

VC LARK COLOR

VC LARK COLOR

*Master Powder
for PVC*



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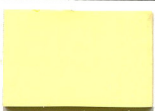







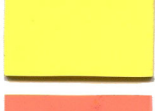










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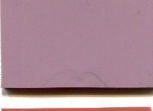




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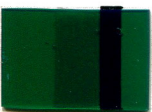

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CABLE: TKCHEMICAL TAIPEI

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				Light Fastness		Heat Resistance	Migration	Chemical Resistance		
Full	Tint	VC LARK	Color	Full	Tint			3N HCl	10% NaOH	10% Na ₂ S 9H ₂ O
		Yellow PY-34 青黃	120	5-6	5-6	3-4	4-5	3-4	2-3	1
		Yellow PY-34 米黃	122	5-6	5-7	4-5	4-5	4	3	1
		Yellow PY-34 銻黃	6240	6-7	6-7	4-5	4-5	4	3	1
		Yellow PY-83 特黃	123	7	6-7	5	4-5	5	5	5
		Yellow PY-81 檸檬黃	124	7	6-7	5	4-5	5	5	5
		Orange PO-21 鉬紅	325	6-7	6-7		4-5	4	3	1
		Red PR-53:1 朱紅	420	3	3	3-4	4	4-5	3-4	5
		Red PR-48:2 大紅	427	5-6	4	3-4	4-5	5	3	5
		Red PR-57:1 淺紫紅	520	4	4	3-4	4	4-5	5	5
		Red PR-57:2 紫紅	523	4	4	3-4	4	4-5	4	5

Full	Tint	VC LARK	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N HCl	10% NaOH	10% Na ₂ S 9H ₂ O
		Red PR-57:1 牡丹紅	4087	4	4	3-4	4	4-5	4	5
		Red PR-53:1 朱紅	4592	3	3	3-4	4	4-5	3-4	5
		Red PR-57:1 紫紅	4593	4	4	3-4	4	4-5	4	5
		Red PR-53:1 朱紅	4824	3	3	3-4	4	4-5	3-4	5
		Red PV-19 耐熱紅	2A277	8	7-8	5	5	5	5	5
		Red PR-185 大紅	2A287	7	6-7	5	5	5	5	5
		Brown PBR-6 土朱	527	8	8	4	5	5	5	5
		Brown PBR-6 鐵棕	528	8	8	4	5	5	5	5
		Brown PBR-6 土朱	4825	8	8	4	5	5	5	5
		Brown PBB-25 透明棕	620	8	7	5	5	5	5	5

Full	Tint	VC LARK	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N HCl	10% NaOH	10% Na ₂ S 9H ₂ O
		Violet PV-23 原紫	622	7-8	7	4-5	2	5	5	5
		Violet PV-23 紅紫	2A059	7-8	7	4-5	2	5	5	5
		Violet PV-23 紅紫	2A276	7-8	7	4-5	2	5	5	5
		Violet PV-23 特紫	2A278	7-8	7	4-5	4-5	5	5	5
		Blue PB-29 羣青	625	7-8	7-8	5	5	2	5	5
		Blue PB-15 紅藍	629	8	7-8	4-5	4-5	5	5	5
		Blue PB-15 原藍	720	8	8	4-5	4-5	5	5	5
		Blue PB-15 原藍	4083	7	7	4	4-5	5	5	5
		Blue PB-15:3 翠藍	724	8	8	5	5	5	5	5
		Green PG-7 原綠	820	8	8	5	5	5	5	5

Full	Tint	VC LARK	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N HCl	10% NaOH	10% Na ₂ S 9H ₂ O
		Green PG-7 翠綠	6249	8	8	5	5	5	5	5
		Green PG-7 藍綠	4827	8	7-8	5	5	5	5	5
		White PW-6 一般白	829	6	6	5	5	5	5	5
		White PW-6 特白	2A272	6	6	5	5	5	5	5
		White PW-6 雪白	4570	6	6	5	5	5	5	5
		Black PBK-7 中貼黑	6252	8	8	5	5	5	5	5
		Black PBK-7 調色黑	6448	8	8	5	5	5	5	5
		Black PBK-7 一般黑	927	8	8	5	5	5	5	5
		Black PBK-7 特黑	929	8	8	5	5	5	5	5
		Black PBK-7 特黑	2A284	8	8	5	5	5	5	5

VC Lark Color

I Introduction :

VC Lark is a wetting pigment containing a small amount of plasticizer. It shows more stability, easy metering, free flowing, and less dusting than raw pigment, and is a coloring agent suitable for rigid and flexible PVC, especially for the use of tiles and electric cables.

