

## SABIC Innovative Plastics Lexan® LUX7436C PC COPOLYMER (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

Lexan® LUX7436C Polycarbonate (PC) resin is a non-filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant PC has an UL-94 V0 rating at 1.2 mm / 5VA rating at 3.0mm and is UV stabilized(F1 rating) providing additional weathering capability. Lexan® LUX7436C is available in diffusion colors.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Lexan-LUX7436C-PC-COPOLYMER-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-LUX7436C-PC-COPOLYMER-Europe-Africa-Middle-East.php)

| Physical Properties               | Metric   | English  | Comments                                |
|-----------------------------------|--|--|---|
| Specific Gravity                  | 1.19 g/cc  | 1.19 g/cc  | ASTM D792                               |
| Density                           | 1.20 g/cc  | 0.0434 lb/in <sup>3</sup>                            | ISO 1183                                |
| Moisture Absorption               | 0.100 %  | 0.100 %  | 23°C / 50% RH; ISO 62                   |
| Water Absorption at Saturation    | 0.13 %   | 0.13 %   | ISO 62                                  |
| Linear Mold Shrinkage, Flow       | 0.0055 - 0.0075 cm/cm<br>@Thickness 3.20 mm          | 0.0055 - 0.0075 in/in<br>@Thickness 0.126 in         | SABIC Method                            |
| Linear Mold Shrinkage, Transverse | 0.0060 - 0.0080 cm/cm<br>@Thickness 3.20 mm          | 0.0060 - 0.0080 in/in<br>@Thickness 0.126 in         | SABIC Method                            |
| Melt Flow                         | 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 D1238                              |
| Melt Index of Compound            | 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 | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties     | Metric   | English  | Comments                     |
|---------------------------|----------|----------|------------------------------|
| Tensile Strength at Break | 53.0 MPa | 7690 psi | 50 mm/min; ISO 527           |
|                           | 55.0 MPa | 7980 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield   | 66.0 MPa | 9570 psi | 50 mm/min; ISO 527           |
|                           | 67.0 MPa | 9720 psi | Type I, 50 mm/min; ASTM D638 |
| Elongation at Break       | 55 %     | 55 %     | Type I, 50 mm/min; ASTM D638 |
|                           | 56 %     | 56 %     | 50 mm/min; ISO 527           |

| <b>Elongation at Yield<br/>Mechanical Properties</b> | <b>6.0 %<br/>Metric</b> | <b>6.0 %<br/>English</b>   | <b>Type I, 50 mm/min; ASTM D638<br/>Comments</b> |
|--|-------------------------|----------------------------|--|
|  | 6.0 %                   | 6.0 %                      | 50 mm/min; ISO 527                               |
| <b>Tensile Modulus</b>                               | 2.35 GPa                | 341 ksi                    | 1 mm/min; ISO 527                                |
|  | 2.52 GPa                | 365 ksi                    | 50 mm/min; ASTM D638                             |
| <b>Flexural Yield Strength</b>                       | 101 MPa                 | 14600 psi                  | 2 mm/min; ISO 178                                |
|  | 107 MPa                 | 15500 psi                  | 1.3 mm/min, 50 mm span; ASTM D790                |
| <b>Flexural Modulus</b>                              | 2.45 GPa                | 355 ksi                    | 1.3 mm/min, 50 mm span; ASTM D790                |
|  | 2.45 GPa                | 355 ksi                    | 2 mm/min; ISO 178                                |
| <b>Izod Impact, Notched</b>                          | 1.00 J/cm               | 1.87 ft-lb/in              | ASTM D256  |
|  | 0.810 J/cm              | 1.52 ft-lb/in              | ASTM D256  |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Izod Impact, Unnotched</b>                        | NB                      | NB                         | ASTM D4812                                       |
|  | NB                      | NB                         | ASTM D4812                                       |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Izod Impact, Notched (ISO)</b>                    | 9.00 kJ/m <sup>2</sup>  | 4.28 ft-lb/in <sup>2</sup> | 80*10*3; ISO 180/1A                              |
|  | 8.00 kJ/m <sup>2</sup>  | 3.81 ft-lb/in <sup>2</sup> | 80*10*3; ISO 180/1A                              |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Izod Impact, Unnotched (ISO)</b>                  | NB                      | NB                         | 80*10*3; ISO 180/1U                              |
|  | NB                      | NB                         | 80*10*3; ISO 180/1U                              |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Charpy Impact Unnotched</b>                       | NB                      | NB                         | Edgew 80*10*3 sp=62mm; ISO 179/1eU               |
|  | NB                      | NB                         | Edgew 80*10*3 sp=62mm; ISO 179/1eU               |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Charpy Impact, Notched</b>                        | 1.00 J/cm <sup>2</sup>  | 4.76 ft-lb/in <sup>2</sup> | Edgew 80*10*3 sp=62mm; ISO 179/1eA               |
|  | 0.700 J/cm <sup>2</sup> | 3.33 ft-lb/in <sup>2</sup> | Edgew 80*10*3 sp=62mm; ISO 179/1eA               |
|  | @Temperature -30.0 °C   | @Temperature -22.0 °F      |  |
| <b>Dart Drop, Total Energy</b>                       | 64.0 J                  | 47.2 ft-lb                 | ASTM D3763                                       |
|  | @Temperature 23.0 °C    | @Temperature 73.4 °F       |  |

