VC BATCH COLOR

Master Batch
for PVC

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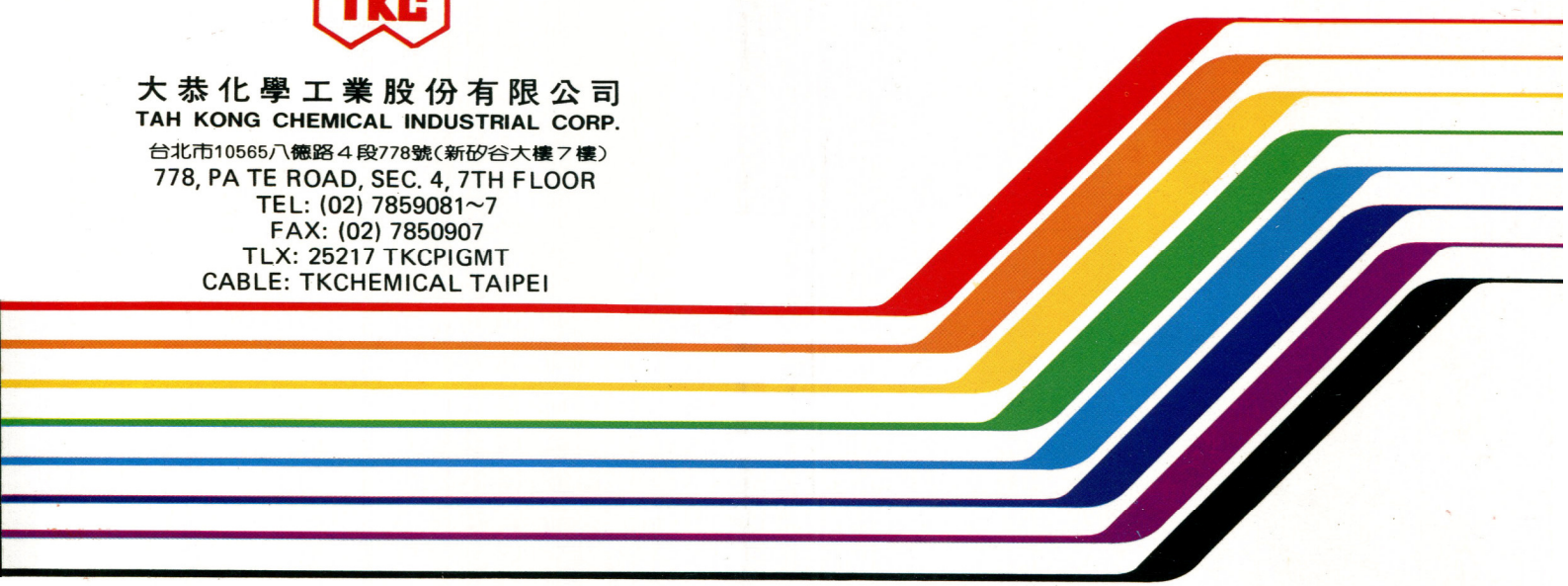
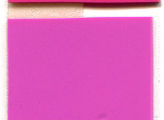
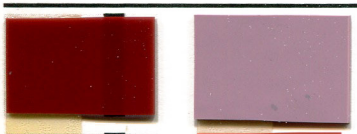
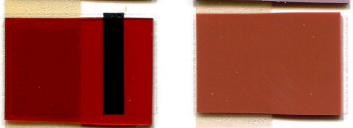
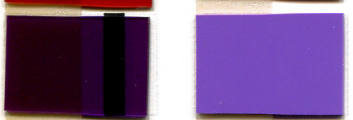
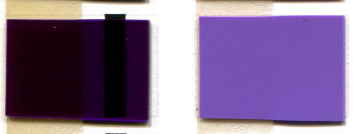
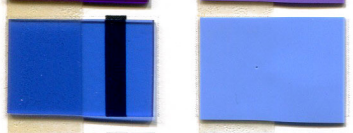
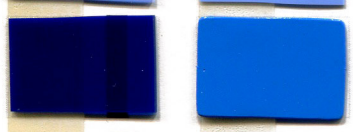
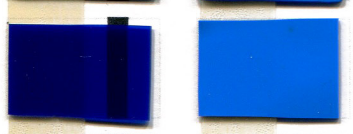
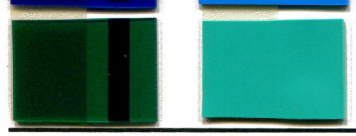
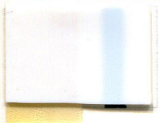
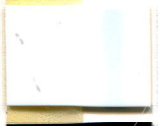
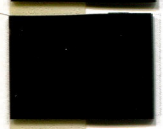
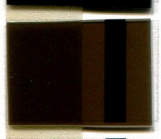
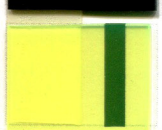
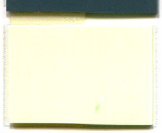


