

TiO ₂		Trade Name Versal®	C. I. Pigment	Chem. Type	HP Pigment
1:1	1:10				
Yellow 9GP	Yellow 9GP	Yellow 9GP	Yellow 150	Metal Complex	●
Yellow 5GN	Yellow 5GN	Yellow 5GN	Yellow 150	Metal Complex	●
Yellow 2GL	Yellow 2GL	Yellow 2GL	Yellow 61	Monoazo, Ca	
Yellow 2GS	Yellow 2GS	Yellow 2GS	Yellow 168	Monoazo, Ca	
Yellow 6G	Yellow 6G	Yellow 6G	Yellow 94	Disazo Cond.	●
Yellow 7GP	Yellow 7GP	Yellow 7GP	Yellow 138	Quinophthalone	●
Yellow 8GN	Yellow 8GN	Yellow 8GN	Yellow 128	Disazo Cond.	●
Yellow H4G	Yellow H4G	Yellow H4G	Yellow 151	Benzimidazolone	●
Yellow 3G	Yellow 3G	Yellow 3G	Yellow 93	Disazo Cond.	●
Yellow 3GF	Yellow 3GF	Yellow 3GF	Yellow 93	Disazo Cond.	●
Yellow H3G	Yellow H3G	Yellow H3G	Yellow 154	Benzimidazolone	●
Yellow HG	Yellow HG	Yellow HG	Yellow 180	Benzimidazolone	●
Yellow 4GP	Yellow 4GP	Yellow 4GP	Yellow 155	Bisacetoacetarylide	
Yellow RS	Yellow RS	Yellow RS	Yellow 62	Monoazo, Ca	
Yellow GR	Yellow GR	Yellow GR	Yellow 95	Disazo Cond.	●
Yellow HGR	Yellow HGR	Yellow HGR	Yellow 191	Monoazo, Ca	
Yellow 2RLP	Yellow 2RLP	Yellow 2RLP	Yellow 183	Monoazo, Ca	
Yellow 4RDP	Yellow 4RDP	Yellow 4RDP	Yellow 139	Isoindoline	●
Yellow 5RDP	Yellow 5RDP	Yellow 5RDP	Yellow 139	Isoindoline	●
Yellow H3RP	Yellow H3RP	Yellow H3RP	Yellow 181	Benzimidazolone	●
Yellow 3R	Yellow 3R	Yellow 3R	Yellow 110	Isoindolinone	●
Orange G	Orange G	Orange G	Orange 64	Benzimidazolone	●
Scarlet 4RFP	Scarlet 4RFP	Scarlet 4RFP	Red 242	Disazo Cond.	●
Scarlet R	Scarlet R	Scarlet R	Red 166	Disazo Cond.	●
Red DP3G	Red DP3G	Red DP3G	Red 254	Diketopyrrolopyrrole	●
Red F2RKD	Red F2RKD	Red F2RKD	Red 170	Naphthol AS	
Red F3RKD	Red F3RKD	Red F3RKD	Red 170	Naphthol AS	
Red 3RL	Red 3RL	Red 3RL	Red 48:3	BONA, Sr	
Red F5RK	Red F5RK	Red F5RK	Red 170	Naphthol AS	
Red BRN	Red BRN	Red BRN	Red 214	Disazo Cond.	●
Red BR	Red BR	Red BR	Red 144	Disazo Cond.	●
Red 2BN	Red 2BN	Red 2BN	Red 262	Disazo Cond.	●
Red F6RO	Red F6RO	Red F6RO	Red 57:1	BONA, Ca	
Red 4BP	Red 4BP	Red 4BP	Red 57:1	BONA, Ca	
Red A3BN	Red A3BN	Red A3BN	Red 177	Anthraquinone	●
Red HF3C	Red HF3C	Red HF3C	Red 176	Benzimidazolone	●
Blue ASP	Blue ASP	Blue ASP	Blue 15:1	Phthalocyanine	
Blue LBS	Blue LBS	Blue LBS	Blue 15:3	Phthalocyanine	
Green BGP	Green BGP	Green BGP	Green 7	Phthalocyanine	

Light Fastness		Oil absorption	Bulking volume	DEHT	Heat resistance	Migration
full shade	1/3					
7-8	7	82	2.6	5	300 °C	5
7-8	7	70	2.2	5	300 °C	5
7	6	91	6.3	5	240 °C	4-5
7	7	75	4.1	5	240 °C	5
7-8	7	87	6.6	5	280 °C	5
7-8	7	37	2.7	5	300 °C	5
7-8	7	80	6.9	5	260 °C	5
7-8	7-8	83	2.7	5	290 °C	5
7-8	7	63	5.2	5	280 °C	5
7-8	7	118	9.3	5	280 °C	5
7-8	7-8	55	2.3	5	270 °C	4-5
7	7	74	5.1	5	280 °C	5
7-8	7	69	6.3	5	260 °C	4-5
7	6	78	5.4	5	250 °C	5
7-8	7-8	90	4.8	5	280 °C	5
7	6-7	62	6.0	5	300 °C	5
7-8	6-7	55	2.9	5	300 °C	5
7	6-7	80	3.2	5	240 °C	5
7	6-7	97	3.6	5	240 °C	4-5
7	6-7	88	6.6	5	280 °C	5
6-7	6-7	40	3.3	4-5	280 °C	4-5
6-7	6-7	73	4.2	5	280 °C	5
7-8	7	74	5.0	5	280 °C	4-5
7-8	7	83	5.1	5	300 °C	4-5
7-8	7	47	5.8	5	300 °C	5
7-8	7	75	4.7	5	270 °C	
7	5-6	67	4.2	4-5	270 °C	
6	4	63	4.8	5	240 °C	4-5
6D	5	51	3.6	4-5	240 °C	
7-8	7-8	61	4.7	5	280 °C	4-5
7-8	7-8	78	6.3	5	280 °C	4-5
7	6-7	92	4.3	5	270 °C	4-5
4-5	4	85	3.6	5	240 °C	4-5
4-5	4	85	7.0	4-5	260 °C	4-5
7-8	7	71	3.6	5	300 °C	5
6-7	6	79	4.2	5	280 °C	5
7-8	7-8	70	3.5	5	300 °C	5
7-8	7-8	57	3.1	5	300 °C	5
7-8	7-8	45	2.5	5	300 °C	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 VERSAL® pigments are illustrated and determined especially with respect for the plastic industry. VERSAL® pigments are technically pure products distinguished by persistent colour qualities and controlled fastness properties. All VERSAL® pigments are suitable for mutual combination.

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.

Fastness to plasticizers

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

Heat resistance

- the values quoted indicate up to what temperature the pigments do not significantly alter, these are guide values which can be influence by the binder used and the period of exposure to high temperature (EN 12877-2).

Migration fastness

- assessment of bleeding into a white polyvinylchloride sheet for 24 h at 70 °C against ISO grey scale, by it degree 1 denotes the lowest fastness, degree 5 the highest one, no data means that the pigment is not recommended for dyeing PVC.