# **Reactive Dyestuffs**

At present, cotton, rayon, and cellulosic fabric are mostly dyed by reactive dyes. Reactive dyes could provide a bright shade with high washing fastness and rubbing fastness but, on the other hand, the dyeing costs of reactive dyes is higher incurring from the cost of labor, dyestuff, chemical auxiliary, and water treatment. Hifix dyes have been developed to reduce those costs by having a wide selection of the dyestuffs in order to match with dyeing process, dyeing machine, and customer requirement which, therefore, will reduce errors during production, increase productivity, save time and energy, and reduce expense at the same time.

# **Disperse Dyestuffs**

Hicron dyestuffs of Phisit Intergroup are disperse dyestuffs for polyester fiber with variety of shades and excellent properties. There are rich variety of Hicron dyes covering a wide-range of color shades so as to meet different requirements for various dyeing processes. It is therefore recommended to select appropriate dyes for each end use and application process.

# **Acid Dyes**

Unimide and Uniset dyes are Acid dyes that are highly water soluble, and have good light fastness. Acid dyes are effective on protein fibers such as wool and silk. They are also used for polyamide and spandex dyeing.

## **Direct Dyes**

Although reactive, direct, sulphur, vat or naphthol dyestuffs can all be used for cotton dyeing, recently cotton has been being dyed with reactive dyes for the most parts due to their bright shades and high wet fastness property. However as the labor, dyestuff, and chemical cost are increasing, direct dyes can be a good choice for cotton dyers. Direct dyes can be used economically and simply for the dyeing of cellulosic fibre with practical level of colour fastness. The application of direct dyes to cotton dyeing will bring economical benefits as it can reduce dyeing-cost in terms of time and money.

## Vat Dyes

Vat dyestuffs are water-insoluble and they are soluble only in its reduced form or leuco salt form. Solathrene Dyes are Vat dyes for cellulose fabric that give the-best-in-class washing fastness and light fastness properties. Solathrene has a super fine molecule so it can easily diluted and changed to Leuco Vat form. Uniform, level dyeing of cellulosic fabrics and blends by continuous dyeing process Super fine, micro-molecular particle size to ensure stable dye dispersion, ease of reduction, and speck free performance. Ready to use, easy to handle, non-dusting, non-foaming and non malodorous dyestuff. Highly recommended to achieve and meet stringent quality/fastness demands: especially to light, repeated washings, laundering, post bleaching etc.

## **Basic Dyes**

Basic dyes are cationic dyes that are mainly used for dyeing acryric fiber and cationic dyeable polyester fiber (CDP). Cationic dyes are water-soluble dyestuffs with bright colours. Cationic dyes can be classified into two groups: Triacryl X and Triacryl AD based on their dyeing properties on polyacrylonitrile fiber.

# **Other Dyes**

## Pretreatment

Pretreatment process is the first and most important step for textile dyeing and finishing. As it can affect the outcome of the final products in terms of shade, colour yield, hand-feel etc., the chemicals in pretreatment process play an important role. Phisit Intergroup has a wide variety of textile chemicals for pretreatment process and they can be categorised into the following groups.

### **DESIZING AGENT**

EPICASE

LT - 70	Low temp.(30-40º)	С	
MT - 260	Medium temp.(60-70º);avg.Activity	С	
MT conc.	Medium temp.(60-70º);high.Activity	С	
U - 100	High temp.(85-100º)	С	
HT conc.	Rapid Desizing at high temp	С	
	(102-105º) for continous process		

### SCOURING AGENT

EPICON

KSW	Improve whiteness for continuous	C,T/C	
	and exhaust process		
KSL	Low foam, can promote whiteness	C,T/C	
	suitable for exhaust process		
AG	High alkali tolarence and very good	C,T/C	
	rewetability		
JET	Low foam, suitable for j	C,T/C	
DC	Economic for continuous and exhaust	C,T/C	
DC NND	Economic for continuous and exhaust Economic one bath sourcing and dyeing		
		-	
	Economic one bath sourcing and dyeing	-	

