

COLOR
SOLUTIONS



CHROMATOL

ACTION FOR THE EARTH

Environmentally
Ecological
Smart way

COLORSOL ULTRA DS

Achieve the Deepest Shade

Economy and high efficiency
Environmental protection and low carbon emissions
Excellent solubility & stability
High build-up

Properties and advantages

Suitable for very heavy shade

- Very high strength reactive dye
- High build-up and fixing rate
- Excellent reproducibility and compatibility
- Together with supplementary in DS series can cover a wider spectrum
- Qualified overall colorfastness performance in the modern market
- The most economical dye for dark color shade
- High value-added

Ultra Yellow DS
3.0%



Ultra Amber DS
3.0%



Ultra Orange DS
3.0%



Ultra Scarlet DS
3.0%



Ultra Red DS-G
3.0%



Ultra Red DS
3.0%



Ultra Wine DS
3.0%



Ultra Blue DS
3.0%



Ultra Navy DS
3.0%



Ultra Night DS
3.0%



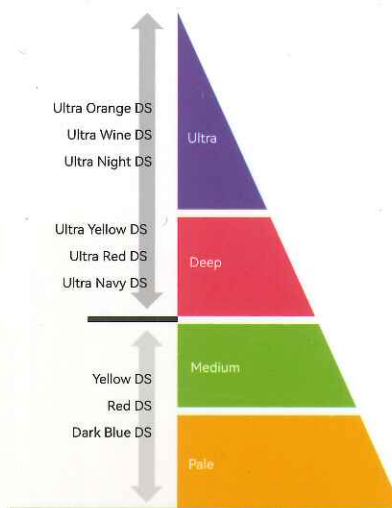
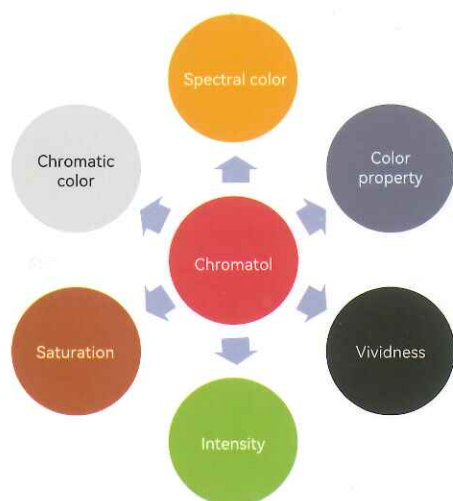
Colorsol	Item 1/1 SD	Solubility(R.T)	Light fastness ISO 105-B02		Washing fastness ISO 105-C06 C1S 60°C*30min		Peroxide laundering ISO 105-C06 E2S 95°C*30min		Water fastness ISO 105-E01		Chlorinated water ISO 105-E03 20ppm	Perspiration fastness ISO 105-E04				Rubbing fastness ISO 105-X12	Oxidative bleach damage M&S C10A
			g/L	1/3 SD	1/1 SD	CH	CO	CH	CO	CH	CO	Acid		Alkaline		Wet	CH
Ultra Yellow DS		>100	4-5	5	4-5	4	4	4	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4
Ultra Amber DS		>100	5-6	5-6	4-5	4	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5
Ultra Orange DS		>100	4-5	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
Ultra Scarlet DS		>100	3-4	4	4-5	4-5	4	4	4-5	4-5	3-4	4-5	4	4-5	4	4	4
Ultra Red DS-G		>100	6	>6	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Ultra Red DS		>100	5-6	6	4-5	4-5	4-5	4	4-5	4	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Ultra Wine DS		>100	6	>6	4-5	4	4-5	3-4	4-5	4	4	4-5	4-5	4-5	4-5	4	4
Ultra Blue DS		>100	4	5	4-5	4	4-5	4	4-5	4-5	3	4-5	4-5	4-5	4-5	4-5	4
Ultra Navy DS		>100	3-4	4	4-5	4	4-5	4	4-5	4-5	3-4	4-5	4-5	4-5	4-5	4-5	4
Ultra Night DS		>100	3-4	4	4-5	4	4-5	4	4-5	4-5	2-3	4-5	4-5	4-5	4-5	4-5	3