II Characteristics :

1. Easy color matching
2. Excellent dispersion and mixing characteristics.
3. Suitable for automatic metering.
4. Excellent stability.
5. Long shelf life.

III Data of Color Sheet

1. PVC compound

resin	100
plasticizer	40
stabilizer	2
epoxy	2
stearic acid	0.5

2. Full Shade

	With color	white	black
Compound	100	100	100
VC Lark	1	2	0.5

3. Tint Shade

	With color	white	black
Compound	100	100	100
VC Lark	1	2	0.5
TiO ₂ White	2	—	2
Carbon Black	—	0.01	—

4. Sheeting Data

2 Roll 155 ± 5°C × 3 mins.
Press 160°C × 1 min. × 100 kg/cm² × 1 min.

IV Test Method

1. Light Fastness

The test sheet is carried out for a specified Period in a Fade-O-Meter. Assessments were made using the 1-to-8 Blue Scale so as to the degree of their fading and discoloration.

Blue Scale for Light Fastness

Blue Scale	Fade-O-Meter Full Exposure
8 outstanding	400 hours
7 excellent	200 hours
6 very good	100 hours
5 good	50 hours
4 fair	25 hours
3 moderate	12 hours
2 poor	6 hours
1 very poor	3 hours

2. Migration Test

The test sheet is sandwiched between two white sheets and placed for 24 hours under a load of about 100 g/cm² and kept at a constant temperature of 80°C. The fastness of migration was judged by the extent of staining of the white sheet and assessed on 1-to-5 scale. Rating 5 denote a pure white.

Rating	Staining of white sheet	Migration resistance
5	no staining	very good
4	trance	good
3	weak	fairly good
2	appreciable	moderate
1	heavy	poor

3. Heat resistance

Test color sheet was left in a gear-oven for 30 minutes at 180°C ± 2°C. The change of shade is assessed on a 1-to-5 scale.

Rating	Shade of test samples	Heat Resistance
5	unchanged	very good
4	trance changed	good
3	slightly changed	fairly good
2	considerably changed	moderate
1	severly changed	poor

4. Chemical Resistance

Test color shade was dipped in 5% HCl or 10% NaOH for 24 hours. Change of shade is assessed on a 1–t0–5 scale.

Introduction to Basic Colors of VC Lark

The characteristics of VC Lark basic colors are as follows :

1. Yellow Series

(A) inorganic pigments

- 1) VC Lark Yellow 120
- 2) VC Lark Yellow 122
- 3) VC Lark Yellow 6240

The above are Chrome Yellow products, their components PbCrO_4 , PbSO_4 ; PbCrO_4 , PbO belong to the lead containing pigment category, and so are liable to produce PbS and darken when they come in contact with sulphur, therefore special attention must be paid to downstream products.

Because lead belongs to the heavy metal category, therefore they are also unsuitable for non-toxic processing.

(B) organic pigments

- 1) VC Lark Yellow 123
- 2) VC Lark Yellow 124

The above are Disazo Yellow Products. They are non-toxic, of greater tinting strength and brilliance, and of higher quality than inorganic pigments.

2. Orange Series

- 1) VC Lark Orange 325

The above is a Molybdate Orange product, its components PbCrO_7 , PbMoO_4 , PbSO_4 . Its physical properties are similar to those of Chrome Yellow, being unsuitable for use with sulphur and non-toxic products.

3. Red Series

Red pigments are all organic, and are separated into general and high grades according to their physical properties. Select according to processing condition.

