



versalis

info.styrenics@versalis.eni.com

Technical Data Sheet

**KOBLEND<sup>®</sup>**

**P 477E**

Polystyrene-Polyolefine alloy

Special polystyrene alloy which combines the easy processing of styrenics with superior impact strength and excellent environmental stress cracking resistance to chemicals, oils and fatty foods.

Koblend P 477E is recommended for the extrusion and the thermoforming of sheets for industrial applications, for inner liners of refrigerators and packaging for fatty foods.

### Applications

Thermoformed panels for tractors, inner liner for refrigerators where HCFC 141b is used as blowing agent for the insulating PU foam, tubs and lids for packaging of fatty foods such as margarine, salads etc.

### Typical processing data

Extrusion:                      • melt temperature 200-230°C

### General information

Koblend P 477E satisfies the norm UL94 HB at 1.5 mm (internal test).

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>	1,0
Bulk density		ISO 60	g/cm <sup>3</sup>	0.62
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	5.5
<b>Mechanical</b>				
Tensile stress at yield	50 mm/min	ISO 527	MPa	20
Tensile stress at break	50 mm/min	ISO 527	MPa	19
Tensile strain at break	50 mm/min	ISO 527	%	80
Tensile modulus	1 mm/min	ISO 527	MPa	1200
Flexural strength	2 mm/min	ISO 178	MPa	32
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>	33
	-30°C - thickness 4 mm	ISO 180/1A	kJ/m <sup>2</sup>	20
Rockwell hardness	L/M scale	ISO 2039/2	-	-
<b>Thermal</b>				
Vicat softening temperature	10 N - 50°C/h	ISO 306/A	°C	99
	50 N - 50°C/h	ISO 306/B	°C	-
Deflection temperature under load (annealed)	1.8 MPa - 120°C/h	ASTM D 648	°C	-
Coefficient of linear thermal expansion		ASTM D 696	10 <sup>-5</sup> /°C	-
Thermal conductivity		ISO 8302	W/(K·m)	-
Moulding shrinkage		internal method	%	-
<b>Flammability</b>				
Flame behaviour (internal test)	thickness 1.5 mm	UL 94	class	HB
Glow wire test (GWT)	thickness - mm	IEC 60695-2-1	°C	-
<b>Electrical</b>				
Surface resistivity		IEC 60093	10 <sup>15</sup> ohm	-
Volume resistivity		IEC 60093	10 <sup>15</sup> ohm·cm	-
Comparative tracking index (CTI)	solution A	IEC 60112	-	-
Dielectric strength		IEC 60243	kV/mm	-
Dielectric constant (relative permittivity)	50 Hz	IEC 60250	-	-
Dissipation factor	50 Hz	IEC 60250	-	-