CHROMATOL

COLORSOL ® SP

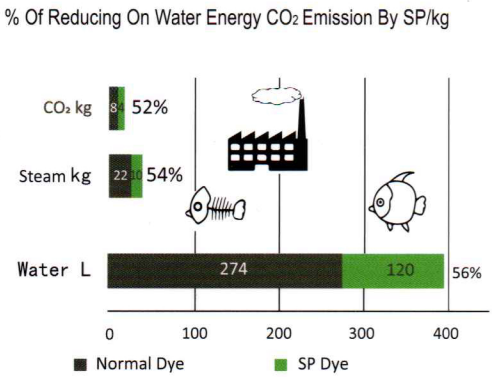
NOVEL GENERATION OF REACTIVE DYES

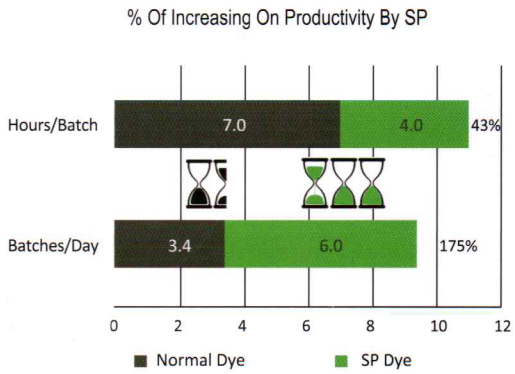
Universal and Ultra-Efficient
A New Dyeing Way with Lowest Water,
Energy& Salt requirements