*Substrate: Un-mercerized cotton

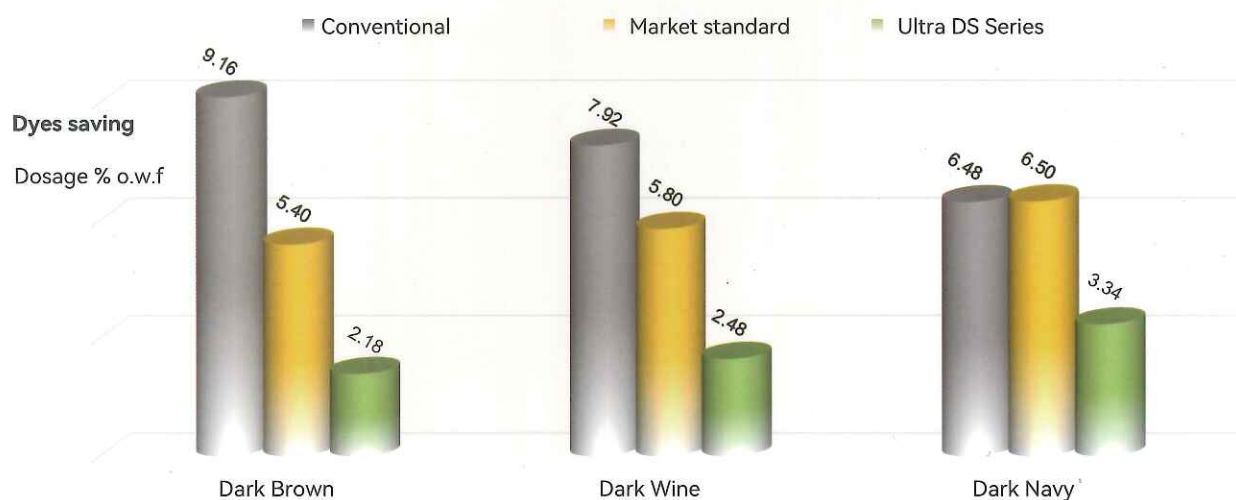
*The test data in this pattern card is obtained from our company lab. We will not overtake any risk caused by this. Every factory has difference in index data because of different process, dyeing material, water, chemicals etc, as such factors. Our data is just for your reference. Your lab experiment is highly suggested before you initiate mass-production.

Colorsol Ultra DS

Challenge extremely deep chromatographic
Embracing long term sustainability



Combination		Dark Brown	Dark Wine	Dark Navy
Conventional	Reactive Yellow	5.40%	1.72%	1.40%
	Reactive Red	2.86%	5.24%	1.88%
	Reactive Navy	0.90%	0.96%	3.20%
Market standard BAT. (Best Available Technology)	Reactive Yellow DS	3.16%	1.34%	1.30%
	Reactive Red DS	1.58%	3.46%	1.50%
	Reactive Navy DS	0.66%	1.00%	3.70%
Ultra DS	Colorsol Ultra Orange DS	1.34%	0.22%	0.48%
	Colorsol Ultra Wine DS	0.30%	1.60%	0.44%
	Colorsol Ultra Navy DS	0.54%	0.66%	2.42%



Fastness of Colorsol Ultra DS combination

Light fastness
ISO 105-B02(R5GS4)



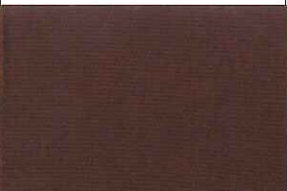
4-5



5



5

Recipe	Color	Dark Brown	Dark Wine	Dark Navy
	Colorsol Ultra Orange DS	1.34%	0.22%	0.48%
	Colorsol Ultra Wine DS	0.30%	1.60%	0.44%
	Colorsol Ultra Navy DS	0.54%	0.66%	2.42%
	Total	2.18%	2.48%	3.34%
Dyeing Sample				
Oxidative bleach damage ISO 105-C09				
Rate		4-5	4-5	4
Oxidative bleach damage M&S C10A				
Rate		4-5	4-5	4

