

Application possibilities						
Nitrocellulose	Water based	Decorative laminates	PVB	PVC inks	Offset	UV curing
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Application possibilities ● main application ○ side application



Versal® | organic pigments for printing inks

COLOURS FOR FUTURE



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TiO ₂		Trade Name Versal®	C. I. Pigment	Chem. Type	HP Pigment	Transparency
1:1	1:10					
■	■	Yellow E5G	Yellow 150	Metal Complex	●	medium
■	■	Yellow E5G 110	Yellow 150	Metal Complex	●	medium
■	■	Yellow 7GX	Yellow 111	Monoazo		medium
■	■	Yellow 10GD	Yellow 4	Monoazo		medium
■	■	Yellow 10G	Yellow 3	Monoazo		medium
■	■	Yellow 8GN	Yellow 128	Disazo Cond.	●	high
■	■	Yellow H4G	Yellow 151	Benzimidazolone	●	low
■	■	Yellow 3G	Yellow 93	Disazo Cond.	●	medium
■	■	Yellow 5GD	Yellow 155	Bisacetoacetylride	●	low
■	■	Yellow 4GN	Yellow 155	Bisacetoacetylride	●	medium
■	■	Yellow H3G	Yellow 154	Benzimidazolone	●	medium
■	■	Yellow 5GXW	Yellow 74	Monoazo		medium
■	■	Yellow 5GXS	Yellow 74	Monoazo		high
■	■	Yellow G	Yellow 1	Monoazo		medium
■	■	Yellow 2GXD	Yellow 74	Monoazo		low
■	■	Yellow GR	Yellow 95	Disazo Cond.	●	medium
■	■	Yellow SRDP	Yellow 139	Isoindoline	●	high
■	■	Yellow H3R	Yellow 181	Benzimidazolone	●	medium
■	■	Orange HLD	Orange 36	Benzimidazolone	●	low
■	■	Red 2GC	Red 4	β-naphthol		medium
■	■	Scarlet 4RF	Red 242	Disazo Cond.	●	medium
■	■	Red HF3S	Red 188	Naphthol AS		high
■	■	Scarlet R	Red 166	Disazo Cond.	●	low
■	■	Scarlet RT	Red 166	Disazo Cond.	●	high
■	■	Red FGRD	Red 112	Naphthol AS		medium
■	■	Red DP3G	Red 254	Diketopyrrolopyrrole	●	medium
■	■	Red DP2G	Red 254	Diketopyrrolopyrrole	●	low
■	■	Red F2RA	Red 2	Naphthol AS		medium
■	■	Red F2RF	Red 2	Naphthol AS		medium
■	■	Red F3RKD	Red 170	Naphthol AS		medium
■	■	Red 3RLT	Red 48:3	BONA Lake		medium
■	■	Red BR	Red 144	Disazo Cond.	●	medium
■	■	Red BRN	Red 214	Disazo Cond.	●	medium
■	■	Red F5RK	Red 170	Naphthol AS		high
■	■	Red A2B	Red 177	Anthraquinone	●	high
■	■	Red F6RO	Red 57:1	BONA Lake		high
■	■	Red HF3C	Red 176	Benzimidazolone	●	medium
■	■	Blue ASG	Blue 15:1	Phthalocyanine		medium
■	■	Blue LBS	Blue 15:3	Phthalocyanine		medium
■	■	Green BG	Green 7	Phthalocyanine		medium