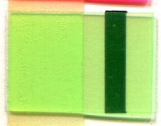
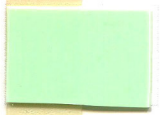
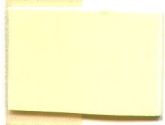
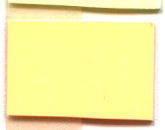
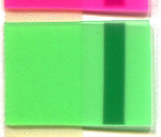
VC BATCH COLOR
大恭

Full	Tint	VC Batch	Color	Light Fastness Full	Light Fastness Tint	Heat Resistance	Migration	Chemical Resistance 3N Hcl	Chemical Resistance 10% NaOH	Chemical Resistance 10% Na_2S $9H_2O$
		Yellow PY–34 青黄	130	5–6	5–6	3–4	5	3–4	2–3	1
		Yellow PY–34 米黄	131	6–7	6–7	4–5	5	4	3	1
		Yellow PY–34 鉻黄	132	6–7	6–7	4–5	5	4	3	1
		Yellow PY–83 特黄	133	7	6–7	5	4–5	5	5	5
		Yellow PY–81 檸檬黄	134	7	6–7	5	4–5	5	5	5
		Orange PO–21 鉬紅	333	6–7	6–7	4–5	5	4	3	1
		Orange PO–21 特鉬紅	334	6–7	6–7	4–5	5	4	3	1
		Orange PO–21 橙紅	335	6–7	4–5	4–5	4	4	3	1
		Red PR–53:1 朱紅	339	3	3	3–4	4	4–5	3–4	5
		Red PR–53:1 朱紅	430	3	3	3–4	4	4–5	3–4	5

Full	Tint	VC Batch	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N Hcl	10% NaOH	10% Na_2S $9H_2O$
		Red PR–48:3 洋紅	433	6	4	3–4	4	5	3–4	5
		Red PR–48:1 清紅	435	5–6	3–4	4	4–5	5	3–4	5
		Red PR–48:2 大紅	436W	5–6	4	3–4	4–5	5	5	5
		Red PR–57:1 牡丹紅	533	4	4	3–4	4	4–5	4	5
		Red PV–19 耐熱紅	432E	8	7–8	5	5	5	5	5
		Red PR–48:2 淺紫紅	437	5–6	4	3–4	4–5	5	3	5
		Red PR–185 鮮紅	439	7	6–7	5	5	5	5	5
		Red PR–122 特紫紅	3A083	7–8	7–8	5	5	5	5	5
		Brodeaux PR–88 葡萄紅	535	7–8	7	5	5	5	5	5
		Brown PBR–6 土朱	537R	8	8	4	5	5	5	5

Full	Tint	VC Batch	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N Hcl	10% NaOH	10% Na_2S $9H_2O$
		Brown PBR–6 鐵棕	538	8	8	4	5	5	5	5
		Brown PBR–25 透明棕	630	8	6–7	5	5	5	5	5
		Violet PV–23 原紫	632A	7–8	7	4–5	2	5	5	5
		Violet PV–23 特紫	3A100	7–8	7	4–5	4–5	5	5	5
		Blue PB–29 羣青	635	7–8	7–8	5	5	2	5	5
		Blue PB–15 紅藍	639	8	7–8	4–5	4–5	5	5	5
		Blue PB-15:1 原藍	730	8	8	4–5	4–5	5	5	5
		Blue PB–15:3 翠藍	734	8	8	5	5	5	5	5
		Blue PB–15:3 翠藍	736	8	8	5	5	5	5	5
		Green PG–7 原綠	832	8	8	5	5	5	5	5

