

Product data sheet, September 2009

# Vivak® Design

## Frosted solid copolyester sheets



### Advantages:

- exclusive appearance
- excellent thermoformability
- good impact strength
- high fire rating

**Vivak® Design** are frosted solid sheets made of thermoplastic copolyester. They offer high impact strength, a good fire rating and are fully recyclable.

### Applications:

**Vivak® Design** is ideally suited for use in partition walls, furniture, light elements, POS (displays, shelf partitions), trade show booths (walls, floors, pillars, etc.), shop-fitting systems, direction signs, advertising symbols and partitions.

**Vivak® Design** sheets can be rapidly thermoformed at low energy consumption without predrying, while retaining their frosted surface. The result: shorter production cycles, extreme degrees of stretching and accurate mould surface reproduction. In addition, the sheets are easy to screen print and machine.

	Test Conditions	Typical Values	Unit	Test Method
<b>PHYSICAL</b>				
Density		1.27	g/cm <sup>3</sup>	ISO 1183-1
Moisture absorption	after storage in standard climate 23 °C/ 50 % RH	0.2	%	ISO 62-4
	after storage in water at 23 °C until saturation	0.6	%	ISO 62-1
Gloss	20°	<7		DIN EN ISO 2813
<b>MECHANICAL</b>				
Tensile stress	at yield	> 45	MPa	ISO 527-2/1B/50
Elongation	at yield	4	%	ISO 527-2/1B/50
Tensile strength		> 45	MPa	ISO 527-2/1B/50
Elongation	at break	> 35	%	ISO 527-2/1B/50
Elastic modulus		2020	MPa	ISO 527-2/1B/1
Limiting flexural stress		ca. 80	MPa	ISO 178
Impact strength	Charpy, unnotched	no break	kJ/m <sup>2</sup>	ISO 179/1fU
	Charpy, notched	ca. 7	kJ/m <sup>2</sup>	ISO 179/1eA
	Izod, notched	ca. 6	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>				
Vicat softening temperature	Method B50	80	°C	ISO 306
Thermal conductivity		0.2	W/m K	DIN 52612
Coeff. of linear thermal expansion		0.05	mm/m K	DIN 53752-A
Heat deflection temperature under load	Method A: 1.80 MPa	63	°C	ISO 75-2
	Method B: 0.45 MPa	70	°C	ISO 75-2
<b>ELECTRICAL</b>				
Dielectric strength		16.1	kV/mm	IEC 60243-1
Volume resistivity		10 <sup>15</sup>	Ohm-cm	IEC 60093
Surface resistivity		10 <sup>16</sup>	Ohm	IEC 60093
Dielectric constant	at 10 <sup>3</sup> Hz	2.6		IEC 60250
	at 10 <sup>6</sup> Hz	2.4		IEC 60250
Dissipation factor	at 10 <sup>3</sup> Hz	0.005		IEC 60250
	at 10 <sup>6</sup> Hz	0.02		IEC 60250

The mechanical properties were measured on sheets of 4 mm thickness.

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**i-line**

Ideas, innovative, intelligent, interesting, ...

Bayer Sheet Europe i-line represents the next generation of quality products. This seal guarantees innovative and intelligent first-class solutions at all times for a multitude of requirements.

**Light Transmission:**

Test Method according to DIN 5036

The stated thicknesses are all available as standard. Please ask us for more information.

The stated values are typical values only.

Light transmission in %	2	3	4	5
Vivak® Design clear 099	75 %	75 %	74 %	74 %
Vivak® Design white 145	53 %	43 %	34 %	28 %

**Available sizes:**

**Vivak® Design** is available in thicknesses from 2 to 5 mm and in the following colours and formats.

**Colors:**

Vivak® Design clear 099

Vivak® Design white 145

**Size (Standard):**

2,050 x 1,250 mm

Other sizes, colours and sheet thicknesses available on request.

**Thermoforming:**

Owing to their outstanding flow and mould surface reproduction, **Vivak® Design** sheets can be thermoformed at low temperatures without predrying. Because of its low specific heat capacity, Vivak® requires only a little amount of energy for thermoforming.

**Permanent Service Temperature:**

The permanent service temperature without load is approx. 65 °C.

**Fire rating(\*):** Oxygen index (LOI) 26 % ISO 4589

Country	Standard	Rating	Thickness	Color
Europe	EN13501-1	B-s1, d0	2 - 5 mm	clear 099
UK	BS 476 Part 7	Class 1Y	2 + 5 mm	clear 099
Germany	DIN 4102	B1 (Indoor)	2 - 5 mm	clear 099 white 145
Belgium	BS 476	A1	2 + 5 mm	clear 099

(\* fire certificates are limited in time, always check if the mentioned certificate is still valid.

Bayer Sheet Europe also produces multiwall sheets in polycarbonate (Makrolon® multi UV), and solid sheets in polycarbonate (Makrolon® GP) and in polyester (Vivak® and Axpert®). For more information, take a look at [www.bayersheeteurope.com](http://www.bayersheeteurope.com)

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