### WETTING AGENT

### EPICWET

RMC	Mercerizing agent in 25-30ºBe' NaOH	С	
MC-LF	Improve dyeing penetration in padding	С	
NF	Rapid wetting duitsble in desizing,	С	
	dyeing and finishing		

## **STABILIZING AGENT OF H202**

### EPICSTAP

OST	Silicate-free for exhaust process	С
PL	Silicate-free for continous process	С

#### **PEROXIDE REMOVER**

#### EPICZYME

APE	Used after bleaching in exhaust process	C	
	saving water, time and energy		

#### **CELLULASE ENZYME**

### EPICZYME

C00	Neutral stone wash for denim	С	
305	Acid stone wash for denim	С	
404	Bio finishng/antipilling for		
	exhaust process		

### NEUTRALIZING AGENT

## EPICID

Nilq. Conc	Core neutralizer, mainly used after	C,T/C	
	bleaching and mercerizing		

## ANTI-BACK STAINING AGENT

EPICSTAIN

PW(New)	Prevent re-deposit of Indigo dyes	С	

## **OIL REMOVER**

EPICPON

NDT	Solvent scour for remove oil and stain	All	
NDL	Low foam solvent scour for remove oil	All	
	and stain		

## **CHELATING AGENT**

EPICQUEST

CLR	Prevent speckiness on fabric especially for	С	
	turquoise shade		
SN, SNC	Prevent white stains especially for	С	
	deep shade reactive dyes		
PPH	Catching iron oxide on fabrics	С	
FE-1000	Prevent pin hole when bleaching with	С	
	H2O2 for continuous and exhaust		
RED	Catching metals in water, preventing	P,N	
	blue stains and shade change		
DS	2 in 1; can be used in disperse and reactive dyeing	P,C,T/C	

# Dyeing

Dyeing is the second step of textile dyeing and finishing. Not only dyestuffs will be used in this step, but also many textile chemicals will be used in the process as well. Dyeing chemicals are mandatory in order to ensure that the quality of textiles meet customers' requirement such as colour levelness, washing fastness etc.

## **DISPERRING AGENT**

### EPICPERSE

K liquide	Improve dispersibility of disperse dyes	Р	

### LEVELLING AGENT

EPICGAL

DL	Improve levelnes and correct	C	
	unlevelness of direct dyes		
ST-50	Suirable for disperse dyes and can	Р	
	reduce machine staining issue		
2001	Economic levelling for disperse dyes	Р	
RD -50 new	For one-bath dyeing, resistant to salt	T/C	
ES conc	Used for acid dyes, good for yarn dyed	Ν	
FTS conc	Used for acid dyes, good for all machines	Ν	
SET	Used for metal complex dyes	Ν	

### **DYE CARRIER**

EPICAR

HTN Odorless, pass, Oeko Tex Standard 100	Р	
-------------------------------------------	---	--

## ANTI-CREASING AGENT

### EPICLUBE

JET	Low foam, stable in alkali, acid, salt,	C/P	
	hard water and high temp.		

C2G	Softening agent and anticrease agent	С	
	for bleaching and dyeing in exhaustion		
PC,HP,NP	Multi-functional agent in dyeing	P,N	
	finishing for synthetics and its blends		
	(anticrease / hydrophillic /soil release)		

## **OILGOMER DISPERSION**

EPICCOLOR

OZ	Used for oligomer remover especially	Р	
	with package dyeing machines		

## **REDUCTION CLEARING**

EPICRIT	PHISIT - THAILAND		
RGH	Biodegradable reducing agent	Р	
RC	Biodegradable reducing agent; used	Р	
	the same dosage as hydross (Na <sub>2</sub> O <sub>2</sub> S <sub>4</sub> )		
RCL	Eco-friendly reducing agent	Р	
PERIGEN			
THD			