Full	Tint	VC Batch	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N Hcl	10% NaOH	10% Na_2S $9H_2O$
		White PW–6 雪白	838	6	6	5	5	5	5	5
		White PW–6 一般白	839	6	6	5	5	5	5	5
		Black PBK-7 調色黑	935	8	8	5	5	5	5	5
		Black PBK-7 一般黑	937	8	8	5	5	5	5	5
		Black PBK-7 特黑	939	8	8	5	5	5	5	5
		Black PBK-7 鏡面黑	8113	8	8	5	5	5	5	5
		Black PBK-7 中貼黑	3003	8	8	5	5	5	5	5
		Black PBK-7 調色黑	3A025	8	8	5	5	5	5	5
		Black PBK-7 中貼黑	3A218	8	8	5	5	5	5	5
		Yellow 螢光黃	3A399	2–3	2–3	2–3	2–3	4	5	4

Full	Tint	VC Batch	Color	Light Fastness		Heat Resistance	Migration	Chemical Resistance		
				Full	Tint			3N Hcl	10% NaOH	10% Na_2S $9H_2O$
		Pink PR–173 桃紅	336	3	3	3	4	5	4	4
		Green 螢光綠	3A400	3	2–3	3	4	4	4	4
		Yellow 螢光黃	3A404	3	3	5	5	5	5	5
		Orane 螢光橙	8181	3	3	5	5	5	5	5
		Pink 桃紅	3A035	3	3	5	5	5	5	5
		Pink 螢光桃紅	3A438	3	3	5	5	5	5	5
		Green 螢光綠	3A437	3	3	5	5	5	5	5
		Yellow 3A863 PY-138		7	6-7	5	4-5	5	5	5
		Yellow 3A864 PY-139		7	6-7	5	4-5	5	5	5
		Black 3A793 PBK-7		8	8	5	5	5	5	5

VC Batch Color

Ⅰ Introduction :

This is a platelike coloring agent processed from pigments, resin and plasticizer. It shows excellent qualities such as stability, easy dispersion, metering, and it does not soil the users hands, therefore it is an ideal coloring agent for flexible PVC.

Ⅱ Characteristics

1. Long shelf life.
2. Easy color matching.
3. Stability.
4. Excellent dispersion.
5. easy metering, minimum dusting.
6. Does not soil hands.

Ⅲ Data of Color Sheet

1. PVC compound

PVC	: 100
Plasticizer	: 40
Stabilizer	: 2
Epoxy	: 2
Stearic acid	: 0.5

2. Full Shade

	with color	white	black
PVC Compound	100	100	100
VC Batch	1	2	0.5

3. Tint Shade

	with color	white	black
PVC Compound	100	100	100
VC Batch	1	2	0.5
Tio_2 White	4	–	4
Carbon Black	–	0.01	–

4. Sheeting Data

2 Roll 155±5℃×3 mins.
Press 160℃×1 min、×100kg／㎠ ×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 /㎠ and kept at a constant temperature of 80℃ . 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℃±2℃. 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 hange of shade is assessed on a 1–to–5 scale.

Introduction of VC Batch

PVC is an inexpensive, easily processed plastic, which through different combinations and additions, can produce a wide variety of products.

VC Bathc is a coloring agent suitable for flexible and semirigid PVC leather tape. The qualities of our VC Batch Basic colors are described below :

1. Yellow Series

(A) Inorganic Pigments

1) VC Batch Yellow 130 : Lemon yellow hue
2) VC Batch Yellow 131 : Medium yellow hue
3) VC Batch Yellow 132 : Reddish hue

The above are all Chrome Yellow products, their components $PbCrO_4$, $PbSO_4$; $PbCrO_4$, PbO are lead containing pigment, which produce PbS and darken when they come in contact with sulphur-,therefore special attention must be paid to downstream processing. Because lead belongs to the heavy metal group, it is unsuitable for non–toxic products.