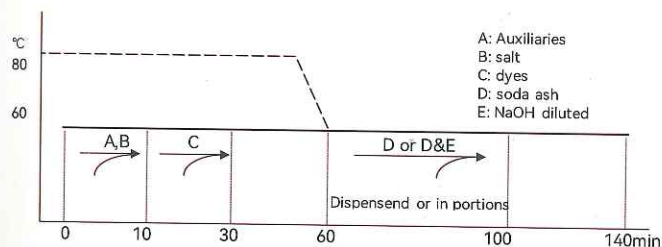
Perspiration fastness
ISO 105-E04, Acid

	CH	CA	CO	PA	PE	PAN	WO
Dark Brown	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Dark Wine	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Dark Navy	4-5	4-5	4-5	4-5	4-5	4-5	4-5

Perspiration fastness
ISO 105-E04, Alkaline

	CH	CA	CO	PA	PE	PAN	WO
Dark Brown	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Dark Wine	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Dark Navy	4-5	4-5	4-5	4-5	4-5	4-5	4-5

Exhaustion Process



Liquor ratio 6:1 and below

Soda ash	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	40	50	60	70	80
Soda ash	g/L	14	16	18	20	20	20	20

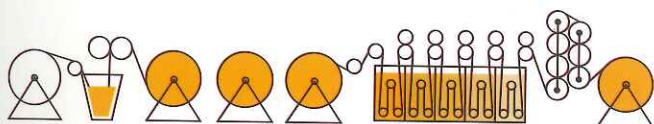
Mixed alkali	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	40	50	60	70	80
Soda ash	g/L	10	10	5	5	5	5	5
NaOH36°Bé	ml/L	0.5	1.0	2.0	2.5	3.0	3.5	4.0

Washing off

Rinse 50°C *10min → Neutralize 50°C *10min with 0.2-0.5ml/L CHRO Acid PC, pH 5.5-6.0 → ¹⁾Soaping 95°C *10min with 1-2g/L CHRO Wash MPB
→ Rinse 50°C*10min → Rinse cold 10min → Soften as usual or aftertreatment

¹⁾An additional soaping is recommended for very deep shades.

Cold-Pad-Batch Process

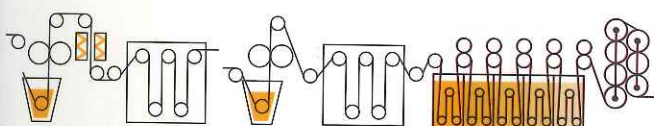


Padding → Batching 20~30°C, 12-24hrs → Washing off

Dye liquor

Dyes	g/L	X
CHRO Penetrating agent NF	g/L	1-2

Pad-Dry-Pad-Steam Process



Padding Dye Liquor → IR Pre-drying → Hot air 100-130°C

→ Padding Chemicals → Saturated steam 60-90sec. → washing off

Liquor ratio below 8:1

Soda ash	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	40	50	60	70	80
Soda ash	g/L	10	12	14	16	18	20	20

Mixed alkali	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	20	30	40	50	60	70	80
Soda ash	g/L	10	5	5	5	5	5	5
NaOH36°Bé	ml/L	/	0.75	1.25	1.5	2.0	2.25	3.0

Liquor ratio 8:1 and above

Soda ash	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	30	40	50	60	80	90	100
Soda ash	g/L	8	10	12	14	16	18	18

Mixed alkali	%	<0.5	0.5	1	2	3	4	>5
Salt	g/L	30	40	50	60	80	90	100
Soda ash	g/L	8	5	5	5	5	5	5
NaOH36°Bé	ml/L	/	0.5	1.0	1.25	1.5	2.0	2.5

Alkali table Silicate Method

Dyes	g/L	<10	20	30	40	50	>60
Na-silicate 38°Bé	ml/L	50					
NaOH 36°Bé	ml/L	12	14	16	18	20	22

Silicate-Free Method

Dyes	g/L	<10	20	30	40	50	>60
Soda ash	g/L	20					
NaOH 36°Bé	ml/L	4	5	7	9	11	13

Dye liquor, pick up 60~80%

Dyes	g/L	X
CHRO Penetration NF	g/L	1-2
CHRO Anti-migration MI	g/L	5-10
CHRO Anti-reduction F Liq.	g/L	1-3

Chemicals, pick up 70~80%

Common salt	g/L	200-250
Soda ash	g/L	20
NaOH 36°Bé	ml/L	15

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