### MACHINE CLEANER

## EPICLEAN

I			
MRO	Stain remover and machine cleaner	All	

## SOAPING AGENT

### EPICSOAP

RSN	Economic and used for reactive dyes	C	
		-	

XC-W	Used for reactive dyeing and printing;	С	
	prevent staining on the background		
B special	Quickly remove excess dyes;	P,N	
	best result on continuous dyeing		
TCW-01	2in1;wash on reactive and disperse dye	T/C	
	in one bath;R/C is not needed		
ELO,	Correct T/C fabric by removing stained	T/C	
ELO conc	colour in polyester		
DG, CP	Used for printed fabric with acid dyes;	Ν	
	prevent staining on the background		

## FIXING AGENT

EPICFIX

AA	Improve wet fastness of direct dyes	C	
WHB	Improve wet fastness of reactive dyes	C	
FFR conc	Improve wet fastness of reactive dyes	C	
	to meet high fastness requirement		
DRN	Eco-friendly for direct & reactive fyes	C	
CCK	Improve wet & chlorine fastness of	C	
	reactive dyes		
RBW	Improve rubbing fastness for eactive	C	
EPA	Improve wet fastness of acid dyes	Ν	
NBO	Improve wet fastness of acid dyes	Ν	
	to meet high fastness equirement		

## ALKALI BUFFER AND ACID DONOR

EPICSIN

AS	Alkali buffer of reactive dyeing	С	
ABS	2in1; acid buffer & dispersing agent	C	
	for disperse dyes		
GBK	Improve level dyeing with difficult color	N	
	and substrates		

### ACID BUFFER

## EPICID

SEA	2in 1 acid buffer & chelating agent	Р	
	for disperse dyes		
PH 4.0	acid for disperse dyes	Р	

### **ANTI-REDUCTION AGENT**

### EPICRIT

AR Liquid	Prevents reduction of disperse dyes;	P,T/C	
	improve yield and reproducibity		

### **DEAERATING AGENT**

### EPIC-DEAIR

NS	Wetting and penetrating agent for	All	
	jet and package machine		
WR	wetting and deaerating agent with	All	
	defoaming property		

## Finishing

Finishing process is the final step of textile dyeing and finishing. This step is necessary to assure that textile are soft handle which, in this case, can be provide by softener chemicals. Besides soft handle, other finishing chemicals can produce special textile effects such as wrinkle free, flame retardant, water repellent, anti-microbial etc.

### **RESING FINISING**

### EPICPRET

ECO	Glyoxal resin; meet OekeTex Standard 10	C,T/C	
	class 2 and AATCC 112		
COC-S	Economically low formaldehyde resin	C,T/C	
M-3	Melamine formaldehyde resin		

## CATALYST

## EPICAT

FC	Catalyst for Epicpret ECO and COC-S	C,T/C	
ECX	Catalyst for Epicpret M-3	C,T/C	

## SOFTENER

## EPICSOFT

IJD	Economic cationic softener	C,T/C	
VNH	Low yellowing softener	C,T/C	
ANK	Non yellowing and can achive a full	C,T/C	
	white & bright colour		
QE Conc	Hydrophillic softener;provide a full	С	
	soft handle		
HCS Flake	Cold water dilutable cationic softener	C,T/C	
PEG	Polyethylene based to improve tear	С	
	strength when add with resin		
MD	High absorbency and wicking property	P,N	

## LUBRICANT

## EPICLUBE

AW	Effectively reduce yarn friction; greatly	С	
	improve knitability and sewability		

## **PVAc**

## EPICTAN

EM	Suitable for stiffening and selvage sizes	С	
	of all kinds of fabric;impart stiffness and		

	thick handle		
MS Extra	Same as Epictan EM but less harshness	C,P	

## ANTISLIP AGENT

EPICPRET

ASS	Silicide acid dispersion; slightly sandy	P,N	
	handle		

## ANTISTATIC AGENT

### EPICSTATE

CNL	Durable for exhaustion and padding	Р	
L		( <u></u>	

#### FLAME RETARDANT

### EPICFLAME

FR-C	Nitrogen/Ammonium compound;	Р	
	can be used with melamine resin		

#### SILICONE SOFTENER

EPICFIN

SEK	Soft and smooth handle; suitable for	С	
	exhaust and padding process		
AP	Hydrophillic silicone softener with	Р	
	non-slip effect		
SNA	Non-yellowing hydrophillic amino	С	
	sillicone softener		
SSW	For terry towel; can be used in exhaust	С	
SND	Excellent hydrophillicity and wicking	С	