(B) Organic Pigments

1) VC Batch Yellow 133 : reddish hue
2) VC Batch Yellow 134 : Lemon yellow hue

The above are Disazo Yellow products. They are non–toxic, of high covering strength, and of superior bright to that of inorganic pigments.

2. Orange Series

1) VC Batch Orange 333 : Original orange hue
2) VC Batch Orange 334 : Reddish hue
3) VC Batch Orange 335 : Yellowish hue

The above are Molybdate Orange product, their components $PbCrO_4$, $PbMoO_4$,$PbSO_4$. Their physical properties are similar to those of Chrome Yellow, and are not suitable for use with sulphur and non–toxic products.

3. Red Series

All red pigments are organic coloring agents, and can be diveided into General grade and Medium High grade products according to their physical properties.

(A) General grade

1) VC Batch Red 339 : Orangish hue
2) VC Batch Red 430 : Orangish hue
3) VC Batch Red 433 : Hue between Orangish and bluish
4) VC Batch Red 435 : Yellowish hue
5) VC Batch Red 436W : Bluish hue, water resistance
6) VC Batch Red 437 : as above
7) VC Batch Red 533 : Most Bluish

The above are general grade coloring agents. They are relatively inexpensive, but have poor weather resistance, therefore they are suitable for deep color series and products for indoor use.

(B) Medium and High grade

1) VC Batch Red 423E : Purplish hue
2) VC Batch Red 439 : Bluish hue, similar to Batch Red 437
3) VC Batch Bordeaux 535 : dark purplish hue
4) VC Batch Red 3A083 : Violet hue

The above are Medium to high grade coloring agents. They show excellent light and heat resistance qualities, and are suitable for light color series and products for use. Although slightly more expensive, the high quality results are well worth it.

4. Brown Series

(A) Inorganic Pigments

1) VC Batch Brown 537R
2) VC Batch Brown 538 : Purplish hue

Inorganic Brown pigmentsare products of excellent weather and heat resistance properties. Their components are 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 PVC.

(B) Organic Pigments

1) VC Batch Brown 630 : Reddish hue

This pigment is suitable when transparency is needed or during high temperature processing.

5. Violet Series

1) VC Batch Violet 632A : Common use violet pigment
2) VC Batch Violet 3A100

Violet pigments are high grade synthetic products of good heat and light resistant qualities. When a minute amount is added to white series, a whitening effect may be acheived. Most violet pigments wil show pigment migration, such as 632A, therefore violet colored products must be separately stored. To overcome migration, our company recommends VC Batch Violet 3A100, which has been through No Migration treatment.

6. Blue Series

(A) Inorganic Pigments

1) VC Batch Blue 635 : Purplish hue

This pigment is usually called Ultramarine Blue, belonging to the baking pigment series. It displays excellent heat and weather resistance qualities,therefore and is suitable for light blue series, transparentfilm, whitening. Its disadvantage is that it has poor covering strength and acid resistance.

(B) Organic Pigments

1) VC Batch Blue 639 : Reddish hue, α type
2) VC Batch Blue 730 : reddish hue, α type
3) VC Batch Blue 734 : Greenish hue, β type
4) VC Batch Blue 736 : Greenish hue, β type

These foru colors belong to the Phthalocyanine Blue family, and may be divided into α type (reddish)and β type (greenish). β type is more stability, therefore the factor of heat resistance must be noted during processing.

7. Green Series

1) VC Batch Green 832 : Yellowish hue

This pigment is a Phthalocyanine Green product, with qualities similar to Phthalocyanine Blue. It has excellent heat and weather resistance properties and is suitable for the matching of bright green colors.

8. White Series

1) VC Batch White 838 : A type
2) VC Batch White 839 : R type

The above are TiO_2 pigment, and are divided into A type and R type. A type is whiter but also of less covering strength, light and heat resistance than R type, therfore choose pigment type according to processing needs.

