



versalis

info.styrenics@versalis.eni.com

Technical Data Sheet

EDISTIR[®]

Polystyrene

N 1782

General purpose polystyrene with good flow and high heat resistance.

Suggested for direct gassing extrusion of heavy gage insulating boards (XPS) and in blend with high concentration of clear SBS for improving clarity and stiffness of the sheets.

Designation: Thermoplastics ISO 1622-PS,E,105-06

Applications

Designed for insulation panels (XPS), clear sheets and thermoformed clear packaging.

Typical processing data

Extrusion: melt temperature 210-240°C

General information

N 1782 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	1.05
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	7.5
Mechanical				
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	80
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 ²	1.7
	-30°C - thickness 4 mm	ISO 180/1A	kJ/m ²	1.5
Rockwell hardness	L/M scale	ISO 2039/2	-	M80
Thermal				
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	106
	50 N - 50°C/h	ISO 306/B	°C	101
Deflection temperature under load (annealed)	1.8 MPa - 120°C/h	ASTM D 648	°C	95
Coefficient of linear thermal expansion		ASTM D 696	10 ⁻⁵ /°C	7
Thermal conductivity		ISO 8302	W/(K·m)	0.17
Moulding shrinkage		ISO 294-4	%	0.3 - 0.6
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	-	400
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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