085<br>@Frequency 1.00e+6 Hz                           | 0.0085<br>@Frequency 1.00e+6 Hz                                | IEC 60250  |
| Comparative Tracking Index                  | 175 - 250 V<br>225 V                                      | 175 - 250 V<br>225 V   | UL 746A<br>IEC 60112                               |
| Hot Wire Ignition, HWI                      | 60 - 120 sec  | 60 - 120 sec   | PLC 1; UL 746A                                     |
| High Amp Arc Ignition, HAI                  | >= 120 arcs   | >= 120 arcs  | surface; UL 746A                                   |
| <b>Thermal Properties</b>                   | <b>Metric</b>   | <b>English</b>   | <b>Comments</b>                                    |
| CTE, linear, Parallel to Flow               | 66.6 µm/m-°C<br>@Temperature -40.0 - 40.0 °C              | 37.0 µin/in-°F<br>@Temperature -40.0 - 104 °F                  | ASTM E 831   |
|   | 72.0 µm/m-°C<br>@Temperature 23.0 - 80.0 °C               | 40.0 µin/in-°F<br>@Temperature 73.4 - 176 °F                   | ISO 11359-2  |
| CTE, linear, Transverse to Flow             | 66.6 µm/m-°C<br>@Temperature -40.0 - 40.0 °C              | 37.0 µin/in-°F<br>@Temperature -40.0 - 104 °F                  | ASTM E 831   |
|   | 77.0 µm/m-°C<br>@Temperature 23.0 - 80.0 °C               | 42.8 µin/in-°F<br>@Temperature 73.4 - 176 °F                   | ISO 11359-2  |
| Deflection Temperature at 0.46 MPa (66 psi) | 134 °C<br>@Thickness 3.20 mm                              | 273 °F<br>@Thickness 0.126 in                                  | unannealed; ASTM D 648                             |
|   | 135 °C<br>@Thickness 4.00 mm                              | 275 °F<br>@Thickness 0.157 in                                  | Edgew 120*10*4 sp=100mm; ISO 75/Be                 |
| Deflection Temperature at 1.8 MPa (264 psi) | 120 °C<br>@Thickness 3.20 mm                              | 248 °F<br>@Thickness 0.126 in                                  | unannealed; ASTM D 648                             |
|   | 124 °C<br>@Thickness 4.00 mm                              | 255 °F<br>@Thickness 0.157 in                                  | Edgew 120*10*4 sp=100mm; ISO 75/Ae                 |
|   | 124 °C<br>@Thickness 6.40 mm                              | 255 °F<br>@Thickness 0.252 in                                  | unannealed; ASTM D 648                             |
| Vicat Softening Point                       | 140 °C  | 284 °F   | Rate B/50; ISO 306                                 |
|   | 142 °C  | 288 °F   | Rate B/120; ISO 306                                |
|   | 142 °C  | 288 °F   | Rate B/50; ASTM D 1525                             |
| UL RTI, Electrical                          | 50.0 °C   | 122 °F   | UL 746B  |
| UL RTI, Mechanical with Impact              | 50.0 °C   | 122 °F   | UL 746B  |
| UL RTI, Mechanical without Impact           | 50.0 °C   | 122 °F   | UL 746B  |
| Flammability, UL94                          | V-0<br>@Thickness 1.49 mm                                 | V-0<br>@Thickness 0.0587 in                                    | UL 94  |
| Oxygen Index                                | 35 %  | 35 %   | ISO 4589   |
| Glow Wire Test                              | 825 °C<br>@Thickness 1.00 mm                              | 1520 °F<br>@Thickness 0.0394 in                                | Glow Wire Ignitability Temperature; IEC 60695-2-13 |
|   | 960 °C<br>@Thickness 1.00 mm                              | 1760 °F<br>@Thickness 0.0394 in                                | Glow Wire Flammability Index; IEC 60695-2-12       |

## Descriptive Properties

|                           |        |                |
|---------------------------|--------|----------------|
| Ball Pressure Test, 125°C | PASSES | IEC 60695-10-2 |
| Hardness, H358/30 (MPa)   | 90     | ISO 2039-1     |

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