

VIPUL DYE CHEM LTD., (VDCL) established in the year 1968, is today having five manufacturing plants in the Western Province of India. **VDCL** is also a Public Limited Company listed with the Mumbai Stock Exchange. **VDCL** has been recognized as a Star Export House by the Government of India with the exports to more than 45 countries worldwide.

VDCL is producing Textile Dyes, Pigment Powder and Dispersions, Dyestuff for Leather and Paper, Food Colours and Lake Colours and a Nutraceutical products. **VDCL** is producing a complete range of Naphthols, Fast Colour Bases, 3.3 DCB, Ortho Dianisidine, MNPT, Para Amino Benzamide, 2,4,5-Trichloro Aniline, etc. and with this In-house production of Pigment Intermediates, **VDCL** guarantees a very stable quality at a competitive price.

RECOMMENDED APPLICATIONS:

1. PRINTING INK: We have checked our Pigments for the various kinds of Inks as under:

- Water Based Ink (Acrylic Ink)
- Offset Ink
- Liquid Ink (Solvent Base Ink)

2. PAINT APPLICATION

- Water Base Coating
- Solvent Paint

3. PLASTIC APPLICATION

4. RUBBER

5. TEXTILE PRINTING

Our pigment powder and pigment dispersions are marketed under the brand name of "**SUNTONE**". While preparing this colour catalogue, all necessary precautions have been taken to provide the maximum information to our valued customers. However, this information is based on our present stage of knowledge and some details may vary at the customer's end depending on their process parameters and their requirements. Hence all the details mentioned in this catalogue has to be taken as general guidance and not as a guarantee.

PHYSICAL PROPERTIES

1. Specific Gravity

The Specific Gravity is determined by the Pyknometer using ASTM D 153-4, method.

2. PH Value

10 g of the pigment is taken into a 500 ml beaker. Wet the pigment with 5 ml methanol and then with 5 ml water. Add 150 ml distilled water and boil for 5 minutes. Cool to room temperature and filter it through Whatman No. 5 filter paper. Make the volume of filtrate to 250 ml in a volumetric flask. Check the pH of this solution.

3. Oil Absorption

A suitable quantity of the test sample exactly weighed, is put on a glass plate and add drop by drop linseed oil(acid refined) from a burette on to the centre of the pigment and knead the sample with spatula each time.Repeat the dropping and the kneading process and when the mixture becomes semi-paste for the first time,the amount of linseed oil consumed is noted and oil absorption is calculated according to the following equation.

$$\text{Oil Absorption Value}(\text{Volume/Mass}) = \frac{V \times 100}{M}$$

Where V= Volume in ml. of acid refined linseed oil.

M = Mass in gms. of the sample taken for the test.

4. Light Fastness

Full tone and tint (1 part pigment: 20 parts of Titanium Dioxide) pastes are made in Linseed Oil and drawdowns are taken on paper. These drawdowns are then exposed to light in an Accelerated Weathering tester for a specified period. The rating is given from 1 to 8 where 1 denotes "Poor" and 8 "Excellent" with gradation in between.

5. Heat Resistance

Weigh approximately 2 g. of the dry pigment powder in a dry clean petri dish. Keep this in an air heated oven at 150°C for 20 minutes. Heated powder is cooled and compared with unheated powder by making paste in linseed oil for full tone. Shade is compared at the maximum temperature until the pigment remains stable as mentioned.

6. Resistance to Acid & Alkali

About 10 g of the pigment and about 500 mls. Of Hydrochloric Acid or Caustic Soda solution (5% in case of Organic Pigments) are stirred together in a 1 litre beaker for 1 hour at a room temperature. The pigment is then filtered, Washed free from Acid or Alkali as the case may be (Test by Congo Red Paper for a Acid and Brilliant Yellow paper for Alkali) and dry in an oven at a temperature between 60°C and 75°C. The change if any in colour determined by making paste in Linseed oil and taking comparative drawdown with the untreated sample. Resistance is rated in cycle of 1 to 5, 5 denotes excellent resistance, excellent fastness and 1 denotes poor fastness.