CHROMA（Shanghai）Chem-Tech Co.Ltd

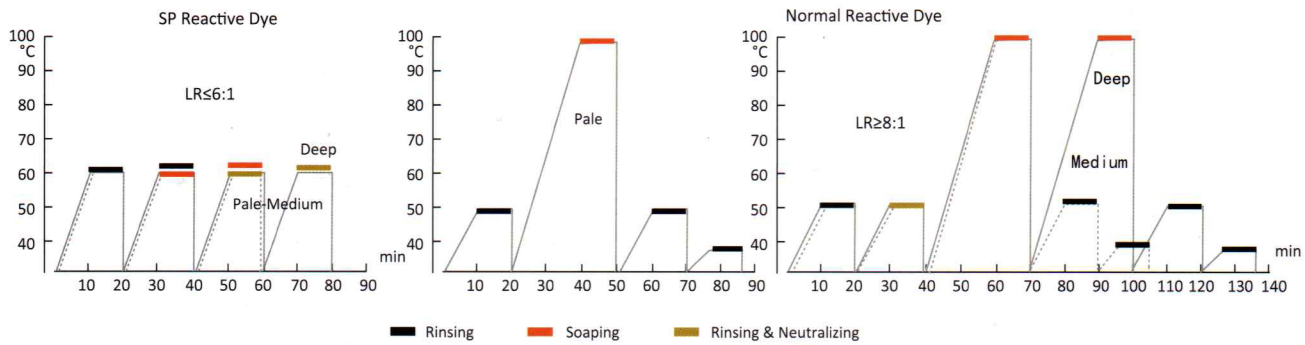
			SP																				
COLORSOL®			Bril.Yellow SP	Yellow SP	Golden Yellow SP	Orange SP	Cardinal SP	Red SPL	Red SP	Red SPS	Red SPB	Red SP-FR	Red SP-W	Brilliant Red SP-GL	Brown SP	Blue SPL	Blue SP	Deep Blue SP	Sky Blue SP	Deep Sea SP	Navy SP	Black SP
Dyeing on Bleached 100% cotton (tinctorial pattern 2.0% , Navy 4.0% Black 6.0%)																							
1/1 SD g/kg dyestuff (PDPS process, bleached, merc. CO)			10.1	13.7	16.0	7.3	11.0	24.0	20.6	36.0	25.6	24.1	16.8	17.4	13.5	18.2	16.5	11.2	10.1	6.5	16.0	50.0
1/1 SD % dyestuff (LR 10:1, exhaust, process, bleached CO)			1.96	1.80	1.80	1.00	1.38	3.00	2.82	4.54	2.75	3.52	2.52	2.00	2.22	2.88	2.24	1.40	1.78	1.08	2.00	6.00
Suitability for process		Exhaust	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		CPB	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		PDPS	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Pad-dry-thermofix	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Light Fastness	ISO 105-B02 (Xenon)	1/1 SD	5-6	6	7	4	5	5-6	4-5	5	4-5	4-5	4-5	4	4	6-7	5	4-5	5	-	-	-
		2/1 SD	6	6-7	7-8	4-5	5-6	6	5	5-6	5	5	5	5	4-5	7	5-6	5	5-6	5	5NL	5BK
Light Fastness	AATCC 16E (Xenon, in 1/1 SD)	20AFU	4-5	4-5	5	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	5	5	4-5	5	4-5	4-5	5
		40AFU	4	4-5	5	4-5	4-5	4-5	4	4-5	4	4	4	3-4	4	4-5	4-5	3-4	4-5	3-4	4-5	4-5
Washing Fastness	ISO 105-C06 C1S 60°C 1/1 SD	CH	4	4-5	5	5	4	4-5	4-5	5	4-5	4-5	4-5	4-5	4-5	5	5	4-5	4-5	4-5	5	4-5
		CO	5	5	5	5	4-5	4-5	4-5	5	4-5	4-5	4-5	4-5	5	5	5	4-5	4-5	4-5	5	5
Multiple Washing Fastness ISO 105-C06 C1S, 5X 60°C 1/1 SD		CH	4	5	5	5	4	5	4-5	5	4-5	4-5	4-5	4	5	4-5	4-5	4-5	4-5	4-5	5	5
		CO	5	5	5	5	5	5	5	5	4-5	4-5	4-5	4	4-5	5	5	5	4-5	5	4-5	5
Peroxide Washing Fastness ISO 105-C06 E2S 95°C 1/1 SD		CH	4	4-5	4-5	4	4-5	4-5	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	5
		CO	5	5	5	5	4-5	4-5	5	5	4-5	4-5	4-5	4	4-5	5	4-5	4-5	4-5	4-5	4-5	4-5
Water Fastness ISO 105-E01 1/1 SD		CH	4-5	5	5	4-5	4-5	5	4	5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	5	5
		CO	5	5	5	4-5	4-5	5	5	5	4-5	4-5	4-5	4-5	4-5	4-5	5	5	5	5	5	5
Perspiration Fastness ISO 105-E04 Acid/Alkaline 1/1 SD		CH	4-5/4-5	4-5/4-5	5/5	4/3-4	4/4	5/5	4/4	5/5	4-5/4-5	4-5/4-5	4-5/4-5	4/4	5/4-5	4-5/4-5	4-5/4-5	4/4	4-5/4-5	4/4	4-5/4-5	5/4-5
		CO	5/5	5/5	4-5/4-5	5/4-5	4-5/4-5	5/5	5/5	5/5	4-5/4-5	4-5/4-5	4-5/4-5	3-4/3	4-5/4-5	4-5/4-5	5/5	5/5	5/5	5/5	5/5	5/5
Fastness to Chlorinated Water	ISO 105-E03 , 20mg/l 1/1 SD	CH	4-5	4	5	3-4	3	3	4-5	2-3	4	4-5	3-4	3-4	3	3	3-4	4	4	4	4-5	4
Simulation of multiple wash with bleach activator at 60°C	ISO 105-C09	CH	4-5	5	5	4	4	4-5	4-5	5	4-5	4-5	4-5	4	4-5	5	4-5	4-5	4-5	4-5	5	5
Oxidative Bleach Damage M&S C10A 1/1 SD		CH	4-5	5	5	4	4	4-5	4-5	5	4-5	4-5	4-5	4	4-5	5	4-5	4-5	4-5	4-5	5	5
Nitrogen Oxides Fastness ISO 105-G01 1/1 SD		1cycle CH	5	5	4-5	4-5	4-5	4-5	5	5	5	5	5	5	4-5	4-5	5	5	5	5	5	5
		3cycle CH	5	5	4-5	4-5	4-5	4-5	4-5	5	4-5	4-5	4-5	4-5	4	4	4	5	4-5	5	4-5	4-5
Dischargeability	(white discharge 1, potash)		+ + +	-	-	+ + +	+ + +	+ + +	-	+ + +	-	-	-	-	+ +	-	-	+ +	-	+ +	+ + +	-	

