

## Total PSI 2451 High Heat Resistance Impact Polystyrene

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Heat Resistant Grade

### Material Notes:

Total Petrochemicals Polystyrene 2451 is a high heat resistance, impact polystyrene for injection blow molding, thermoforming. It is recommended for the manufacturing of articles which require good dimensional stability. Suitable applications for Total Petrochemicals Polystyrene 2451 include Cultured milk packaging and egg tray. Information provided by Total Petrochemicals.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Total-PSI-2451-High-Heat-Resistance-Impact-Polystyrene.php](http://www.lookpolymers.com/polymer_Total-PSI-2451-High-Heat-Resistance-Impact-Polystyrene.php)

| Physical Properties   | Metric                                               | English                                              | Comments   |
|-----------------------|------------------------------------------------------|------------------------------------------------------|------------|
| Specific Gravity      | 1.04 g/cc                                            | 1.04 g/cc                                            | ASTM D792  |
| Water Absorption      | 0.040 %                                              | 0.040 %                                              | ASTM D570  |
| Linear Mold Shrinkage | 0.0040 - 0.0070 cm/cm                                | 0.0040 - 0.0070 in/in                                | ASTM D955  |
| Melt Flow             | 5.0 g/10 min<br>@Load 5.00 kg,<br>Temperature 200 °C | 5.0 g/10 min<br>@Load 11.0 lb,<br>Temperature 392 °F | ASTM D1238 |
| Spiral Flow           | 43.0 cm<br>@Temperature 220 °C                       | 16.9 in<br>@Temperature 428 °F                       | ASTM D3123 |

| Mechanical Properties      | Metric                 | English                    | Comments  |
|----------------------------|------------------------|----------------------------|-----------|
| Hardness, Rockwell R       | 99                     | 99                         | ASTM D785 |
| Tensile Strength at Break  | 30.0 MPa               | 4350 psi                   | ASTM D638 |
| Tensile Strength, Yield    | 34.0 MPa               | 4930 psi                   | ASTM D638 |
| Elongation at Break        | 45 %                   | 45 %                       | ASTM D638 |
| Tensile Modulus            | 2.20 GPa               | 319 ksi                    | ASTM D638 |
| Flexural Modulus           | 2.45 GPa               | 355 ksi                    | ASTM D790 |
| Izod Impact, Notched (ISO) | 6.50 kJ/m <sup>2</sup> | 3.09 ft-lb/in <sup>2</sup> | ASTM D256 |

| Thermal Properties     | Metric                  | English                 | Comments                  |
|------------------------|-------------------------|-------------------------|---------------------------|
| CTE, linear            | 89.0 µm/m-°C            | 49.4 µin/in-°F          | ASTM D696                 |
| Hot Ball Pressure Test | 90.0 °C                 | 194 °F                  | JET, 2.0 mm               |
| Vicat Softening Point  | 102 °C<br>@Load 1.02 kg | 216 °F<br>@Load 2.25 lb | 50°C per hour; ASTM D1525 |

| Thermal Properties          | Metric  | English | Comments  |
|-----------------------------|---------|---------|-----------|
| Heat Distortion Temperature | 82.2 °C | 189 °F  | ASTM D648 |

| Electrical Properties | Metric                     | English                    | Comments   |
|-----------------------|----------------------------|----------------------------|------------|
| Surface Resistance    | $\geq 1.00\text{e}+13$ ohm | $\geq 1.00\text{e}+13$ ohm | ISO IEC 93 |
| Dielectric Strength   | 152 kV/mm                  | 3860 kV/in                 | ASTM D149  |

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