



versalis

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Technical Data Sheet

**EDISTIR<sup>®</sup>**

Polystyrene

**N 1840**

General purpose polystyrene combining easy flow and medium heat.

Edistir N 1840 is suggested in extrusion for glossy capping of HIPS sheets and for blending with HIPS or clear SBS for stiffer thermoformable sheets.

This grade exhibits excellent processability in injection moulding and it is recommended for complex and thin-wall parts and fast moulding cycles.

Designation: Thermoplastics ISO 1622-PS,G,085-12

## Applications

Thermoformed disposable packaging and glossy sheets for industrial and fridge applications. Injection moulded beverage cups, point of sales, containers for foods and cosmetics, toys, housewares, medical articles (Petri dishes).

## Typical processing data

- Extrusion: • melt temperature 210-240°C
- Injection moulding: • predrying normally not required  
• melt temperature 200-250°C  
• mould temperature 10-50°C

## General information

Edistir N 1840 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
<b>General</b>				
Density		ISO 1183	g/cm <sup>3</sup>	1.05
Bulk density		ISO 60	g/cm <sup>3</sup>	0.65
Water absorption	24 h - 23°C	ISO 62	%	<0.1
<b>Rheological</b>				
Melt flow rate	200°C - 5 kg	ISO 1133	g/10 min	10
<b>Mechanical</b>				
Tensile stress at yield	5 mm/min	ISO 527	MPa	-
Tensile stress at break	5 mm/min	ISO 527	MPa	28
Tensile strain at break	5 mm/min	ISO 527	%	70
Tensile modulus	1 mm/min	ISO 527	MPa	1900
Flexural strength	2 mm/min	ISO 178	MPa	69
Izod impact strength, notched	+23°C - thickness 3.2 mm	ISO 180/4A	J/m	-
	+23°C - thickness 4 mm	ISO 180/1A	kJ/m <sup>2</sup>	1.7
	-30°C - thickness 4 mm	ISO 180/1A	kJ/m <sup>2</sup>	1.5
Rockwell hardness	L/M scale	ISO 2039/2	-	M80
<b>Thermal</b>				
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	92
	50 N - 50°C/h	ISO 306/B	°C	88
Deflection temperature under load (annealed)	1.8 MPa - 120°C/h	ASTM D 648	°C	84
Coefficient of linear thermal expansion		ASTM D 696	10 <sup>-5</sup> /°C	7
Thermal conductivity		ISO 8302	W/(K·m)	0.17
Moulding shrinkage		ISO 294-4	%	0.3 - 0.6
<b>Flammability</b>				
Flame behaviour	thickness 1.5 mm	UL 94	class	HB
Glow wire test (GWT)	thickness 1.6 mm	IEC 60695-2-1	°C	650
<b>Electrical</b>				
Surface resistivity		IEC 60093	10 <sup>15</sup> ohm	>1.5
Volume resistivity		IEC 60093	10 <sup>15</sup> ohm·cm	>7
Comparative tracking index (CTI)	solution A	IEC 60112	-	375
Dielectric strength		IEC 60243	kV/mm	70
Dielectric constant (relative permittivity)	50 Hz	IEC 60250	-	2.5
Dissipation factor	50 Hz	IEC 60250	-	0,0002

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

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