(A) General Use Pigments

- 1) VC Lark Red 420
- 2) VC Lark Red 427
- 3) VC Lark Red 520
- 4) VC Lark Red 523
- 5) VC Lark Red 4087
- 6) VC Lark Red 4592
- 7) VC Lark Red 4593
- 8) VC Lark Red 4824

The above are general grade products. They are inexpensive but are less weather resistant, and are more suitable for Deep color series and products for indoor use.

(B) Medium and High Grade Pigments

- 1) VC Lark Red 2A277
- 2) VC Lark Red 2A287

The above are medium to high grade products. They show excellent light and heat resistant qualities and are suitable for light color series and products for outdoor use.

4. Brown Series

(A) Inorganic Pigments

- 1) VC Lark Brown 527
- 2) VC Lark Brown 528
- 3) VC Lark Brown 4825

Inorganic Brown pigments display excellent weather and heat resistant qualities. They are composed of Fe_2O_3 .

Because of ferric oxide, special attention must be paid to processing temperature when using in PVC. Temperature over 180 easily produces FeCl_3 and causes degradation in PVC.

(B) Organic Pigments

- 1) VC Lark Brown 520

This pigment is suitable where transparency or high temperature processing is necessary.

5. Violet Series

- 1) VC Lark Violet 622
- 2) VC Lark Violet 2A276
- 3) VC Lark Violet 2A059
- 4) VC Lark Violet 2A278

The above are high grade synthetic pigments. They display excellent weather and heat resistant qualities. When minute amounts are added to white series, a whitening effect may be achieved. Most violet pigments will show pigment migration, therefore violet colored products must be separately stored. To overcome migration, we'd like to recommend VC Lark Violet 2A278, which has been through No Migration treatment.

6. Blue Series

(A) Inorganic Pigments

- 1) VC Lark Blue 625

This pigment is generally called Ultramarine Blue, belonging to the baking pigment series. It displays excellent weather and heat resistant qualities, and is suitable for light blue series, transparent colloidal membrane, and whitening. Its disadvantage is that it has poor covering power and acid resistance.

(B) Organic Pigments

- 1) VC Lark Blue 529 : α type
- 2) VC Lark Blue 720 : α type
- 3) VC Lark Blue 4083 : α type
- 4) VC Lark Blue 724 : β type

The above belong to the Phthalocyanine Blue family.

These pigments may be separated into α type (reddish) and β type (greenish). According to physical properties, β type shows more stability, therefore the factor of heat resistance must be noted during processing.

7. Green Series

- 1) VC Lark Green 820
- 2) VC Lark Green 6249
- 3) VC Lark Green 4827

These pigments belong to the Phthalocyanine Green family, and displays similar characteristics to Phthalocyanine Blue. They display excellent weather and heat resistant qualities and are suitable for bright green series matching.

8. White Series

- 1) VC Lark White 829 : R type
- 2) VC Lark White 2A272 : R type
- 3) VC Lark White 4570 : A type

The above are TiO_2 pigments, and are divided into A and R type. A type appears whiter and its covering power, weather and heat resistant qualities are slightly inferior to those of R type. Choice should be made according to processing products.

9. Black Series

Most black pigments are carbon black, and may be separated into low, medium, and high grade products.

(A) **Low grade : For products not requiring Jet black and for back layer of PVC leather.**

VC Lark Black 6252

(B) **Medium grade : Used for Color Marching**

- 1) VC Lark Black 6448
- 2) VC Lark Black 927

(C) **High grade : For products requiring Jet black.**

- 1) VC Lark Black 2A284
- 2) VC Lark Black 929
- 3) VC Lark Black 2A217

10. Fluorescent Series

Fluorescent pigments are pigmented dyes. Its physical properties are inferior to ordinary pigments. Poor light resistance is one of its disadvantages, Therefore grading depends on its heat resistance.

