

Super high impact polystyrene with good heat resistance.
Designed for sheet extrusion and thermoforming of deep drawn containers even when blended with a high percentage of GP.
Suitable for general injection moulding of tough medium-walled articles.
Designation: Thermoplastics ISO 2897-PS-I,G,093-03-10-18

Applications

Typical uses are thermoformed food packaging such as disposable tumblers, flatware, yoghurt pots, lids.
Injection moulding of technical items, shoe heels, reels.

Typical processing data

Extrusion:

- melt temperature 210-240°C

Injection moulding:

- predrying normally not required
- melt temperature 210-260°C

General information

R 850E is certified UL94 HB "all colors" at 1.5 mm (UL file E83071).

This product in the natural version complies by composition with the requirements of the main Regulations for plastic materials intended to come into contact with food, including Regulation (EU) No 10/2011 and following amendments.



| Property | Test Conditions | Test method | Units | Values |
|----------------------------------------------|--------------------|---------------|-------------------------|-----------|
| General | | | | |
| Water absorption | 24h - 23°C | ISO 62 | % | <0,1 |
| Density | - | ISO 1183 | g/cm ³ | 1,04 |
| Bulk density | - | ISO 60 | g/cm ³ | 0,65 |
| Rheological | | | | |
| Melt flow rate | 200°C - 5kg | ISO 1133 | g/10' | 4 |
| Mechanical | | | | |
| Tensile strain at break | 50 mm/min | ISO 527 | % | 70 |
| Tensile stress at break | 50 mm/min | ISO 527 | MPa | 28 |
| Tensile stress at yield | 50 mm/min | ISO 527 | MPa | 21 |
| Flexural strength | 2 mm/min | ISO 178 | MPa | 38 |
| Rockwell hardness | L/M | ISO 2039/2 | - | L65 |
| Tensile modulus | 1 mm/min | ISO 527 | MPa | 1900 |
| Izod impact strength, notched | -30°C - 4mm | ISO 180/1A | kJ/m ² | 6,5 |
| Izod impact strength, notched | +23°C - 4mm | ISO 180/1A | kJ/m ² | 10 |
| Izod impact strength, notched | +23°C - 3,2mm | ISO 180/4A | J/m | 125 |
| Thermal | | | | |
| Coefficient of linear thermal expansion | - | ASTM D 696 | 10 ⁻⁵ /°C | 9 |
| Thermal conductivity | - | ISO 8302 | W/(K·m) | 0,17 |
| Moulding shrinkage | - | ISO 294/4 | % | 0,4 - 0,7 |
| Deflection temperature under load (annealed) | 1,82 MPa - 120°C/h | ASTM D 648 | °C | 85 |
| Vicat softening temperature | 50 N - 50°C/h | ISO 306/B | °C | 91 |
| Vicat softening temperature | 10 N - 50°C/h | ISO 306/A | °C | 99 |
| Flammability | | | | |
| Flame behaviour | 1,5 mm | UL 94 | cl. | HB |
| Glow wire test (GWT) | 1,6 mm | IEC 60695-2-1 | °C | 650 |
| Electrical | | | | |
| Dielectric constant (relative permittivity) | 50 Hz | IEC 60250 | - | 2,5 |
| Dissipation factor | 50 Hz | IEC 60250 | - | 0,0003 |
| Comparative tracking index (CTI) | Sol. A | IEC 60112 | - | 500 |
| Surface resistivity | - | IEC 60093 | 10 ¹⁵ ohm | >1,5 |
| Volume resistivity | - | IEC 60093 | 10 ¹⁵ ohm·cm | >7 |
| Dielectric strength | - | IEC 60243 | kV/mm | 65 |

