

Product Data Sheet, February 2006

# Vivak® UV Solid Copolyester Sheets.

Your benefits:

- good weather resistance
- excellent thermoformability
- good impact strength
- good fire rating

Solid **Vivak® UV** sheets are made of thermoplastic copolyester. They offer high impact strength, a good fire rating and good weather resistance. These properties are demonstrated by our 10-year guarantee on mechanical strength and optical properties.

**Vivak® UV** sheets can be rapidly thermoformed at low energy consumption, short production times, extreme degrees of stretching and accurate mold surface reproduction, without pre-drying. The sheets are easy to screen print and machine.

**Vivak® UV clear 2099** is a grade of clear transparent sheet with extremely high light transmission and high gloss.

**Vivak® UV white 2130** sheets are translucent white sheets with good light diffusion and a pleasant hue.

### Applications:

Ideal fields of application for Vivak® UV are: Outdoor P.O.S., displays, poster pillars, vending machines, poster boards and outdoor posters, advertising boards.

	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
Refractive index	20 °C	1.567	–	ISO 489
<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		2000	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		20	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
	bei 10 <sup>6</sup> Hz	0.02		IEC 60250

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

**Product Liability Clause:** This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided – especially that contained in our safety data and technical information sheets – and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.



**VIVAK®**  
UV

Product Data Sheet, February 2006

# Vivak® UV

## Solid Copolyester Sheets.

### Light Transmission:

Test Method to DIN 5036

The stated thicknesses are not all available as standard. Please ask us for more information.

The stated values are typical values only.

Light transmission in %	2	3	4	5	6	8
Vivak® UV clear 2099	89	88	87	86	85	84
Vivak® UV white 2130	39	30	30	24		
Vivak® UV bronze 2850			50	45	36	
Vivak® UV grey 2760				35	32	

### Available sizes:

Vivak® UV is available in thicknesses of 2-8 mm and in the following sizes; other sizes, colors and sheet thicknesses on request.

### Colors:

Vivak® UV clear 2099

Vivak® UV bronze 2850

Vivak® UV white 2130

Vivak® UV grey 2760

### Sizes (Standard):

2,050 x 1,250 mm

3,050 x 2,050 mm

### Permanent Service Temperature:

The permanent service temperature is approx. 65 °C.

### Fire Rating:

Oxygen index (LOI) 26 % ISO 4589

Country	Standard	Rating	Thickness	Color
Europe	EN13501-1	B-s1, d0 B-s2, d0	2-8 mm 2-6 mm	clear 2099 all colors
Germany	DIN 4102	B 1	2-12 mm 5 and 6 mm 5 and 6 mm	clear 2099 bronze 2850 grey 2760
Great Britain	BS 476 Part 7	Class 1Y	2-12 mm 2-6 mm	clear 2099 white 2130
France	NFP 92-501 & 505	M 2	2-5 mm 2-4 mm	clear 2099 white 2130
	NFP 16-101 & 102	F 1	2-8 mm 1.5-4 mm 6 mm	clear 2099 white 2130 grey 2760

### Glow wire flammability index, IEC 60695-2-12, in °C (\*)

	2	3	4
Vivak UV clear 2099	960	960	960
Vivak UV white 2130		960	960

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

### Thermoforming:

Owing to their excellent flow and mold surface reproduction, Vivak® UV sheets can be thermoformed at low temperatures without predrying. Because of its low specific heat capacity, Vivak® requires little energy for thermoforming.

Bayer Sheet Europe GmbH  
 Otto-Hesse-Straße 19/T9, 64293 Darmstadt, Germany  
 Tel. +49 6151 13 03-0  
 Fax +49 6151 13 03-500  
 www.bayersheeteurope.com  
 sales@bayersheeteurope.com

A  Bayer MaterialScience Company



**VIVAK®**  
UV