(A) **Common use Fluorescent Pigments : Used for low temperature processing, such as in film sheets.**

- 1) VC Lark Pink 326

(B) **Heat Resistant Grade Fluorescent Pigments : Used for products of higher temp. Processing such as in sponge, sheets.**

- 1) VC Lark Yellow 2A288
- 2) VC Lark Orange 2A246
- 3) VC Lark Pink 2A244
- 4) VC Lark Pink 2A248
- 5) VC Lark Green 2A290

VC Lark Color (色砂)

I Introduction (引言)

VC Lark 是種內含有少許可塑劑微濕色料，比起顏料色粉更為穩定，易計量，且無飛揚性，它適用於軟質及硬質兩種 PVC 組成之彩色劑，特別是應用電線及地磚的著色。

II Characteristics (特性)

1. 調配色容易
2. 分散性及混合性佳
3. 容易計量
4. 穩定性優
5. 可長期貯存

III Data of Color Sheet

1. PVC compound

resin	-100
plasticizer	-40
stabilizer	-2
epoxy	-2
stearic acid	-0.5

2. Full Shade (濃色)

	有彩色	白	黑
Compound	100	100	100
VC Lark	1	2	0.5

3. Tint Shade (淡色)

	有彩色	白	黑
Compound	100	100	100
VC Lark	1	2	0.5
TiO_2 White	2	-	2
Carbon Black	-	0.01	-

4. Sheeting Data

2' Roll	$155 \pm 5^\circ C \times 3'$ mins.
Press	$160^\circ C \times 1$ min. $\times 100$ kg / $cm^2 \times 1$ min.

VC Lark 基本色中文說明

IV 試驗

1. 耐光試驗

將試片置於 Fade-O-Meter 中照射，以小時計數其結果對照 1~8 之級數，判斷耐光程度優劣。

2. 耐熱試驗

將試片置於烘箱中 $180^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ，30 分鐘，區分 1~5 等級判斷耐熱程度好壞。

3. 色移行試驗

將試片夾於兩片白色色片之間，置於烘箱 80°C ，加壓 $100\text{ g}/\text{cm}^2$ ，24 小時，觀察白色色片色移行現象區分 1~5 等級判斷優劣。

4. 耐酸鹼試驗

將試片浸於 5% HCl 或 10% NaOH，24 小時其優劣亦區分 1~5 等級。

5. Resistance Evaluations

Grade	Fastness	Shade of test specimen
5	very good	unchanged
4	good	a trace changed
3	tairly good	slightlty changed
2	moderate	considerably changed
1	poor	severly changed

6. Blue Scale for light fastness

Blue Scale	Fade-O-Meter Full Exposure
8 outstanding	400 hours
7 excellent	200 hours
6 very good	100 hours
5 good	50 hours
4 fair	25 hours
3 moderate	12 hours
2 poor	6 hours
1 very poor	3 hours

依其 VC Lark 其本色特性，逐一介紹如下：

1. 黃色系列

(A) 無機顏料

- 1) VC Lark Yellow 120
- 2) VC Lark Yellow 122
- 3) VC Lark Yellow 6240

以上當鉻黃製品 (Chrome Yellow) 其成份為 PbCrO_4 PbSO_4 ; PbCrO_4 , PbO 屬含鉛顏料，因此遇硫 (S) 易產生 PbS 變黑，故使用時應注意下加工業的用途，另鉛屬於重金屬，亦不適用於無毒加工製品。

(B) 有機顏料

- 1) VC Lark Yellow 123
- 2) VC Lark Yellow 124

以上為雙偶氮 (Disaxo Yellow) 產品，無毒，著色力高，其艷度較無機顏料佳。

2. 橙色系列

- 1) VC Lark Orange 325

以上為銅紅 (Molybdate Orange) 製品，成份為 PbCrO_4 , PbMoO_4 , PbSO_4 其物性與鉻黃相似，不適用於加硫及無毒製品加工。

3. 紅色系列

紅色顏料均為有機色料，依其物性區分為一般級及中高級品，視所需加工物性選擇之。

(A) 一般級色料

- 1) VC LarK Red 420
- 2) VC Lark Red 427
- 3) VC Lark Red 520
- 4) VC Lark Red 523
- 5) VC Lark Red 4087
- 6) VC Lark Red 4592
- 7) VC Lark Red 4593
- 8) VC Lark Red 4824