9. Black Series

1) VC Batch Black 935 : Medium grade
2) VC Batch Black 937 : Medium High grade
3) VC Batch Black 939 : High grade
4) VC Batch Black 8113 : High grade
5) VC Batch Black 3A003 : Low grade
6) VC Batch Black 3A025 : Low grade
7) VC Batch Black 3A218 : Low grade

General Black pigments are Carbon Black and are separated into low to high grades.

Low grade Carbon Black : Used for back layer products that do not necessarily have to be bright black.

Medium grade Carbon Black : Used for color matching

High grade Carbon Black : Used for product which require Jet black.

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 the difference in heat resistance.

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

1) VC Batch Yellow 3A399
2) VC Batch Green 3A400
3) VC Batch Pink 336

(B) **Heat Resistance Grade Fluorescent Pigments : Used for products of higher processing temp such as sponge sheet.**

1) VC Batch Yellow 3A404
2) VC Batch Orange 8181
3) VC Batch Pink 3A437
4) VC Batch Pink 3A035

VC Batch

Ⅰ序文（Introduction）

這是中顏料、樹脂、可塑膠等加工組合成的板狀色料　它具有穩定可迅速分散、不沾手、易計量等優點因此它是軟質 PVC 最適當之著色劑。

Ⅱ特性（Characteristics）

1. 可長久貯存
2. 調配色容易
3. 性質穩定
4. 分散性佳
5. 計量容易，不飛揚
6. 不沾手

Ⅲ展試片

1. 組成（PVC compound）

PVC樹脂（Resin）	100
可塑劑（Plasticizer）	40
安定劑（Stabilizer）	2
環氧大豆油（Epoxy）	2
硬脂酸（Stearic acid）	0.5

2. 濃色（Full Shade）

	有彩色	白色	黑色
PVC 組成	100	100	100
VC Batch	1	2	0.5

3. 淡色（Tint Shade）

	有彩色	白色	黑色
PVC 組成	100	100	100
VC Batch	1	2	0.5
Tio_2White	4	–	4
Carbon Black	–	0.01	–

4. Sheeting Data

2′ Roll　155±5℃×3′ mins.

Press　160℃×1 min、×100kg／㎠ ×1 min.

Ⅳ試驗方法

1 **耐光試驗**

將試片盈放於 Fade–O–Meter 中照射，以小時計數其結果對照 Blue Scale 1–to–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℃ ±2℃，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℃，加壓 100 g／㎠，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

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

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

VC Batch（色餅）中文說明書

PVC（聚氯乙烯）是種價格合理、加工容易，在於不同添加劑配合後　可生產不同特性產品，適用多種用途之塑膠。

VC Batch 則是適用軟質、半軟質 PVC 膠膜、膠布之著色劑茲就本公司 VC Batch 基本色之特性　逐一介紹如下

1 黃色系列

(A) 無機顏料

1) VC Batch Yellow 130　色相爲檸檬黃
2) VC Batch Yellow 131　色相爲中黃
3) VC Batch Yellow 132　色相偏紅味

以上三種均爲鉻黃製品（Chrome Yellow），其成份爲 $PbCro_4$,$PbSO_4$、$PbCrO_4$、PbO，屬含鉛顏料　因此遇硫（S）易產生 pbS 而變黑　故使用時應注意下游加工業的用途，另鉛乃屬重金屬，亦不適用於無毒加工製品。

(B) 有機顏料

1) VC Batch Yellow 133　色相偏紅味
2) VC Batch Yellow 134　色相爲檸檬黃

此兩種色料爲雙偶氮（Disazo 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 Batch Orange 333　色相爲原橙
2) VC Batch Orange 334　色相偏赤味
3) VC Batch Orange 335　色相偏黃味

此爲鉬紅（Molybdate Orange）製品，成份爲 $PbCrO_4$、$PbMoO_4$、$PbSO_4$ 其物性與鉻黃近似，不適用加硫及無毒製品加工。

3. 紅色系列：

紅色顏料均屬有機色料，依其物性區分爲一般級及中高級品，視所需加工物性選擇用之。

(A) 一般級色料

1) VC Batch Red 339　色相偏橙味
2) VC Batch Red 430　色相偏橙味
3) VC Batch Red 433　色相介於黃藍味
4) VC Batch Red 435　色相偏黃味
5) VC Batch Red 436W　色相偏藍、耐水性佳
6) VC Batch Red 437　色相偏藍、耐水性佳
7) VC Batch Red 533　：色相最爲藍味