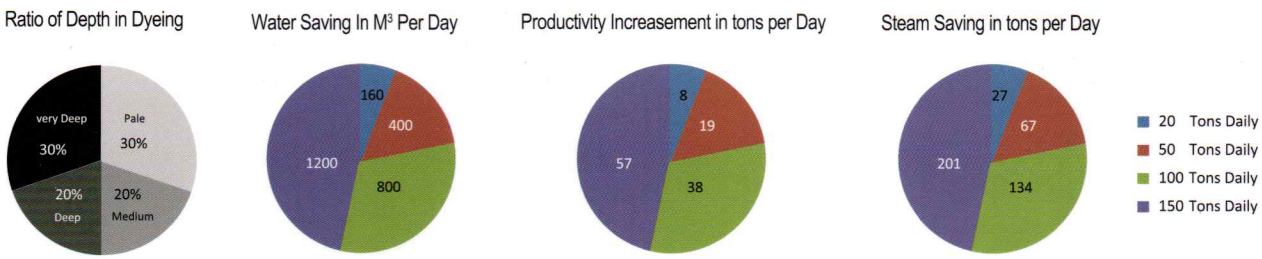
New Type of Reactive SP,Superior Performance on Lower Salt,Energy Saving & Waste water Reducing



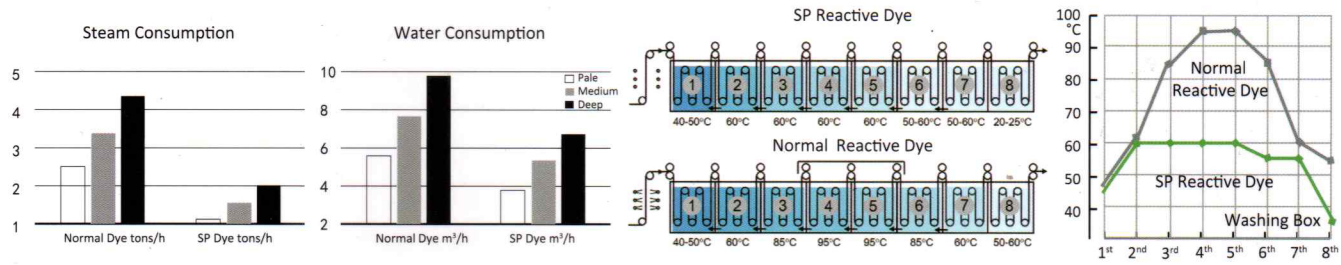


Washing off of Exhaustion Dyeing





Washing off of Continuous Dyeing



Demonstration in PDPS

Tiger Brown

1.5	g/l	COLORSOL Orange SP
13.5	g/l	COLORSOL Yellow SP
0.8	g/l	COLORSOL Brown SP

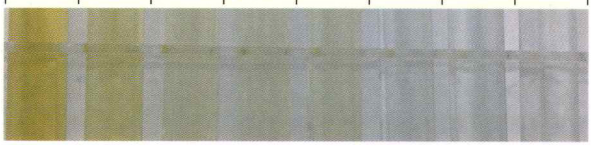
Starlit Night

4.0	g/l	COLORSOL Orange SP
8.0	g/l	COLORSOL Brown SP
28.0	g/l	COLORSOL Deep sea SP

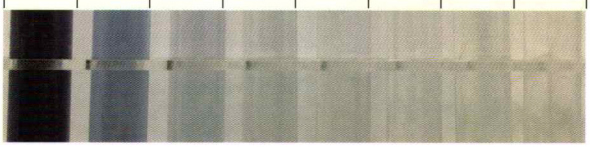
Residue bath of 8 open width washing-off