7. Resistance to Solvents:

0.5 g of the dry pigment powder and 20 ml. of the desired solvent, plasticizer or oil is taken in a 100 ml conical flask with stopper, mount this on a shaker for half an hour. Filter the contents through the cone of a Whatman No. 4 filter paper with Barytes / Blancfix Bed. The colour of the filtrate is observed (Visually) and rated as 1 if the bleeding is considerable and rated as 5 if there is no bleeding with gradation in between.

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Infinite possibilities

				Physical Data		Fastness Properties	
Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Yellow G Yellow 1 C. I - 11680			1.40	7-8	≤45	7	4-5
Yellow 10G Yellow 3 C.I. - 11710			1.55	7-8	≤45	7	6
Yellow DHG Yellow 12 C.I. - 21090			1.40	6-8	≤50	4-5	3
Yellow GR Yellow 13 C.I. - 21100			1.30	6-8	≤50	6	5-6
Yellow 2GS Yellow 14 C.I. - 21095			1.57	7-8	≤40	5	3
Yellow 2G Yellow 17 C. I. - 21105			1.33	6-8	≤55	6	5
Yellow RN Yellow 65 C.I.- 11740			1.50	6-7	≤55	7-8	6-7
Yellow 5GX Yellow 74 C.I. - 11741			1.60	7-8	≤45	7	5-6
Yellow 2GX Yellow 74 C.I. - 11741			1.70	7-8	≤45	7	5-6
Yellow HR-02X Yellow 83 C.I. - 21108			1.55	7-8	≤45	7	5-6
Yellow HR 70X Yellow 83 C.I. - 21108			1.70	7-8	≤55	7-8	5-6

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
5	5	160	5	4	3	3	3	4	○		●		●	○		
5	5	160	5	3-4	4	3-4	4	4					●	●		
5	5	180	5	4-5	3-4	3	3-4	5	●	●	●	●	●	●		
4	4	240	5	4-5	4-5	3-4	4	4-5	●	●	●	●	●	○	●	●
4	4	180	5	5	4	4	4	5			●			●	●	●
5	5	240	5	4-5	4	4	4	4-5	●						●	
5	4-5	160	5	4-5	4	4-5	2	5				○	●	○		
4	4	160	5	4	3	3	3	4				○	●	●		
4	4	160	5	5	4	3	4	5				○	●	○		
4-5	4-5	240	5	3-4	3	3	3	5						●	●	●
4-5	4-5	220	5	4	4	4	4	5				●	●			

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**Physical
Data****Fastness
Properties**

Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Yellow FGL Yellow 97 C.I. - 11767			1.60	7	≤45	7	5-6
Yellow 3R Yellow 139 C.I. - 56298			1.60	6-7	≤50	7-8	6
Yellow H4G Yellow 151 C.I. - 13980			1.60	7	≤50	8	6-7
Yellow H3G Yellow 154 C.I. - 11781			1.65	7	≤55	8	6-7
Yellow HGR Yellow 191 C.I. - 18795			1.55	7-8	≤45	7	5
Orange RN Orange 5 C.I. - 12075			1.30	6-7	≤40	7	6
Orange G Orange 13 C.I. - 21110			1.50	6-7	≤50	7	5
Orange RR Orange 16 C.I. - 21160			1.50	6-7	≤55	5	4
Orange RL Orange 34 C.I. - 21115			1.30	6-7	≤45	6	5
Orange HL Orange 36 C.I. - 11780			1.50	7-8	≤45	7-8	6-7
Red F2R Red 2 C.I. - 12310			1.50	6-8	≤50	6-7	4-5

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
5	5	240	5	5	5	5	5	5	○	●	●	●	●		●	●
5	5	240	5	5	5	4	4	4	○	○	○	●	●		○	○
5	5	280	5	5	5	4	4	4	○	○	○	●	○		●	●
5	5	280	5	5	5	4	4	4	○	○	○		○		●	●
4	4	280	4	4	3-4	4	3-4	4		○	○	○	●	●	○	
5	5	160	5	4	3-4	4	3-4	3-4			○		●	○		
5	3	220	5	3-4	4	3	3-4	4	○	●	●	○	●	●	○	○
5	4	200	5	3	4	3	4	4		●	●	○	○	●	●	●
4	5	180	4	4	3	3	5	5	○	●	●	●	●	○	●	●
5	5	280	5	5	5	5	5	4	○	○	○	●	●		●	●
5	3	180	5	3	3	2	2-3	3-4	○	○	●	○	●	●		



