



versalis

info.styrenics@versalis.eni.com

Technical Data Sheet

Edistir® R 850E

Polystyrene

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
<b>General</b>				
Water absorption	24h - 23°C	ISO 62	%	<0,1
Density	-	ISO 1183	g/cm <sup>3</sup>	1,04
Bulk density	-	ISO 60	g/cm <sup>3</sup>	0,65
<b>Rheological</b>				
Melt flow rate	200°C - 5kg	ISO 1133	g/10'	4
<b>Mechanical</b>				
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 <sup>2</sup>	6,5
Izod impact strength, notched	+23°C - 4mm	ISO 180/1A	kJ/m <sup>2</sup>	10
Izod impact strength, notched	+23°C - 3,2mm	ISO 180/4A	J/m	125
<b>Thermal</b>				
Coefficient of linear thermal expansion	-	ASTM D 696	10 <sup>-5</sup> /°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
<b>Flammability</b>				
Flame behaviour	1,5 mm	UL 94	cl.	HB
Glow wire test (GWT)	1,6 mm	IEC 60695-2-1	°C	650
<b>Electrical</b>				
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 <sup>15</sup> ohm	>1,5
Volume resistivity	-	IEC 60093	10 <sup>15</sup> ohm·cm	>7
Dielectric strength	-	IEC 60243	kV/mm	65

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

The information and data presented herein are to the best of our knowledge true and accurate but no warranty or guarantee, expressed or implied, is made nor is any liability accepted.

Versalis is available to provide the guaranteed values for each product on demand.