

## Ineos Nova 1301 High Heat Crystal Polystyrene

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

### Material Notes:

High heat resistance, High strength, Good processing characteristics, USP Class VI Applications: Electronics packaging, Medical packaging, Cosmetic cases, Profile extrusion Exposure to gamma radiation in the 2.02-6.06 megarad range has no significant effect on the physical and optical properties of the material. Properties were determined on injection molded specimens at 23°C and 50% R.H. unless otherwise specified. Information provided by NOVA Chemicals. INEOS NOVA began October 1 2007 as an expansion of the 50:50 joint venture between NOVA Chemicals and INEOS to include North American assets.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ineos-Nova-1301-High-Heat-Crystal-Polystyrene.php](http://www.lookpolymers.com/polymer_ineos-Nova-1301-High-Heat-Crystal-Polystyrene.php)

| Physical Properties   | Metric                | English                   | Comments    |
|-----------------------|-----------------------|---------------------------|-------------|
| Density               | 1.04 g/cc             | 0.0376 lb/in <sup>3</sup> | ASTM D792   |
| Linear Mold Shrinkage | 0.0040 - 0.0070 cm/cm | 0.0040 - 0.0070 in/in     | ASTM D955   |
| Melt Flow             | 3.5 g/10 min          | 3.5 g/10 min              | Condition G |

| Mechanical Properties   | Metric                          | English                              | Comments                            |
|-------------------------|---------------------------------|--------------------------------------|-------------------------------------|
| Hardness, Rockwell M    | 75                              | 75                                   |                                     |
| Tensile Strength, Yield | 48.0 MPa                        | 6960 psi                             | ASTM D638                           |
| Elongation at Break     | 2.0 %                           | 2.0 %                                | ASTM D638                           |
| Flexural Yield Strength | 76.0 MPa                        | 11000 psi                            | ASTM D790                           |
| Flexural Modulus        | 3.037 GPa                       | 440.5 ksi                            | ASTM D790                           |
| Izod Impact, Notched    | 0.200 J/cm<br>@Diameter 3.17 mm | 0.375 ft-lb/in<br>@Diameter 0.125 in | bar, 0.010" notch radius; ASTM D256 |

| Thermal Properties                          | Metric  | English | Comments   |
|---|---------|---------|------------|
| Deflection Temperature at 1.8 MPa (264 psi) | 93.0 °C | 199 °F  | ASTM D648  |
| Vicat Softening Point                       | 106 °C  | 223 °F  | ASTM D1525 |
| Flammability, UL94                          | HB      | HB      |            |

| Optical Properties | Metric                       | English                      | Comments      |
|--------------------|------------------------------|------------------------------|---------------|
| Refractive Index   | 1.59<br>@Wavelength 589.3 nm | 1.59<br>@Wavelength 589.3 nm | sodium D line |

| Optical Properties    | Metric    | English   | Comments             |
|-----------------------|-----------|-----------|----------------------|
| Transmission, Visible | 88 - 90 % | 88 - 90 % | in avg.<br>at 550 mm |

| Electrical Properties | Metric             | English             | Comments |
|-----------------------|--------------------|---------------------|----------|
| Dielectric Constant   | 2.59               | 2.59                |          |
|                       | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz  |          |
| Dielectric Strength   | 19.7 kV/mm         | 500 kV/in           |          |
|                       | @Thickness 3.17 mm | @Thickness 0.125 in |          |

| Processing Properties | Metric         | English      | Comments |
|-----------------------|----------------|--------------|----------|
| Melt Temperature      | 190 - 274 °C   | 374 - 525 °F |          |
| Mold Temperature      | 38.0 - 82.0 °C | 100 - 180 °F |          |

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