以上為一般級品，價格便宜，但其耐候性較差，適於深色系及室內製品使用。

(B) 中高級色料

- 1) VC Lark Red 2A277
- 2) VC Lark Red 2A287

此為中高級品，其耐光、耐熱性佳，適於淺色系調色及室外製品用之，價格較貴，但依加工製品品質觀點，亦是值得。

4. 棕色系列

(A) 無機顏料

- 1) VC Lark Brown 527
- 2) VC Lark Brown 528
- 3) VC Lark Brown 4825

無機棕色顏料，其耐候、耐熱佳之色料，成份為 Fe_2O_3 但因氧化鐵關係，使用於 PVC 中，應注意其加工溫度不宜過高 180°C 以上，易產生氧化鐵 (FeCl_3) 而促進 PVC 製解，需留意使用。

(B) 有機顏料

- 1) VC Lark Brown 620

此色料適用於要求透明性或高溫過程棕色系加工製品。

5. 紫色系列

- 1) VC Lark Violet 622
- 2) VC Lark Violet 2A276
- 3) VC Lark Violet 2A059
- 4) VC Lark Violet 2A278

紫色顏料為高級合成顏料，其耐候，耐熱性佳，於白色系製品，微量添加有增白效果，一般紫色顏料皆有色移行 (Migration) 現象，故紫色加工品應隔離存放，欲克服色移行現象，本公司特別推薦編號為 VC Lark Violet 2A278，此色乃經特別處理 No Migration 之顏料。

6. 藍色系列

(A) 無機顏料

- 1) VC Lark Blue 625

此顏料一般稱之為羣青 (Ultramarine Blue) 屬煨燒顏料，其耐熱、耐候性優，適用於淺色原 blue，透明膠膜，增白調色使用其缺點在於著色力低，耐酸性較差。

(B) 有機顏料

- 1) VC Lark Blue 529: α 型
- 2) VC Lark Blue 720: α 型
- 3) VC Lark Blue 4083: α 型
- 4) VC Lark Blue 724: β 型

以為屬 Phthalocyanine Blue，此顏料分為 α 型，偏紅而 β 型偏綠味，依其物性 β 型較 α 型安定，故使用時應考慮加工過程中耐熱因素選擇用之。

7. 綠色系列

- 1) VC Lark Green 820
- 2) VC Lark Green 6249
- 3) VC Lark Green 4827

此顏料屬於 Phthalocyanine Green，其性質與 Phthalocyanine Blue 相近，其耐熱、耐候性尤優，適於鮮綠色系調色。

8. 白色系列

- 1) VC Lark White 829: R 型
- 2) VC Lark White 2A272: R 型
- 3) VC Lark White 4570: A 型

以上原二氧化鈦 (TiO_2) 顏料，分為 A 型及 R 型兩種，A 型較白，隱蔽力、耐光、耐熱較 R 型為差，故應依其加工製品之物性條件選擇 A 型或 R 型之 TiO_2 。

9. 黑色系列

一般黑色顏料為碳黑 (Carbon Black) 其分類為低、中、高級品作選擇使用：

(A) 低級品：用於不要求黑度純黑加工製品及底料製品。

- 1) VC Lark Black 6252

(B) 中級品：用於調配色

- 1) VC Lark Black 6448 2) VC Lark Black 927

(C) 高級品：用於要求黑度之純黑加工製品

- 1) VC Lark Black 2A284
- 2) VC Lark Black 929
- 3) VC Lark Black 2A217

10. 螢光系列

螢光顏料是染料顏料化之物，其物性較一般顏料差，而且耐光性差是螢光顏料的通病，故在耐熱上區分級別。

(A) 一般級螢光色：用於較低溫成型製品如 film sheets.

- 1) VC Lark Pink 326

(B) 耐熱級螢光色：可用於較高溫之成型製品如 Sponge sheet.

- 1) VC Lark Yellow 2A288
- 2) VC Lark Orange 2A246
- 3) VC Lark Pink 2A244
- 4) VC Lark Pink 2A248
- 5) VC Lark 2A290