

## SABIC Innovative Plastics Lexan® 500R PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

10% GR PC. Optimum combination of high modulus plus excellent impact strength and flame retardance. Internal mold release.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Lexan-500R-PC-Asia-Pacific.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-500R-PC-Asia-Pacific.php)

| Physical Properties                | Metric                               | English                              | Comments     |
|------------------------------------|--------------------------------------|--------------------------------------|--------------|
| Specific Gravity                   | 1.27 g/cc                            | 1.27 g/cc                            | ASTM D792    |
| Density                            | 1.245 g/cc                           | 0.04498 lb/in <sup>3</sup>           | ASTM D792    |
| Water Absorption                   | 0.12 %                               | 0.12 %                               | ASTM D570    |
|                                    | @Time 86400 sec                      | @Time 24.0 hour                      |              |
| Moisture Absorption at Equilibrium | 0.31 %                               | 0.31 %                               | ASTM D570    |
| Linear Mold Shrinkage, Flow        | 0.0020 - 0.0040 cm/cm                | 0.0020 - 0.0040 in/in                | SABIC Method |
|                                    | @Thickness 3.20 mm                   | @Thickness 0.126 in                  |              |
| Melt Flow                          | 7.5 g/10 min                         | 7.5 g/10 min                         | ASTM D1238   |
|                                    | @Load 1.20 kg,<br>Temperature 300 °C | @Load 2.65 lb,<br>Temperature 572 °F |              |

| Mechanical Properties     | Metric                | English                    | Comments                          |
|---------------------------|-----------------------|----------------------------|-----------------------------------|
| Hardness, Rockwell M      | 85                    | 85                         | ASTM D785                         |
| Hardness, Rockwell R      | 124                   | 124                        | ASTM D785                         |
| Tensile Strength at Break | 55.0 MPa              | 7980 psi                   | Type I, 5 mm/min; ASTM D638       |
| Tensile Strength, Yield   | 66.0 MPa              | 9570 psi                   | Type I, 5 mm/min; ASTM D638       |
| Elongation at Break       | 15 %                  | 15 %                       | Type I, 5 mm/min; ASTM D638       |
| Elongation at Yield       | 8.0 %                 | 8.0 %                      | Type I, 5 mm/min; ASTM D638       |
| Flexural Yield Strength   | 103 MPa               | 14900 psi                  | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus          | 3.44 GPa              | 499 ksi                    | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched      | 1.06 J/cm             | 1.99 ft-lb/in              | ASTM D256                         |
| Izod Impact, Unnotched    | 21.36 J/cm            | 40.02 ft-lb/in             | ASTM D4812                        |
| Tensile Impact Strength   | 157 kJ/m <sup>2</sup> | 74.7 ft-lb/in <sup>2</sup> | Type S; ASTM D1822                |

| Mechanical Properties          | Metric | English | Comments                |
|--------------------------------|--------|---------|-------------------------|
| Taber Abrasion, mg/1000 Cycles | 11     | 11      | CS-17, 1 kg; ASTM D1044 |