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**Physical
Data**

**Fastness
Properties**

Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Red RN Red 3 C.I. - 12120			1.40	6-8	≤50	7	4-5
Signal Red Red 4 C.I. - 12085			1.50	6	≤45	6	5
Carmine FB Red 5 C.I. - 12490			1.50	6-7	≤55	7	5
Red F4R Red 8 C.I. - 12335			1.60	6-7	≤55	5-6	4
Bordeux F2R Red 12 C.I. - 12385			1.50	6-7	≤55	6	4-5
Scarlet Red 21 C.I. - 12300			1.50	6-7	≤45	5	4
Red N Red 22 C.I. - 12315			1.50	6-8	≤55	5	4
Rose F2B Red 23 C. I. - 12355			1.40	6-7	≤45	5-6	4-5
Pink FB Red 31 C.I. - 12360			1.30	6-7	≤45	5	4
Red Violet FB Red 32 C.I. - 12320			1.60	6-7	≤45	5	4
Red 2BD Red 48:1 C.I. - 15865:1			1.50	7-8	≤55	4-5	3-4

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
5	5	180	5	3	3	2-3	2	3-4				●	●	○		
3	4	160	4	3	3	2	2	4	○	●	●		○	○	○	
5	5	200	5	4	4	3-4	3	3-4				●	●			
5	4	180	5	3	3	2	3	4		●	○	●	●	●		
4	4	160	3	3	3	2-3	2-3	3-4				●	●	●		
5	5	160	4	3	3	2	2-3	3-4			○	○	●	●		
5	3	160	5	3	3	3	3	3			○	○	●	●	●	
5	4	160	5	3	3	2-3	3	3					●	●		
5	4	160	5	3	3	2-3	3	3					○	●		
5	4	160	5	3	3	2-3	3	3					○	●		
4	5	180	5	4	4	3-4	3-4	4	○	○	●	●	○	○	●	

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**Physical
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Properties**

Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Red 2B Red 48:2 C.I. - 15865:2			1.40	7-8	≤60	6	4
Red 2BY Red 48:3 C.I. - 15765:3			1.40	7-8	≤60	5	4
Red P2BN Red 48:4 C.I. - 15865:4			1.45	7-8	≤55	6	4
Lithol Red R Red 49:1 C.I. - 15630:1			1.30	7-8	≤40	5	3
Red 49:2 C.I. - 15630:2			1.60	7-8	≤40	4-5	3-4
Lithol Red 6B Red 52:1 C.I. - 15860:1			1.40	7-8	≤55	6	4
Lake Red LC Red 53:1 C.I. - 15585:1			1.50	7-8	≤45	4	3
Lake Red C Red 53:1 C.I. - 15585:1			1.50	7-8	≤45	5	3
Rubine Toner Red 57:1 C.I. - 15850:1			1.50	6-8	≤55	5	3
Rubine 4BGL Red 57:1 C.I. - 15850:1			1.60	7-8	≤55	5	3
Maroon Toner Red 63:1 C.I. - 15880:1			1.40	6-7	≤50	5-6	4

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
4	4	260	5	4-5	4-5	4-5	4-5	4-5			○		●	○	●	○
3-4	4	180	4	4	4	3-4	3-4	4			○			●	●	○
4	3	180	4	3-4	4	3-4	3-4	4		○	○	●	●	●	●	○
3	3	180	5	3-4	3-4	3	2-3	4	●	●	●			○		
3	3	180	5	4	3-4	3-4	3	4	●	●	○	●	●			
3	3	180	4	3	3	3	3-4	3			●		●		○	
3	4	180	5	4	4	3	3	3	○	●	○	●	○			
3	4	260	4-5	3	4	3-4	3-4	4-5	●	○	●	○	●		●	●
3	2	180	5	4	3	3	3	4		●		●	○			
3	3	180	4	4	3	3	3	4		○	●	○	●			
5	4	180	5	3	3	2	3	4	○			●	●	○		

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**Physical
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Properties**

Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Red BB Red 112 C.I. - 12370			1.50	6-7	≤40	7	6
Red R Red 122 C.I. - 73915			1.50	6-7	≤45	7-8	6
Carmines FBB Red 146 C.I. - 12485			1.40	6-7	≤50	6	4-5
Red F3RK Red 170 C.I. - 12475			1.45	6-7	≤50	7	6
Red F5RK Red 170 C.I. - 12475			1.50	6-8	≤50	7	6
Red 2BF Red 188 C.I. 12467			1.50	7	≤50	7-8	7
Red F6RK Red 210 C.I. - 12477			1.50	6-7	≤50	6	5
Red 238			1.60	7	≤45	5	4
Red F7RK Red 266 C.I. - 12474			1.60	6-7	≤45	6	5
Green 7 C.I. - 74260			1.60	6-8	≤45	8	7
Blue 15:0 C.I. - 74160			1.50	6-7	≤45	8	7

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
5	5	180	5	4	5	5	5	5				○	●	○		
5	5	280	5	4-5	5	5	5	5		●	○	●	○	○	●	●
4	5	180	5	4	4	3	4	5		○	○	○	●	●	○	●
5	5	180	5	4-5	4	4	4	5		○	●	●	●	●	●	
5	5	180	5	4-5	4-5	4-5	4	5	●	○	○	○	●	●	○	○
5	5	200	5	4	4	4	4	4					●	●		
5	5	180	5	4-5	4	4	4	5			○		●	●		
4	5	180	5	4	4	4	4	4	○	●	●	●	●	●		
4	5	180	5	4	4	3	4	5			○		●	●		
5	5	280	5	5	5	5	5	5	●	●	●	●	●	●	●	●
4	5	180	5	5	5	4-5	4-5	5		○	○	○	●	●		●



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**Physical
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Suntone Pigment/ Colour Index No.	Full Shade	Tint Shade	Specific Gravity	PH	Oil Absorption ml. / 100g	Light Fastness	
						Full Tone	Tint Tone
Blue 15:1 C.I. - 74160			1.55	6-7	≤45	8	7
Blue 15:3 C.I. - 74160			1.40	6-8	≤50	8	7
Blue 15:4 C.I. - 74160			1.50	6-7	≤45	8	7
Green 8 Green B C.I. - 10006			1.50	6-7	≤45	6	5
Violet Toner R Violet 3 C.I. - 42535:2			1.80	6-7	≤50	4-5	3-4
Violet 4R Violet 19 C.I. - 73900			1.70	6-8	≤50	7-8	6
Violet RL Violet 23 C.I. - 51319			1.40	6-8	≤50	7	6
Violet Toner Violet 27 C.I. 42535:3			1.60	6-7	≤45	4-5	3-4
Lemon Chrome Yellow 34 C.I. - 77603			5.10	6-7	≤30	7-8	6-7
Middle Chrome Yellow 34 C.I. - 74160			5.40	6-7	≤30	7-8	6-7
Molybdate Orange Red 104 C.I. - 77605			6.00	6-7	≤30	7-8	6-7

Fastness Properties			Bleeding Resistance						Application							
Acid Resistance	Alkali Resistance	Heat Resistance	Water	Ethyl Alcohol	Ethyl Acetate	Xylene	M.E.K.	Mineral Spirit	Ink			Paint		Textile	Plastic	Rubber
									offset	Solvent Base	water Base	Solvent Base	water Base			
5	5	280	5	5	5	4	4-5	5					●	●	●	●
5	5	280	5	5	5	5	5	5	●	●	●	●	●	●	●	●
5	5	180	5	5	5	4	5	5		●		●		○		
5	5	180	5	4	4	3	4	4				●	●	○		○
3-4	3	160	5	2	4	4-5	2	5	○	●	●					
5	5	260	5	4-5	4-5	4-5	4	5	○	●	○	●	○	○	●	○
5	5	180	5	5	5	5	5	5		○	●	○	●	●		
3	3-4	160	5	1	3	4-5	1	4	○	○	●	●	●		○	
2	2	220	5	5	5	5	5	5	●	●	●	●	●		●	
2	2	220	5	5	5	5	5	5	●	●	●	●	●		●	
2	2	220	5	5	5	5	5	5	●	●	●	●	●		●	