

## Lucite International Diakon® ST50G8 Toughened Acrylic Polymer

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic, Impact Modified, Molded

### Material Notes:

The Diakon® impact PMMA series offer the best combination of impact, chemical and heat resistance and provide rigidity and surface hardness. The grades in the Diakon® series can be processed by injection molding or extrusion. Information provided by Lucite International

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Lucite-International-Diakon-ST50G8-Toughened-Acrylic-Polymer.php](http://www.lookpolymers.com/polymer_Lucite-International-Diakon-ST50G8-Toughened-Acrylic-Polymer.php)

| Physical Properties   | Metric                | English                   | Comments |
|-----------------------|-----------------------|---------------------------|----------|
| Density               | 1.15 g/cc             | 0.0415 lb/in <sup>3</sup> | ISO 1183 |
| Water Absorption      | 0.37 %                | 0.37 %                    | ISO 62   |
| Linear Mold Shrinkage | 0.0040 - 0.0080 cm/cm | 0.0040 - 0.0080 in/in     |          |
| Melt Flow             | 0.90 g/10 min         | 0.90 g/10 min             | ISO 1133 |

| Mechanical Properties      | Metric                  | English                    | Comments    |
|----------------------------|-------------------------|----------------------------|-------------|
| Hardness, Rockwell M       | 25                      | 25                         | ISO 2039-2  |
| Tensile Strength           | 43.0 MPa                | 6240 psi                   | ISO 527     |
| Elongation at Break        | 40 %                    | 40 %                       | ISO 527     |
| Flexural Strength          | 50.0 MPa                | 7250 psi                   | ISO 178     |
| Flexural Modulus           | 1.50 GPa                | 218 ksi                    | ISO 178     |
| Izod Impact, Notched (ISO) | 8.00 kJ/m <sup>2</sup>  | 3.81 ft-lb/in <sup>2</sup> | ISO 180/1A  |
| Charpy Impact Unnotched    | 8.00 J/cm <sup>2</sup>  | 38.1 ft-lb/in <sup>2</sup> | ISO 179/1eU |
| Charpy Impact, Notched     | 0.850 J/cm <sup>2</sup> | 4.04 ft-lb/in <sup>2</sup> | ISO 179/1eA |

| Thermal Properties                          | Metric        | English          | Comments  |
|---------------------------------------------|---------------|------------------|-----------|
| CTE, linear                                 | 120 Âµm/m-Â°C | 66.7 Âµin/in-Â°F | ASTM E831 |
| Deflection Temperature at 1.8 MPa (264 psi) | 91.0 Â°C      | 196 Â°F          | ISO 75A   |
| Vicat Softening Point                       | 92.0 Â°C      | 198 Â°F          | ISO 306B  |
|                                             | 107 Â°C       | 225 Â°F          | ISO 306A  |
| Flammability, UL94                          | HB            | HB               |           |

|                                      |                   |                     |                         |
|--------------------------------------|-------------------|---------------------|-------------------------|
| Glow Wire Test<br>Thermal Properties | 650 Å°C<br>Metric | 1200 Å°F<br>English | IEC 695-2-1<br>Comments |
|--------------------------------------|-------------------|---------------------|-------------------------|

| Optical Properties    | Metric | English | Comments   |
|-----------------------|--------|---------|------------|
| Refractive Index      | 1.49   | 1.49    | ISO 489    |
| Haze                  | 3.0 %  | 3.0 %   | ASTM D1003 |
| Transmission, Visible | 89 %   | 89 %    | ASTM D1003 |

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