



versalis

Technical Data Sheet

EDISTIR[®]

Polystyrene

RT 461F

High impact, heat resistant polystyrene with good stiffness.

Recommended for improving the thermal performance of injection moulded technical parts which are submitted to high temperature in service.

RT 461F is certified BSI 415/94 acc. IEC65-20-2 at 2.5 mm.

Designation: Thermoplastics ISO 2897-PS-I,M,093-06-07-18

Applications

Examples of application are cabinet and back cover for TV sets, electrical appliances, ventilator housings.

Typical processing data

Injection moulding:

- predrying normally not required
- melt temperature 210-260°C
- mould temperature 20-60°C

General information

RT 461F is certified UL94 HB "all colors" at 1.5 mm (UL file E83071).

This grade in its natural version complies by composition with the requirements set by the main Regulations for plastic materials intended for food contact (including Commission Regulation (EU) No 10/2011 and subsequent amendments).



| Properties | Test conditions | Test methods | Units | Values |
|--|--------------------------|-----------------|-------------------------|-----------|
| General | | | | |
| Density | | ISO 1183 | g/cm ³ | 1.04 |
| Bulk density | | ISO 60 | g/cm ³ | 0.65 |
| Water absorption | 24 h - 23°C | ISO 62 | % | <0.1 |
| Rheological | | | | |
| Melt flow rate | 200°C - 5 kg | ISO 1133 | g/10 min | 4 |
| Mechanical | | | | |
| Tensile stress at yield | 50 mm/min | ISO 527 | MPa | 32 |
| Tensile stress at break | 50 mm/min | ISO 527 | MPa | 31 |
| Tensile strain at break | 50 mm/min | ISO 527 | % | 50 |
| Tensile modulus | 1 mm/min | ISO 527 | MPa | 2000 |
| Flexural strength | 2 mm/min | ISO 178 | MPa | 55 |
| Izod impact strength, notched | +23°C - thickness 3.2 mm | ISO 180/4A | J/m | 90 |
| | +23°C - thickness 4 mm | ISO 180/1A | kJ/m ² | 7.5 |
| | -30°C - thickness 4 mm | ISO 180/1A | kJ/m ² | 5 |
| Rockwell hardness | L/M scale | ISO 2039/2 | - | L80 |
| Thermal | | | | |
| Vicat softening temperature | 10 N - 50°C/h | ISO 306/A | °C | 103 |
| | 50 N - 50°C/h | ISO 306/B | °C | 94 |
| Deflection temperature under load (annealed) | 1.8 MPa - 120°C/h | ASTM D 648 | °C | 87 |
| Coefficient of linear thermal expansion | | ASTM D 696 | 10 ⁻⁵ /°C | 9 |
| Thermal conductivity | | ISO 8302 | W/(K·m) | 0.17 |
| Moulding shrinkage | | internal method | % | 0.4 - 0.7 |
| Flammability | | | | |
| Flame behaviour | thickness 1.5 mm | UL 94 | class | HB |
| Glow wire test (GWT) | thickness 1.6 mm | IEC 60695-2-1 | °C | 650 |
| Electrical | | | | |
| Surface resistivity | | IEC 60093 | 10 ¹⁵ ohm | >1.5 |
| Volume resistivity | | IEC 60093 | 10 ¹⁵ ohm·cm | >7 |
| Comparative tracking index (CTI) | solution A | IEC 60112 | - | 500 |
| Dielectric strength | | IEC 60243 | kV/mm | 65 |
| Dielectric constant (relative permittivity) | 50 Hz | IEC 60250 | - | 2.5 |
| Dissipation factor | 50 Hz | IEC 60250 | - | 0,0003 |