| Thermal Properties                          | Metric                                           | English                                             | Comments              |
|---------------------------------------------|--------------------------------------------------|-----------------------------------------------------|-----------------------|
| CTE, linear, Parallel to Flow               | 32.4 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 18.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$  | ASTM E 831            |
|                                             | @Temperature -40.0 - 95.0 $^{\circ}\text{C}$     | @Temperature -40.0 - 203 $^{\circ}\text{F}$         |                       |
| Specific Heat Capacity                      | 1.21 J/g- $^{\circ}\text{C}$                     | 0.289 BTU/lb- $^{\circ}\text{F}$                    | ASTM C351             |
| Thermal Conductivity                        | 0.200 W/m-K                                      | 1.39 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$ | ASTM C177             |
| Deflection Temperature at 0.46 MPa (66 psi) | 146 $^{\circ}\text{C}$                           | 295 $^{\circ}\text{F}$                              | unannealed; ASTM D648 |
|                                             | @Thickness 6.40 mm                               | @Thickness 0.252 in                                 |                       |
| Deflection Temperature at 1.8 MPa (264 psi) | 142 $^{\circ}\text{C}$                           | 288 $^{\circ}\text{F}$                              | unannealed; ASTM D648 |
|                                             | @Thickness 6.40 mm                               | @Thickness 0.252 in                                 |                       |
| Vicat Softening Point                       | 154 $^{\circ}\text{C}$                           | 309 $^{\circ}\text{F}$                              | Rate B/50; ASTM D1525 |
| UL RTI, Electrical                          | 130 $^{\circ}\text{C}$                           | 266 $^{\circ}\text{F}$                              | UL 746B               |
| UL RTI, Mechanical with Impact              | 130 $^{\circ}\text{C}$                           | 266 $^{\circ}\text{F}$                              | UL 746B               |
| UL RTI, Mechanical without Impact           | 130 $^{\circ}\text{C}$                           | 266 $^{\circ}\text{F}$                              | UL 746B               |
| Flammability, UL94                          | V-0                                              | V-0                                                 | UL 94                 |
|                                             | @Thickness 1.52 mm                               | @Thickness 0.0598 in                                |                       |
|                                             | 5VA                                              | 5VA                                                 | UL 94                 |
|                                             | @Thickness 3.04 mm                               | @Thickness 0.120 in                                 |                       |
| Oxygen Index                                | 36 %                                             | 36 %                                                | ASTM D2863            |

| Electrical Properties | Metric                        | English                       | Comments          |
|-----------------------|-------------------------------|-------------------------------|-------------------|
| Volume Resistivity    | $\geq 1.00\text{e}+17$ ohm-cm | $\geq 1.00\text{e}+17$ ohm-cm | ASTM D257         |
| Dielectric Constant   | 3.05                          | 3.05                          | ASTM D150         |
|                       | @Frequency 1.00e+6 Hz         | @Frequency 1.00e+6 Hz         |                   |
|                       | 3.1                           | 3.1                           | ASTM D150         |
|                       | @Frequency 50.0 - 60.0 Hz     | @Frequency 50.0 - 60.0 Hz     |                   |
| Dielectric Strength   | 17.7 kV/mm                    | 450 kV/in                     | in air; ASTM D149 |

| Electrical Properties                | @Thickness 3.20 mm<br>Metric | @Thickness 0.126 in<br>English | Comments            |
|--------------------------------------|------------------------------|--------------------------------|---------------------|
| Dissipation Factor                   | 0.00080                      | 0.00080                        | ASTM D150           |
|                                      | @Frequency 50.0 - 60.0 Hz    | @Frequency 50.0 - 60.0 Hz      |                     |
|                                      | 0.0075                       | 0.0075                         | ASTM D150           |
|                                      | @Frequency 1.00e+6 Hz        | @Frequency 1.00e+6 Hz          |                     |
| Arc Resistance                       | 0.00 - 60 sec                | 0.00 - 60 sec                  | Tungsten; ASTM D495 |
| Comparative Tracking Index           | 175 - 250 V                  | 175 - 250 V                    | UL 746A             |
| Hot Wire Ignition, HWI               | 60 - 120 sec                 | 60 - 120 sec                   | UL 746A             |
| High Amp Arc Ignition, HAI           | 0.00 - 15 arcs               | 0.00 - 15 arcs                 | UL 746A             |
| High Voltage Arc-Tracking Rate, HVTR | >= 150 mm/min                | >= 5.91 in/min                 | UL 746A             |

| Descriptive Properties             | Value                 | Comments  |
|------------------------------------|-----------------------|-----------|
| Radiant Panel Listing              | YES                   | UL Tested |
| Specific Volume                    | 0.8cm <sup>3</sup> /g | ASTM D792 |
| UV-light, water exposure/immersion | F2                    | UL 746C   |

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