以上爲一般級色料，價格便宜，但其耐侯性較差，適於高著色量及室內製品使用。

(B) 中高級色料

1) C Batch Red 432E　色相帶紫味
2) VC Batch Red 439　色相偏藍近似VC Batch Red 437
3) VC Batch Bordeaux 535　色相暗紫
4) VC Batch Red 3A083　色相偏清紫

此爲中高級色料，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 Batch Brown 537R
2) VC Batch Brown 538　色相偏紫味

無機棕色顏料，其耐候性、耐熱佳之色料　成份爲 Fe_2O_3，也因是氧化鐵之原故，使用於 PVC 中，特別要注意一點，其加工溫度不宜過高（180℃以上）易產生氯化鐵（$FeCl_3$）而促進 PVC 裂解需慎之！

(B) 有機顏料

1) VC Batch Brown 630　色相偏紅味

此色料適用於要求透明性或高溫過程之棕色系加工製品。

5. 紫色系列

1) VC Batch Violet 632A　屬一般紫色顏料
2) VC Batch Violet 3A100

紫色顏料爲高級合成顏料，其耐熱、耐光性佳，在於白色系製品，微量添加有增白效果，一般紫色顏料皆有色移行（Migration）現象，如 632A，故紫色加工品應隔離存放，欲克服紫色色移行現象　本公司特別推薦編號 VC Batch Violet3A100 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 Batch Blue 635　色相偏紫味

此顏料一般稱之爲羣青（Ultramarine Blue）屬煅燒顏料，其耐熱、耐候性優，適用於淺色系 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 Batch Blue 639　色相偏紅味，α 型
2) VC Batch Blue 730　色相偏紅味，α 型
3) VC Batch Blue 734　色相偏綠味，β 型
4) VC Batch Blue 736　色相偏綠味，β 型

此四色皆屬 Phthalocyanine Blue，此顏料分爲 α 型偏紅味及 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 Batch Green 832　色相偏黃味

此顏料是於 Phthalocyanice Green，其性質與 Phthalocyanine Blue 相近，其耐熱，耐候性均優　適於鮮綠色系調色。

8. 白色系列

1) VC Batch White 838　A型
2) VC Batch White 839　R型

以上屬二氧化鈦（Tio_2　顏料、二氧化鈦分 A 型（AType）及 R 型（R Type）兩種，A 型較白但隱蔽力、耐光、耐熱較 R 型爲差，故應依共加工製品之物性條件，選擇 A 型 或 R 型用之 TiO_2。

9. 黑色系列

1) VC Batch Black 935　　中級品
2) VC Batch Black 937　　中高級品
3) VC Batch Black 939　　高級品
4) VC Batch Black 8113　高級品
5) VC Batch Black 3003　低級品
6) VC Batch Black 3A025　低級品
7) VC Batch Black 3A218　低級品

一般黑色顏料爲碳黑（CarbonBlack）共分類爲低、中、高級品作選擇使用。

低級碳黑　用於一般黑度之純黑加工製品及底料用
中級碳黑　用於調色及一般黑度之純黑加工製品
高級碳黑　用於高黑度之純黑加工製品

10. 螢光系列

螢光顏料是染料顏料化之物，物性較一般性顏料差，且耐光性差是螢光色的通病，故而在耐熱上區分級別。

(A) 一般級螢光色　用於較低溫成形之製品如 film sheets.
1) VC Batch Yellow 3A399
2) VC Batch Green 3A400
3) VC Batch Pink 336

(B) 耐熱級螢光色　可用於較高溫之成形製品，如 sponge leather
1) VC Batch Yellow 3A404
2) VC Batch Orange 8181
3) VC Batch Green 3A437
4) VC Batch Pink 3A035