SWT	Non-yellowing amino sillicone with	All	
	water absorbancy		
ELN	Sillicone elastomer;smooth and soft	C,T/C	
DHK	Very high softness & smooth especially	P,T/C	
	on polyester		
DSF	Hydrophobic; excellent slipery	C,T/C	

### WATER REPELLENT

EPICPHOBIC

FE	C8 Fluorinated water & oil repellent	P,T/C	
EP	Fluorocarbon free (CO) water repellent	P,T/C	

## Others

These are textile chemicals that have special purposes which do not perfectly fit into our previous three steps. For examples, OBA (Optical Brightening Agent) is for white textiles, Binder is for pigment printing.

### **ANTI-FOAMING AGENT**

#### EPIC-DEFOAM

NF	Non silicone defoamer; good stability	C,P	
	in alkali and acid condition		

#### **ANTI-YELLOWING**

EPICTEX

APY	Prevent fabrics from phenolic	C,N	
	yellowing when stored		
APY-LF	Low Foaming type of Epictex APY	C,N	

### **OPTICAL BRIGHTENING AGENT**

## EPICPHOR

BA 267%	High affinity, neutral to bluish shade	C,N	

## PIGMENT DYEING/PRINTING ASSISTANT

EPICBIND

ZF	Zero formaldehyde binder	All	
PD	Binder for pigment exhaust dyeing	All	
710	Binder for pigment printing	All	
TL	Binder for pigment continuous dyeing	All	
PRC	Dispersant for pigment continuous dyeing	All	
Bronze No. 8	Binder of metal and effect pigment	All	