Light		Physical Data		Fastness to solvents and chemicals						
full shade	1/3	density	oil absorption	Xylene	Acetone	Butylacetate	Ethanol	Water	HCl	NaOH
7-8	7	1.50	62	5	4-5	4-5	5	5	4	5
7-8	7	1.85	80	5	4-5	4-5	5	5	4	5
7	5-6	1.50	40	1-2	2-3	2	4-5	5	5	5
7	6-7	1.37	72	2-3	2-3	2	3	5	5	4
7	6-7	1.60	40	2	2-3	2	3	5	5	5
7-8	7	1.50	80	5	3-4	4-5	5	5	5	5
7-8	7-8	1.50	83	4-5	4-5	5	5	5	5	3
7-8	7	1.45	63	5	5	5	5	5	5	5
7-8	7	1.40	70	4-5	4	4-5	5	5	5	5
7-8	7	1.40	87	4-5	4	4-5	5	5	5	5
7-8	7-8	1.60	55	5	4-5	5	4-5	5	5	5
6-7	5-6	1.45	78	3	3	3	4	5	5	5
6-7	5-6	1.40	62	3	3	2-3	4	5	5	5
7	5-6	1.46	62	2-3	2	2-3	3	5	5	5
7	6	1.50	70	3	3	3	4	5	5	5
7-8	7-8	1.49	90	5	5	5	5	5	5	5
7	6-7	1.70	97	5	5	4-5	5	3	5	3
7	6-7	1.47	84	4-5	4	4-5	4-5	5	5	5
7-8	7	1.60	58	4-5	4-5	4-5	4-5	5	5	5
6	3	1.51	48	2	2-3	2-3	3-4	5	5	5
7-8	7	1.60	60	4	3-4	4	4-5	5	5	5
6-7	6	1.49	64	4	4	4	4-5	5	5	5
7-8	7	1.50	83	4-5	5	4-5	5	5	5	5
7	6-7	1.44	44	4	4	4-5	5	5	5	5
7-8	6-7	1.60	43	2-3	3	3	3-4	5	5	5
7-8	7	1.60	47	5	4	5	5	5	5	5
7-8	7	1.57	61	4-5	3	4	4	5	5	5
6-7	4-5	1.44	61	2	2	2	2	5	5	5
6-7	4-5	1.50	46	2	2	2	2	5	5	5
7	5-6	1.40	67	4-5	4	4-5	4-5	5	5	5
6	4	1.70	81	4	4	4	4-5	4-5	4	4
7-8	7-8	1.50	78	4-5	4-5	4-5	5	5	5	5
7-8	7-8	1.50	61	4	4-5	4-5	5	5	5	5
6D	5	1.40	51	4-5	3	4	4	5	5	5
7-8	7	1.47	89	5	4	4-5	4-5	5	5	5
4-5	4	1.60	85	4	3-4	4	4	4-5	3	3
6-7	6	1.50	79	4-5	3	3-4	3-4	5	5	5
7-8	7-8	1.60	69	5	5	5	5	5	5	5
7-8	7-8	1.70	80	4	5	5	5	5	5	5
7-8	7-8	2.1	52	5	5	5	5	5	5	5

D - duller

Synthesis, a.s.

Synthesis is the largest Czech manufacturer of chemical specialities with more than 95 years' tradition.

Synthesis respects the company objective to offer top products with high added value and specialized customer solutions, including not only production but also development activities and services.

We are the leading Central European producer of organic pigments and dyes and the only producer of high performance pigments in Central Europe. Our company has experience in sales all over the world, especially in the most demanding markets in Western and Eastern Europe as well as the U.S.A.



VERSAL®

Due to the same chemical structure, identical or very close matching colour shade and other important properties a large number of pigments can be replaced by Versal pigments.

The assortment VERSAL® is formed by various chemical types and can be used in wide range of application in such as coatings, printing inks, plastics, fibres, particularly if special technical properties are required.

The most significant part of VERSAL® pigments (High-Performance Pigments) is above all a provision of very good fastness to light and weathering, heat resistance, fastness to solvents and chemicals and due to these excellent properties can be used in the most demanding applications.

In this pattern card we introduce our wide range of organic powder pigments meeting the specific demands of printing industry. We are proud to be a European pigment producer offering high quality and consistent products in respect of colour as well as application properties. In addition to that, product safety and regulatory compliance are also our main focus.

PHYSICAL PROPERTIES AND FASTNESS

Light fastness - Xenotest

- determined by ČSN EN ISO 105-B02: 2000 (80 0147) and evaluated in 1/3 and 1/1 of standard depth and in full shade; by it degree 1 denotes the lowest fastness and degree 8 the highest one.

Density

- determined by ČSN EN ISO 787-10: 1997 (67 0520) in g/cm³

Oil absorption

- determined by ČSN EN ISO 787-5: 1997 (67 0520) in ml/100 g pigment

Fastness to solvents

- colouring of solvent after 24 h at 20 °C according to ISO grey scale is determined; degree 1 denotes the lowest fastness, degree 5 the highest one.