

COLOR
SOLUTIONS.

Textile
Uniform
Solution.



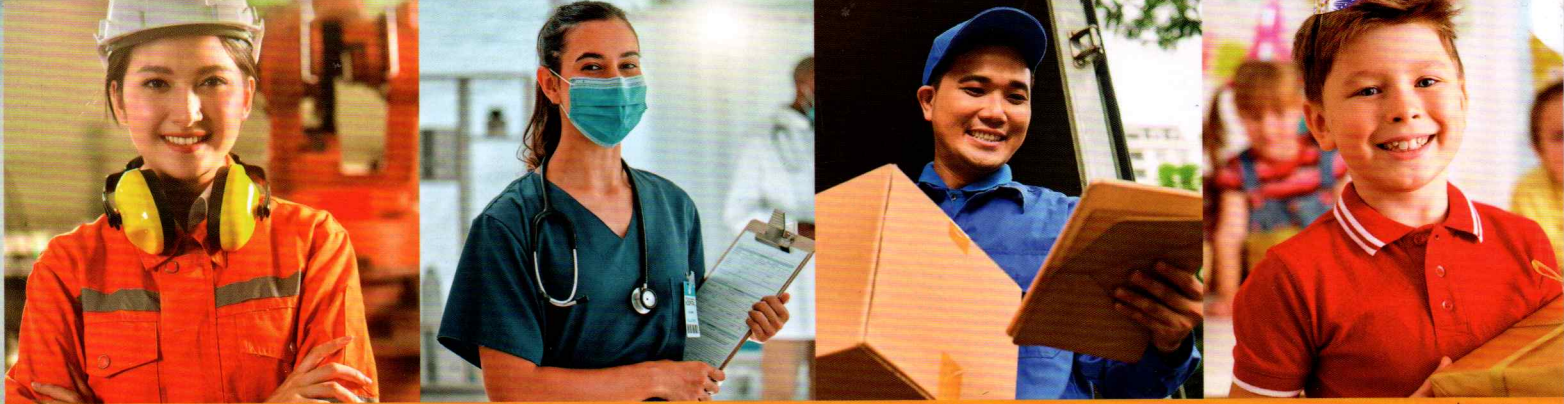
CHROMATOL

ACTION FOR THE EARTH

COLORSOL[®] UF

High Quality Uniform Solution

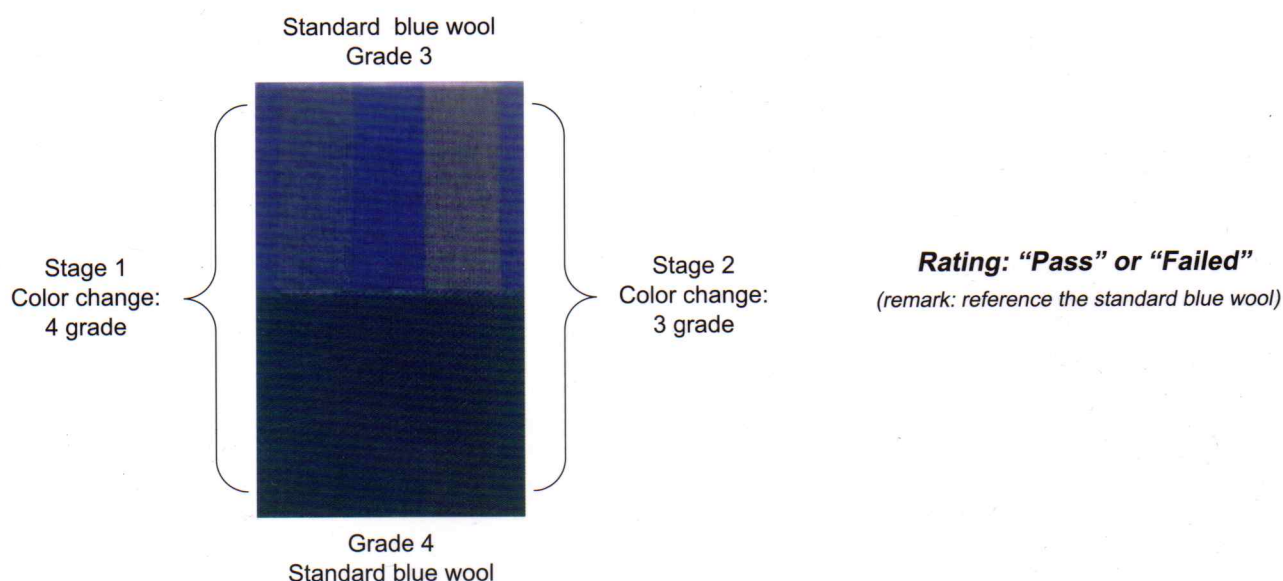
Excellent color fastness, shrinkage, pilling,
chromatism and fabric defect
Build higher requests



Colorsol® UF solve the difficult points of uniforms dyeing

Light fastness (Fading tone in tone)

General requirements for uniforms fabrics, such as school uniforms, postmen's workwears, firefighters' workwears, delivery men's workwears and etc. Uniforms are equal to the top quality required of current clothing standards, especially on the color fastness, shrinkage, pilling, chromatism, fabric defect and other consumers focus on quality indexes, build higher requests, even some indexes reach the previous level.



GB/T 8427-2019 Textiles—Tests for color fastness-- Color fastness to artificial light: Xenon arc

Method 3: Multiple test specimens are allowed to be exposed together with standard blue wool (GB/T 730). Usually the target standard blue wool is the standard blue wool and the lower one & two grade standard blue wool. Exposure the target standard blue wools under the set test condition until the color change achieves to 4 grade (stage 1) & 3 grade (stage 2).