1-2g/l Detergent CHRO WASH LTD

40 Rinsing	60 Rinsing	60 Rinsing	60 Soaping	60 Rinsing	60 Rinsing	50 Rinsing	40 Rinsing	°C



40 Rinsing	60 Rinsing	60 Rinsing	60 Soaping	60 Rinsing	60 Rinsing	50 Rinsing	40 Rinsing



Artificial Light ISO105-B02

Chlorinated Water ISO105-E03 , 20ppm

Oxidative Bleach Damage M&S C10A

Nitrogen oxides ISO 105-G01,3 cycles

Rubbing ISO 105-X12 , Dry / Wet

Washing ISO105C06-C1S , 60°C*30min

Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

Perspiration ISO105-E04 , Acidic

Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

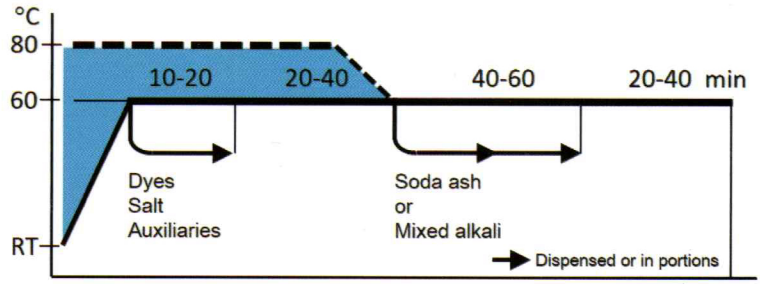
Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

Water ISO105-E01

Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

Ch	CA	CO	PA	PE	PAN	WO
5	4-5	4-5	4-5	4-5	4-5	4-5

Exhaustion Process



Soda ash Method

LR≤6:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	10	20	25	30	35	40	50
Soda ash	g/L	14	16	18	20	20	20	20

LR7:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	35	40	45	50	60
Soda ash	g/L	10	12	14	16	18	20	20

LR≥8:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	30	35	40	50	55	60	70
Soda ash	g/L	8	10	12	14	16	18	18

Mixed Alkali Method

LR≤6:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	10	20	30	35	40	50	60
Soda ash	g/L	10	10	5	5	5	5	5
*Caustic soda	ml/l	0.5	1.0	2.0	2.5	3.0	3.5	4.0

LR7:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	40	45	50	60	70
Soda ash	g/L	10	5	5	5	5	5	5
*Caustic soda	ml/l	--	0.75	1.25	1.5	2.0	2.25	3.0

LR≥8:1	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	30	40	50	55	60	70	80
Soda ash	g/L	8	5	5	5	5	5	5
*Caustic soda	ml/l	--	0.5	1.0	1.25	1.5	2.0	2.5

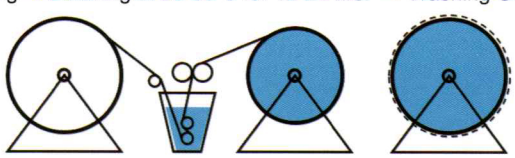
Washing off

Rinsing 60°C10min → ※Rinsing 60°C10min → Soaping 60°C10min, 1-2g/l CHRO WASH LTD → Rinsing&Neutralizing 60°C10min, pH6.5-7

※ Deep Shades

Cold-Pad-Batch Process

Padding → Batching at 20-30°C for 12-24 hrs. → Washing Off

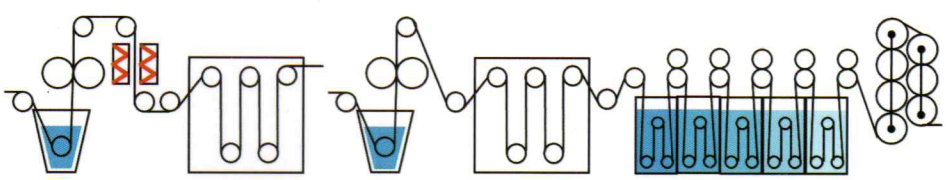


Dye liquor		
X	g/L	COLORSOL SP
2-4	g/L	Wetting agent

Alkali dosage							
Dyestuff	g/L	<10	20	30	40	50	>60
Soda ash	g/L	20					
* Caustic soda	ml/l	4	5	7	9	11	13

Pad-Dry-Pad-Steam Process

Padding Dye Liquor → IR PreDrying → Hot air 100-130°C → Padding Chemicals → Saturated steam 60~90 sec. → Washing Off



Dye liquor, PU60-80%		
X	g/L	COLORSOL SP
2-4	g/L	Wetting agent
5-10	g/L	Anti-migration agent
5-10	g/L	Resist salt

Chemicals, PU70-80%		
Common salt	g/L	200 - 250
Soda ash	g/L	20
* Caustic soda	ml/l	15

*Caustic soda NaOH 36° Be' / 66° TW

CHROMATOL

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