

# STYROLUTION PS 1050

General Purpose Polystyrene (GPPS)

## TECHNICAL DATASHEET

### DESCRIPTION

INEOS STYROLUTION 1050 is an ice color, high heat resistant crystal polystyrene designed for both extrusion and injection applications. This grade can be used pure for the production of sheets and transparent drawers or in dilution with other INEOS HIPS.

### FEATURES

- High Heat Resistant
- Extrusion and Injection
- Ice Color

### APPLICATIONS

- Foam Extrusion
- Light Diffuser Plate (LDP)
- Drawer of Fridge
- High Heat Resistant Products

| Property, Test Condition                             | Standard      | Unit                 | Values            |
|------------------------------------------------------|---------------|----------------------|-------------------|
| <b>Rheological Properties</b>                        |               |                      |                   |
| Melt Flow Rate, 200 °C/5 kg                          | ISO 1133      | g/10 min             | 2.8               |
| <b>Mechanical Properties</b>                         |               |                      |                   |
| Izod Unnotched Impact Strength, 23 °C                | ISO 180       | kJ/m <sup>2</sup>    | 8.5               |
| Tensile Stress at Break, 23 °C                       | ISO 527       | MPa                  | 40                |
| Tensile Modulus                                      | ISO 527       | MPa                  | 2650              |
| Flexural Strength, 23 °C                             | ISO 178       | MPa                  | 85                |
| Elongation at Break (MD)                             | ISO 527       | %                    | 2.5               |
| Flexural Modulus, 23 °C                              | ISO 178       | MPa                  | 2950              |
| Hardness, Rockwell                                   | -             | L Scale              | 70                |
| <b>Thermal Properties</b>                            |               |                      |                   |
| Vicat Softening Temperature, VST/A/50 (10N, 50 °C/h) | ISO 306       | °C                   | 100               |
| Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)  | ISO 306       | °C                   | 95                |
| Coefficient of Linear Thermal Expansion              | ISO 11359     | 10 <sup>-6</sup> /°C | 89                |
| <b>Electrical Properties</b>                         |               |                      |                   |
| Dielectric Strength, Short Time, 1.5 mm              | IEC 60243-1   | kV/mm                | 150               |
| Surface Resistivity                                  | IEC 62631-3-1 | Ohm                  | >10 <sup>13</sup> |
| <b>Optical Properties</b>                            |               |                      |                   |

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|----------------------------------------|-----------------|-------------------|-----------|
| Haze                                   | ASTM D 1003     | %                 | 0.4       |
| Light Transmission at 550 nm           | ASTM D 1003     | %                 | 90.2      |
| <b>Other Properties</b>                |                 |                   |           |
| Density                                | ISO 1183        | kg/m <sup>3</sup> | 1.04      |
| Water Absorption, Saturated at 23 °C   | ISO 62          | %                 | 0.04      |
| UL94 rating at 1.5 mm thickness        | IEC 60695-11-10 | -                 | HB        |
| Bulk Density (with external lubricant) | -               | kg/m <sup>3</sup> | 0.6       |
| <b>Processing</b>                      |                 |                   |           |
| Linear Mold Shrinkage                  | ISO 294-4       | %                 | 0.4 - 0.7 |
| Drying Temperature                     | -               | °C                | 70        |
| Drying Time                            | -               | h                 | 2         |
| Max Service Temperature                | -               | °C                | 240       |

Typical values for uncolored products

Please note that all processing data stated are only indicative and may vary depending on the individual processing complexities.

Please consult our local sales or technical representatives for details.

## SUPPLY FORM

INEOS STYROLUTION 1050 has both the internal and the external additives for improving conveying and molding. The manners of packing are 25kg bags and 800kg bulk bags.

## PROCESSING

INEOS STYROLUTION 1050 can be processed by all methods normally used for polystyrene. It is well balanced in its flow characteristic and heat resistance. With its transparent properties, it can be extruded as a blend component with high impact grades and as a gloss layer of thermoformed foils and sheets such as a Light Diffuser Plate (LDP), or normally injection like a fridge drawer. It also can be used as a foam extrusion material.

## PRODUCT SAFETY

There are very few dusts in the bags when you open the package. They are come from the external additives and the process of the production. The dusts are very safe for both the health and explosion prevention and projection.

## DISCLAIMER

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Page 2 of 3  
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The above mentioned data are accurate to the best of our knowledge. They are based upon reputable labs and industry standard testing methods. These are only typical values and actual product specification may deviate at industrial range. Therefore, no data in this technical data sheet shall constitute a warranty or representation regarding product features, fitness of the product for a specific purpose or application or its processability. INEOS Styrolution disclaims all liability in connection therewith. The customer himself is required to verify whether or not the product is suitable for the further processing or application intended and whether or not the product complies with the relevant statutory requirements. Unless explicitly and individually otherwise agreed in writing, INEOS Styrolution's sole and exclusive liability with respect to its products is set forth in INEOS Styrolution's General Terms and Conditions for Sale.