If the color change of the test sample is not more than the color change of the target standard sample of blue wool, the light fastness is determined as "Pass";

If the color change of the test sample is more than the color change of the target standard sample of blue wool, the light fastness is determined as "Failed".

Colorsol® <	
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*Substrate:32s Pima cotton

1
Brilliant yellow
0.86% Bril. Yellow UF
0.15% Yellow UF



2
Coral blush
0.052% Yellow UF
0.120% Red UF
0.012% Blue UF



3
Pink
0.0086% Yellow UF
0.0820% Red UF



4
Brilliant red
0.08% Bril. Yellow UF
3.50% Bril. Red UF



5
Scarlet
0.86% Yellow UF
0.80% Scarlet UF
3.14% Red UF-R



6
Dark red
0.90% Yellow UF
1.60% Deep Red UF
0.12% Blue UF



7
Red plum
0.30% Yellow UF
1.66% Deep Red UF
0.58% Blue UF



8
Violet
5.12% Violet UF
2.24% Bril. Blue UF-G



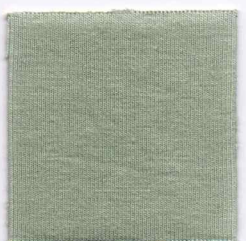
9
Chocolate
1.80% Yellow UF
0.98% Scarlet UF
2.40% Blue UF



10
Forest green
2.80% Yellow UF
0.30% Scarlet UF
3.40% Blue UF



11
Pine grove
0.080% Yellow UF
0.023% Red UF
0.084% Blue UF



12
Sea spray
0.64% Yellow UF
0.24% Red UF
0.68% Blue UF



13
Brilliant blue
0.0064% Red UF
0.0800% Red UF-R
2.100% Bril. Blue UF-R



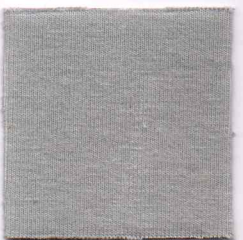
14
Dark blue
0.56% Yellow UF
0.66% Scarlet UF
3.20% Deep Blue UF



15
Navy
0.70% Yellow UF
0.82% Scarlet UF
4.00% Deep Blue UF



16
Light grey
0.060% Yellow UF
0.060% Red UF
0.086% Blue UF



17
Grey
0.62% Yellow UF
0.64% Red UF
0.83% Blue UF

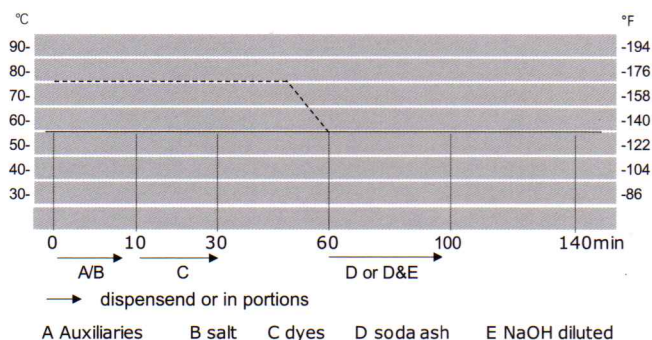


18
Black
8.00% Black UF



*Substrate: 32s Pima cotton
Fastness data on back cover.

Exhaustion Process



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

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→* Soaping 95°C *10min with 1-2g/L CHRO Wash MPB→ Rinse 50°C *10min→ Rinse cold 10min→ Soften as usual or aftertreatment

*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
Wetting agent	g/L	1-2
Alkali (Ref. table)		Y

Alkali table

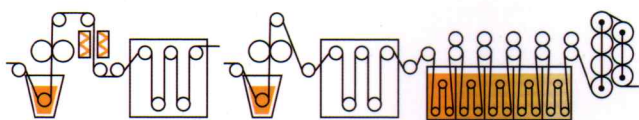
Silicate method

Dyes	g/L	<10	20	30	40	50	>60
Na-silicate 38°Bé	ml/L	50					
NaOH36°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					
NaOH36°Bé	ml/L	4	5	7	9	11	13

Pad-Dry-Pad-Steam Process



Padding Dye Liquor→ IR Pre-drying→ Hot air 100-130°C → Padding
Chemicals→ Saturated steam 60-90sec.→ washing off

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
NaOH36°Bé	ml/L	15

Item		Water fastness GB/T 5713		Perspiration fastness GB/T 3922				Rubbing fastness GB/T 3920		Washing fastness GB/T 3921 A(1)		Light fastness wetted with artificial perspiration GB/T 14576		Light fastness GB/T 8427.3
		CH	CO	Acid		Alkali		Dry	Wet	CH	CO	Acid	Alkali	4 grade
				CH	CO	CH	CO							
1	Brilliant yellow	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	Pass
2	Coral blush	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	Pass
3	Pink	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	Pass
4	Brilliant red	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
5	Scarlet	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
6	Dark red	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3-4	4-5	4	4-5	4-5	Pass
7	Red plum	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3-4	4-5	4	4-5	4-5	Pass
8	Violet	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
9	Chocolate	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
10	Forest green	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
11	Pine grove	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
12	Sea spray	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
13	Brilliant blue	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
14	Dark blue	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4-5	Pass
15	Navy	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4	4-5	4-5	4-5	4	Pass
16	Light grey	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	Pass
17	Grey	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	Pass
18	Black	4-5	4-5	4-5	4-5	4-5	4-5	4-5	3	4-5	4-5	4-5	4	Pass

*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, drying 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.

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