

## SABIC Innovative Plastics Lexan® 203R PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

LEXAN 203R resin is a high viscosity multi purpose polycarbonate with UV stabilization package. It also contains a release agent to ensure easy processing. This grade is UL94-V2 rated with multiple color options.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Lexan-203R-PC-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-203R-PC-Europe-Africa-Middle-East.php)

| Physical Properties            | Metric                                               | English                                              | Comments                                |
|--------------------------------|------------------------------------------------------|------------------------------------------------------|-----------------------------------------|
| Density                        | 1.20 g/cc                                            | 0.0434 lb/in <sup>3</sup>                            | ISO 1183                                |
| Moisture Absorption            | 0.150 %                                              | 0.150 %                                              | 23°C / 50% RH; ISO 62                   |
| Water Absorption at Saturation | 0.35 %                                               | 0.35 %                                               | ISO 62                                  |
| Linear Mold Shrinkage, Flow    | 0.0050 - 0.0070 cm/cm                                | 0.0050 - 0.0070 in/in                                | on Tensile Bar; SABIC Method            |
| Melt Index of Compound         | 6.0 g/10 min<br>@Load 1.20 kg,<br>Temperature 300 °C | 6.0 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            |
|------------------------------|-------------------------------------------------|-----------------------------------------------------|---------------------|
| Hardness, H358/30            | 95.0 MPa                                        | 13800 psi                                           | ISO 2039-1          |
| Tensile Strength at Break    | 70.0 MPa                                        | 10200 psi                                           | 50 mm/min; ISO 527  |
| Tensile Strength, Yield      | 63.0 MPa                                        | 9140 psi                                            | 50 mm/min; ISO 527  |
| Elongation at Break          | 120 %                                           | 120 %                                               | 50 mm/min; ISO 527  |
| Elongation at Yield          | 6.0 %                                           | 6.0 %                                               | 50 mm/min; ISO 527  |
| Tensile Modulus              | 2.35 GPa                                        | 341 ksi                                             | 1 mm/min; ISO 527   |
| Flexural Yield Strength      | 90.0 MPa                                        | 13100 psi                                           | 2 mm/min; ISO 178   |
| Flexural Modulus             | 2.30 GPa                                        | 334 ksi                                             | 2 mm/min; ISO 178   |
| Izod Impact, Notched (ISO)   | 70.0 kJ/m <sup>2</sup>                          | 33.3 ft-lb/in <sup>2</sup>                          | 80*10*3; ISO 180/1A |
|                              | 12.0 kJ/m <sup>2</sup><br>@Temperature -30.0 °C | 5.71 ft-lb/in <sup>2</sup><br>@Temperature -22.0 °F | 80*10*3; ISO 180/1A |
| Izod Impact, Unnotched (ISO) | NB                                              | NB                                                  | 80*10*3; ISO 180/1U |
|                              | NB<br>@Temperature -30.0 °C                     | NB<br>@Temperature -22.0 °F                         | 80*10*3; ISO 180/1U |

| Mechanical Properties          | Metric                 | English                    | Comments                           |
|--------------------------------|------------------------|----------------------------|------------------------------------|
| Charpy Impact Unnotched        | 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      |                                    |
| Charpy Impact, Notched         | 3.50 J/cm <sup>2</sup> | 16.7 ft-lb/in <sup>2</sup> | ISO 179/2C                         |
|                                | 7.50 J/cm <sup>2</sup> | 35.7 ft-lb/in <sup>2</sup> | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
|                                | 1.50 J/cm <sup>2</sup> | 7.14 ft-lb/in <sup>2</sup> | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
|                                | @Temperature -30.0 °C  | @Temperature -22.0 °F      |                                    |
| Taber Abrasion, mg/1000 Cycles | 10                     | 10                         | CS-17, 1 kg; SABIC Method          |

| Thermal Properties                          | Metric                      | English                            | Comments                           |
|---------------------------------------------|-----------------------------|------------------------------------|------------------------------------|
| CTE, linear, Parallel to Flow               | 70.0 µm/m-°C                | 38.9 µin/in-°F                     | ISO 11359-2                        |
|                                             | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F         |                                    |
| Thermal Conductivity                        | 0.200 W/m-K                 | 1.39 BTU-in/hr-ft <sup>2</sup> -°F | ISO 8302                           |
| Deflection Temperature at 0.46 MPa (66 psi) | 138 °C                      | 280 °F                             | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 127 °C                      | 261 °F                             | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| Vicat Softening Point                       | 144 °C                      | 291 °F                             | Rate B/50; ISO 306                 |
|                                             | 145 °C                      | 293 °F                             | Rate B/120; ISO 306                |
| UL RTI, Electrical                          | 130 °C                      | 266 °F                             | UL 746B                            |
| UL RTI, Mechanical with Impact              | 125 °C                      | 257 °F                             | UL 746B                            |
| UL RTI, Mechanical without Impact           | 125 °C                      | 257 °F                             | UL 746B                            |
| Flammability, UL94                          | V-2                         | V-2                                | UL 94                              |
|                                             | @Thickness 0.750 mm         | @Thickness 0.0295 in               |                                    |
|                                             | V-0                         | V-0                                | UL 94                              |
|                                             | @Thickness 6.00 mm          | @Thickness 0.236 in                |                                    |
| Oxygen Index                                | 25 %                        | 25 %                               | ISO 4589                           |
| Glow Wire Test                              | 850 °C                      | 1560 °F                            | IEC 60695-2-12                     |
|                                             | @Thickness 1.00 mm          | @Thickness 0.0394 in               |                                    |

| Optical Properties    | Metric                          | English                          | Comments            |
|-----------------------|---------------------------------|----------------------------------|---------------------|
| Refractive Index      | 1.586                           | 1.586                            | ISO 489             |
| Haze                  | <= 0.80 %<br>@Thickness 2.54 mm | <= 0.80 %<br>@Thickness 0.100 in | ASTM D1003          |
| Transmission, Visible | 88 - 90 %                       | 88 - 90 %                        | 2.54 mm; ASTM D1003 |

| Electrical Properties | Metric                              | English                             | Comments            |
|-----------------------|-------------------------------------|-------------------------------------|---------------------|
| Volume Resistivity    | >= 1.00e+15 ohm-cm                  | >= 1.00e+15 ohm-cm                  | IEC 60093           |
| Surface Resistance    | >= 1.00e+15 ohm                     | >= 1.00e+15 ohm                     | ROA; IEC 60093      |
| Dielectric Constant   | 2.7<br>@Frequency 50.0 - 60.0 Hz    | 2.7<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           |
| Dielectric Strength   | 17.0 kV/mm<br>@Thickness 3.20 mm    | 432 kV/in<br>@Thickness 0.126 in    | in oil; IEC 60243-1 |
| Dissipation Factor    | 0.0010<br>@Frequency 50.0 - 60.0 Hz | 0.0010<br>@Frequency 50.0 - 60.0 Hz | IEC 60250           |
|                       | 0.010<br>@Frequency 1.00e+6 Hz      | 0.010<br>@Frequency 1.00e+6 Hz      | IEC 60250           |

| Descriptive Properties            | Value  | Comments       |
|-----------------------------------|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C | PASSES | IEC 60695-10-2 |

## Contact Songhan Plastic Technology Co.,Ltd.

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