## **DE-FIXING AGENT**

EPIC-DEFIX

|--|

## **PIGMENT WATER BASED**

1. EUROMIN HF- HIGH FASTNESS AND HIGH CONC. 2. EUROMIN - GOOD FASTNESS AND HIGH CONC. 3. ZETAMIN - GOOD FASTNESS

### **EUROMIN HF**

EUROMIN HF series: NANO PIGMENT EMULSIONS FOR CONCENTRATED AND HIGH FASTNESS

EUROMIN HF

EUROMIN	HF COLORS	Propert	ies Cl	Lig	ght	Washing	Rubbing	Rongalite	Dry cleaning	Heat	Azo free
YELLOW P2G	BLUE KG CONC	Item		50 g/	1 10 g/l	Ma	Rub	Ron	Dry cl	Ŧ	Azo
		Yellow P2G	Y.17	7	6	5	5	5	5	5	1
		Yellow PRE	Y.83	7	6	5	5	5	5	5	1
		Orange PRG	0.34	7	6	5	5	5	5	4~5	1
YELLOW PRE	BLUE PB	Red PGC		5	4	5	4	2-3	3-4	4	1
		Red PB	-	5	4	5	4	3	3~4	4	1
		Red PE3B	V.19	8	7	5	5	5	5	5	1
		Pink P3BL	R.122	8	7	5	5	5	5	5	1
		Blue KG Conc	B.15:3	8	7	5	4-5	5	5	5	1
		Blue PB	B.15:0	8	7	5	4~5	5	5	5	1
ORANGE PRG	NAVY BLUE PBC	Navy Blue PBC	-	8	7	5	4-5	5	5	5	1
		Violet PB	V.23	8	7	5	4~5	5	5	4~5	1
		Green KG Conc	G.7	8	7	5	4	5	5	5	1
	2	Black NJ	BA.7	8	8	5	4.5	5	5	5	1
	·····	and the second second				2011		1.4.4			
RED PGC	VIOLET PB										
										1.19	
RED PB	GREEN KG CONC									-	
, · · · · · · · · · · · · · · · · · · ·		'Technical a									n
2 2 2		data fro	om testing	of pi	rinteo	d fal	bric :	samj	ples.		
ζ <b>ζ</b> ζ			FURON			~	DRC				
			EURON		HF C	old	JK2				
RED PE3B	BLACK NJ	Fastness testing							E	valua	
		Light:	JIS - L - 084			n arc	lam	p)		1-8	\$
s s s		Washing:	JIS - L - 084	4 (A.	4)					1-5	\$
		Rubbing:	JIS - L - 084	19						1-5	;
· · · · · · · · · · · · · · · · · · ·		Rongalite:	Discharge	d tes	t with	10%	Ron	galite	е	1-5	5
PINK P3BL		Dry cleaning:	JIS - L - 860	) (P.C	E.]					1-5	5
PINK FJDL		Heat:	180°C X 30	Sec						1-5	5
		Remark :									
		1. Adequate fastr									
		<ol> <li>Sometimes for cracking, etc.</li> </ol>							block	ang,	
		3. Avoid freezing							e 25°	C.	
		4. Careful testing highly recomm	and enough	inves	tigatio	n be	iore e	ach a	pplica	ation a	are
		The printin Therefore, sufficien	g outcome may b t and precaution								made.
E I											

## EUROMIN

EUROMIN : GENERAL PURPOSE PIGMENT (NANO EMULSION)

EUROMIN

				Properties	СІ	Lig	ght	Washing	Rubbing	Rongalite	cleaning	Heat	free
YELLOW EM-15		RED TRC	BLUEFRC	Item		50g/I	10g/I	Wa	Rub	Ron	Dry cl	Ĥ	Azo
				Yellow GN Conc	¥14	6	5	5	4	5	3	4.5	~
			8	Yellow GS Conc	Y12	6	5	5	4	5	3	4-5	1
ORANGE EM-14	YELLOW KGS	RED KGRCOOOD	DARK BLUF FCO	Yellow KGS		6	5	5	4	5	3	4-5	1
				Yellow FRH		6	5	5	4	5	3	4.5	1
				Golden Yellow RR		6	5	5	4	5	2	4-5	V
RED EM-13		4		Golden Yellow 3R		6	5	5	4	5	2	4-5	1
RED EM-13	YELLOW FRH	RED KBC	BLUE KRC	Orange G	013	6	5	5	4	5	2	4.5	1
				Orange GLI	-	6	5	5	4	5	2	4.5	1
		: * *	*	Orange R	016	0	5	5	4	5	4	4.0	1
CERISE EM-07	GOLDEN YELLOW RR	ROSE FB	NAVY BLUE RL	the second se		0	5	5	4	3	3	4-3	1
				Red KBH	R112	6	5		4-5		3	4-3	
		: * *		Red KGG	R22	5	4	5	3-4	2	3	3	X
		· · · · · · · · · · · · · · · · · · ·		Red K3RN		6			4-5			4-5	Y I
PINK EM-17	GOLDEN YELLOW 3R	ROSE FR	GREEN FB	Red RB		6	5	5	4-5	2	3	4-5	1
				Red TRC	R4	6-7	5	5	4-5	3	3-4	4-5	~
2		i i k		Red KGRC	-	6	5	5	3	2	1-2	3	X
ROSE EM-27	ORANGE G	PINK FBL	GREEN FBN	Red KBC	-	6	5	5	3	2-3	2	4	X
				Rose FB	R2	7	6	5	4-5	3	3-4	4-5	1
				Rose FR	R23	7	5	5	4-5	3	3-4	4-5	1
			·····	Pink FBL	R238	7	6	5	4	3	3-4	4-5	1
RUBINE EM-37	ORANGE GLT	BORDEAUX RR	GREEN FGG	Bordeaux RR	R12	5	4	5	3	3	1-2	2	1
				Violet BL	V23	8	7	5	4-5	5	4-5	4-5	1
				Turquoise Blue GGS	-	8	7	5	4-5	5	3	4	1
MAGENTA EM-47	ORANGE R	VIOLET BL	BROWN RR	Sky Blue PF7	-	8	7	5	4-5	5	3	4-5	1
				Blue FGG	B15.3	8	7	5	4-5	5	3	5	1
8				Blue HS	B15	8	8	5	4	5	5	5	1
				Blue FBC	-	8	7	5	4	5	4-5	5	1
VIOLET EM-67	RED KBH	TURQUOISE BLUE GGS	BROWN GRF	Dark Blue ECO	-	8	7	5	4	5	4-5	5	~
8				Blue KRC	-	8	7	5	4	5	5	5	1
				Navy Blue RL	-	8	7	5	4	4	4-5	5	1
BLUE FM-18	RED KGG	SKY BLUE PF7	BLACK KNC	Green FB	G7	8	7	5	4-5	4	5	5	1
dept for to				Green FBN	G7	8	7	5	4-5	4	5	5	1
*				Green FGG	-	6	5	5	4	4	4	4-5	1
				Brown RR		6	5	5	4	3	4	4	1
	RED K3RN	BLUE FGG		Brown GRF	-	6	5	5	4	3-4	4	4-5	1
				Black KNC	-	8	8	5	4-5	5	5	5	1
								Ŭ					

