

Technical Datasheet

DESCRIPTION

Styrolution PS 147F is a highly transparent GPPS grade. It gives excellent mechanical and heat resistance properties while providing with easy processability and short cycle time.

FEATURES

- Medium Flow
- Easy processability
- Good mechanical and heat resistance properties

APPLICATIONS

- Transparent parts for refrigerators such as fruit and vegetable crispers, chillers, flaps, trays etc
- Stationery products like pen barrels, scales etc.
- Household applications such as crystalware, kitchen containers etc.
- Packaging applications such as chocolate boxes, display cabinets, etc.
- Other transparent articles in injection Molding applications

| Property, Test Condition | Standard | Unit | Values |
|---|-------------|-------------------------|--------|
| Rheological Properties | | | |
| Melt Volume Rate, 200 °C/5 kg | ISO 1133 | cm ³ /10 min | 6.5 |
| Mechanical Properties | | | |
| Charpy Notched Impact Strength, 23° C | ISO 179 | kJ/m ² | 3 |
| Charpy Unnotched, 23° C | ISO 179 | kJ/m ² | 17 |
| Tensile Stress at Yield, 23° C | ISO 527 | MPa | 50 |
| Tensile Strain at Break, 23° C | ISO 527 | % | 3 |
| Tensile Modulus | ISO 527 | MPa | 3300 |
| Flexural Strength | ISO 178 | MPa | 98 |
| Hardness, Ball Indentation | ISO 2039-1 | MPa | 150 |
| Thermal Properties | | | |
| Vicat Softening Temperature VST/B/50 (50°C/h, 50N) | ISO 306 | °C | 95 |
| Vicat Softening Temperature, B/1 (120°C/h, 10N) | ASTM D 1525 | °C | - |
| Vicat Softening Temperature, VST/A/50 (50°C/h, 10N) | ISO 306 | °C | 100 |
| Heat Deflection Temperature A; (annealed, 1.8 MPa) | ISO 75 | °C | 85 |
| Heat Deflection Temperature B; (annealed, 0.45 MPa) | ISO 75 | °C | 93 |

| Property, Test Condition | Standard | Unit | Values |
|--|-------------|-------------------|-----------|
| Electrical Properties | | | |
| Dielectric Strength, Short Time, 1.5 mm | IEC 60243-1 | kV/mm | 135 |
| Relative Permittivity (100 Hz) | IEC 60250 | - | 2.5 |
| Relative Permittivity (1 MHz) | IEC 60250 | - | 2.5 |
| Volume Resistivity | IEC 60093 | Ohm*m | >1E16 |
| Surface Resistivity | IEC 60093 | Ohm | >1E14 |
| Other Properties | | | |
| Density | ISO 1183 | kg/m ³ | 1046 |
| Water Absorption, Saturated at 23°C | ISO 62 | % | <0.1 |
| Moisture Absorption, Equilibrium 23°C/50% RH | ISO 62 | % | <0.1 |
| Processing | | | |
| Linear Mold Shrinkage | ISO 294-4 | % | 0.3 - 0.6 |
| Melt Temperature Range | ISO 294 | °C | 180 - 260 |
| Mold Temperature Range | ISO 294 | °C | 10 - 60 |
| Injection Velocity | ISO 294 | mm/s | 200 |

Typical values for uncolored products

SUPPLY FORM

Styrolution PS 147F should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. Styrolution PS 147F can be stored in silos.

PROCESSING

Styrolution PS 147F can be injection molded at temperatures between 180 and 280°C. Recommended mold temperatures are between 10 and 60°C. Extrusion melt temperature should not exceed 260°C.

PRODUCT SAFETY

During processing of Styrolution PS resins small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well ventilated workplaces - that is where five to eight air changes per hour are made. Further information can be found in our Styrolution PS safety data sheets.

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