| Thermal Properties                          | Metric                                    | English                                     | Comments                           |
|---|---|---|------------------------------------|
| CTE, linear, Parallel to Flow               | 67.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 37.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ASTM E 831                         |
|   | @Temperature -40.0 - 40.0 $\text{°C}$     | @Temperature -40.0 - 104 $\text{°F}$        |                                    |
|   | 77.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 42.8 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ISO 11359-2                        |
|   | @Temperature 23.0 - 80.0 $\text{°C}$      | @Temperature 73.4 - 176 $\text{°F}$         |                                    |
| CTE, linear, Transverse to Flow             | 67.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 37.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ASTM E 831                         |
|   | @Temperature -40.0 - 40.0 $\text{°C}$     | @Temperature -40.0 - 104 $\text{°F}$        |                                    |
|   | 79.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 43.9 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ISO 11359-2                        |
|   | @Temperature 23.0 - 80.0 $\text{°C}$      | @Temperature 73.4 - 176 $\text{°F}$         |                                    |
| Deflection Temperature at 0.46 MPa (66 psi) | 131 $\text{°C}$                           | 268 $\text{°F}$                             | Edgew 120*10*4 sp=100mm; ISO 75/Be |
|   | 131 $\text{°C}$                           | 268 $\text{°F}$                             |                                    |
|   | @Thickness 3.20 mm                        | @Thickness 0.126 in                         | unannealed; ASTM D648              |
| Deflection Temperature at 1.8 MPa (264 psi) | 120 $\text{°C}$                           | 248 $\text{°F}$                             | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
|   | 120 $\text{°C}$                           | 248 $\text{°F}$                             |                                    |
|   | @Thickness 3.20 mm                        | @Thickness 0.126 in                         | unannealed; ASTM D648              |
| Vicat Softening Point                       | 136 $\text{°C}$                           | 277 $\text{°F}$                             | Rate B/50; ASTM D1525              |
|   | 137 $\text{°C}$                           | 279 $\text{°F}$                             | Rate B/50; ISO 306                 |
|   | 139 $\text{°C}$                           | 282 $\text{°F}$                             | Rate B/120; ISO 306                |
| UL RTI, Electrical                          | 125 $\text{°C}$                           | 257 $\text{°F}$                             | UL 746B                            |
| UL RTI, Mechanical with Impact              | 120 $\text{°C}$                           | 248 $\text{°F}$                             | UL 746B                            |
| UL RTI, Mechanical without Impact           | 125 $\text{°C}$                           | 257 $\text{°F}$                             | UL 746B                            |
| Flammability, UL94                          | V-2                                       | V-2   | UL 94                              |
|   | @Thickness 0.400 mm                       | @Thickness 0.0157 in                        |                                    |
|   | V-1                                       | V-1   | UL 94                              |
|   | @Thickness 1.00 mm                        | @Thickness 0.0394 in                        |                                    |
|   | V-0                                       | V-0   | UL 94                              |
|   | @Thickness 1.20 mm                        | @Thickness 0.0472 in                        |                                    |

| Thermal Properties | SVA<br>Metric      | SVA<br>English       | Comments       |
|--------------------|--------------------|----------------------|----------------|
|                    | @Thickness 3.00 mm | @Thickness 0.118 in  |                |
| Glow Wire Test     | 850 °C             | 1560 °F              | IEC 60695-2-13 |
|                    | 960 °C             | 1760 °F              | IEC 60695-2-12 |
|                    | @Thickness 1.20 mm | @Thickness 0.0472 in |                |

| Electrical Properties | Metric                   | English                  | Comments     |
|-----------------------|--------------------------|--------------------------|--------------|
| Dielectric Constant   | 2.79                     | 2.79                     | ASTM ES 7-83 |
|                       | @Frequency 1.00e+9<br>Hz | @Frequency 1.00e+9<br>Hz |              |
| Dissipation Factor    | 0.0057                   | 0.0057                   | ASTM ES 7-83 |
|                       | @Frequency 1.10e+9<br>Hz | @Frequency 1.10e+9<br>Hz |              |

| Descriptive Properties             | Value | Comments       |
|------------------------------------|-------|----------------|
| Ball Pressure Test, 125°C +/- 2°C  | Pass  | IEC 60695-10-2 |
| UV-light, water exposure/immersion | F1    | UL 746C        |

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