# **PIGMENT FLUORESCENT**

## **EUROMIN EXF**

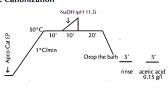
EUROMIN EXF : VIBRANT FLUORESCENT PIGMENT WITH EXCELLENT FASTNESS. USE : 1) PRINTING. 2) DYEING. 3) WASHING

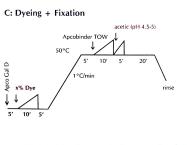
EUROMIN EXF

BRILLIA	NT GREEN EXF 1	1		
M. C. C.				
	REEN EXF 12			
	ALLS LAT 12			
	- Parala			
LEMON	YELLOW EXF 08	1		
	1			
VEL	LOW EXF 15A			
	3			
		<u> </u>		
	ANGE EXF 14			
- OR	0			
	*			
	RED EXF 13			
		2		
P	INK EXF 17			
R	OSE EXF 27			
	-			
RU	BINE EXF 37			
VI	OLET EXF 67	-	BLUE EXF 18	
				2
	*	8	8	
VI	OLET EXF 69	BRIL	LIANT BLUE EXF 7	7
			*	
			*	3
	a la casa		and Paran	

Colour fastness to	Light Water						Was	shing		Rub	bing	Dry Heat	Azo free	
	A	A	B	B	В	A	B	B	B	B	B	A		
Item	Grade 5		co	PES	NY		со	PES	NY	Dry	Wet		1	
Brilliant Green EXF 11	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3	4-5	1	
Green EXF 12	4	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3	4-5	1	
Lemon Yellow EXF 08A	3-4	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3-4	4-5	1	
Yellow EXF 15A	3-4	4-5	4	4.5	4-5	4-5	4-5	4-5	4-5	4-5	3-4	4-5	1	
Orange EXF 14	2-3	45	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3	4-5	1	
Red EXF 13	2-3	4-5	4-5	4-5	4-5	4	4-5	4.5	4-5	4-5	2-3	4-5	1	
Pink EXF 17	2-3	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	2	4-5	1	
Rose EXF 27	2-3	4-5	4-5	4-5	4-5	4	4-5	45	4-5	4-5	2-3	4-5	1	
Rubine EXF 37	2-3	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	2	4-5	1	
Violet EXF 67	3	4	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	2	4-5	1	
Violet EXF 69	3	4-5	4	4-5	4	4	4-5	4-5	4-5	4-5	2	4-5	1	
Blue EXF 18	>5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3-4	4-5	1	
Brilliant Blue EXF 77	1	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	2	4-5	1	
Remark A : colour chang Co : Cotton, Pe Print on TC 10%	e, B : colour s : Polyester,	stain Ny : N	Nylon			4-5	4-5	45	+-5			43	1	

# A: Adjust Ionic to nonionic $Add \\ Alkophen NF \\ 35^{\circ}C \underbrace{4}_{10'} Drop the bath$ B: Cationization





"Technical data shown on this document is based on data from testing of printed fabric samples."

