

R 850E

Technical Data Sheet

Polystyrene

Edistir® R 850E is a high impact polystyrene with high impact properties and good heat resistance. It is specially designed for sheet extrusion and thermoforming of deep drawn containers even when blended with a high percentage of PS, but it is also suitable for general injection moulding of tough medium-walled articles.

Designation: Thermoplastics ISO 2897-PS-I,G,093-03-10-18

Applications

Edistir® R 850E is suitable in a large variety of sectors such as:

- thermoformed food packaging such as disposable tumblers, flatware, yoghurt pots and lids
- sheets for flocking
- sheets and foils
- shoe heels.

Typical processing data

Extrusion:

- melt temperature 210-240°C

Injection moulding:

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

Certification

✓ UL 94

Edistir® R 850E, as supplied in the original packaging, by composition is compliant to some existing regulations on plastic materials intended for food contact.

Storage

- ⚠ Store away from atmospheric agents and direct sunlight, away from sources of heat and light.
- 🕒 The product, if stored correctly, keeps its characteristics for at least fifteen months.

General information

Edistir® R 850E is available in natural version.

For further information, please contact Versalis directly writing to info.styrenics@versalis.eni.com.

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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	ISO 75 A	°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 60695-2-10	°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

Please consult the relevant safety data sheet for more detailed information.

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