# **PIGMENT POWDER FORM**

### PIGMENT IN POWDER FORM

## EURONIC

## EURONIC

- 1. <u>Yellow PGS</u>
- 2. Orange PGN
- 3. <u>Red PNG</u>
- 4. Red PGR
- 5. <u>Red P4R</u>
- 6. <u>Pink P3B</u>
- 7. <u>Blue PSN</u>
- 8. <u>Blue PGG</u>
- 9. <u>Violet PRL</u>
- 10. Green PNG

## PAPER COATING

### • EUROMIN FOR PAPER COATTING

## **PRINTING PASTE ENHANCER**

A. RUBBER-PASTE B. WHITE-PASTE C. AUXILIARIES

#### **RUBBER PASTE**

RUBBER PASTE

#### 1. Rubber-paste white SP-01

The paste is elastic printing agents for one-point printing. They are acrylic copolymer types. The prints are soft and elastic enough to match the elasticity of knitted fabric.

#### 2. Rubber-paste clear SP-03

The paste is elastic printing agents for one-point printing. They are using for top coating in textiles. They are suitable for tint with pigment-paste colours, and high softy and excellent elastic enough to match the elasticity of knitted fabric.

### WHITE PASTE

WHITE PASTE

#### 1. White-paste SP-100:

The paste is a type of acrylic printing binder to be applied in matt-colour print on cotton or T/C woven cloth. Its characteristic is that this gives vivid colour with matt-effect which cannot be obtained with regular matt white binder with relatively small amount of pigment.

#### 2. White-paste M-101:

The paste has been developed as a white printing binder especially for flat and rotary screen printing. WHITE-PASTE M-101 is prepared by dispersing titanium dioxide synthetic resin and some auxiliaries uniformly into water.

#### 3. White-paste M-102:

The paste has been developed as a white printing binder especially for flat and rotary screen printing. WHITE-PASTE M-102 is prepared by dispersing titanium dioxide synthetic resin and some auxiliaries uniformly into water. WHITE-PASTE M-102 is not containing the optical-brightening agent.

#### 4. White-paste M-3022W:

The paste has been developed as a white printing binder especially for flat and rotary screen printing. WHITE-PASTE M-3022W is prepared by dispersing titanium dioxide in acrylic binders and some auxiliaries uniformly into water.

### 5. White-paste M-1051:

The paste is a type of white printing-paste, low viscosity, adjust optical brightener agent to increase the power of whiteness, to be applied in on normal cotton or T/C woven cloth.

#### 6. White-paste L-1040:

The paste is a type of white printing-paste, low viscosity, not contain optical brightener agent, to be applied in on normal cotton or T/C woven cloth.

### AUXILIARIES

AUXILIARIES

#### 1. Vicose W-10N:

The product is a semi-transparent sticky water-solution, as high power of emulsifier / thickener that recommend for textile printing and dyeing. Main component is a polyethylene alkylate derivate, Ionic nature showing as nonionic type, increasing the viscosity and power strength of pigment colours.

### 2. Print-WP:

The solution, colourless transparent liquid, is an anti-clogging agent for the pigment printing without dropping fastness on finished fabric at all and it improves leveling effect of colored paste, penetration and leveling effect of dye stuff.

### 3. Thickener D-860:

The thickener is a pigment printing, hi-synthetic thickener type, composed of a kind of Poly-acrylic ester resin, with very good water cohesive properties, resistant of electrolyte, strong thickening ability, suited for the pigment printing of all kind of fabric.