



Maheshwari Chemicals

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*Colors For Right First Time Dyeing*

## “Colors For Right First Time Dyeing”



Maheshwari Chemicals

Colors For Right First Time Dyeing

Maheshwari Chemicals offers full range of reactive dyes for dyeing & Printing of cellulosic textiles. This shade card gives technical information on our range of Reactive Dyestuffs and their general application methods.

## MAHMESHWARI CHEMICALS VS DYES

Our 'VS' Dyes are based on  $\beta$ -sulphatoethylsulfone reactive system. These dyes have low to medium substantivity/reactivity for cotton and therefore better recommended for padding and printing applications. However, the substantivity of majority of the dyes of this group is greatly enhanced after the addition of alkali, because of the generation of vinylsulphone from dye from its precursor and therefore can be used for exhaust dyeing also.

### EXHAUST DYEING (Winch/jet dyeing):

- a) All-in Process: In this method full amount of salt, soda and part of caustic soda are added to the bath in the beginning and the fabric is run for 10 min at room temperature. Then the pre-dissolved dye is added in two portions and the temperature is raised to the required level. Then the remaining amount of caustic soda is added and the dyeing is continued for 60-90 min.
- b) Normal Method: Start dyeing at room temperature with required amount of dye and run the machine for 10 min. Start raising the temperature to the required level @1-2° c min and simultaneously add the salt in two portions over a period of 15 min. After the required temperature is reached, alkali is added in two portions and dyeing is continued for 60-90 min. **Salt and Alkali requirements**

Dyeing Temperature	60°c	40°c	30°c
Glauber's salt/Common salt (g/l)	40-80	60-90	80-100
soda ash (g/l) (or)	20	-	-
caustic soda solution (70 Tw cc/l)	< 2% shade	2	5
	> 4% shade	3	8
soda ash g/l	5	5	5

### Notes:

Turq. Blue G gives maximum colour yield at 80° C. For Turq, Blue 10-20 g/l soda ash is used as alkali. .... Combination shades with Turq, Blue G can be dyed at 80° C by proper selection of other components.. it is preferable to use glauber's salt for Blue R, T. Blue G and T, Blue H2GP.

### PAD-BATCH DYEING

Dissolve the required amount of dyestuff in hot water and cool the solution to room temperature and add urea (if required). Mix the dye solution with the alkali just before padding. preferably the dye solution and alkali are fed to the padding trough through a dye – alkali mixer. Pad the properly pre-treated fabric through the solution at 25-27° c and batch for 20-24 hrs. After fixation is completed, fabric is given washing-off treatment.

concentration of dye in pad-liquor	up to 20 g/l	20 to 40 g/l
urea (g/l)	80	150
sodium silicate (110° Tw)	100	100
(Na <sub>2</sub> SiO <sub>3</sub> :1:2.1) (g/l)		
Caustic soda (solid) (g/l)		

### Notes:

Orange 3R is not recommended above 15 g/l concentration, due to poor solubility/ stability of dye in the presence of alkali.

### 3. printing

a) print –Dry-steam ( saturated) Method:

Recipe:

Dye.....X parts

Hot water..... 100-300 parts

Resist salt..... 10-20 parts

Sodium bicarbonate..... 10-15 parts

Thickening.....Balance

TOTAL..... 1000parts

print-> Dry -> Saturated steam (7-10 min) -> wash off

**B) print-> pad ( alkali) – Cold dwell Method:**

prepare print paste as per the above recipe without taking alkali. print and dry the fabric. Then pad the dried fabric through a solution containing 995-950 ml/lit. of sodium silicate (50° be/104° Tw) and 5-50 ml/lit caustic soda (38° be/17° Tw) and batch at room temperature for 20-24 hrs. After batching, the fabric is given usual washing-off treatment.

### 4. DISCHARGE PRINTING :

Majority of the vinylsulfone dyes are suitable for white and colored discharge effects. Some of the dyes can be discharged to white with neutral or weakly alkaline discharge paste. General method is as below:

a) Treat the dyed fabric first with small quantity of Resist salt to protect the ground shade from reductive effect of printing paste.

b) Print the fabric with a paste prepared from the below mentioned recipe.

Rongalite C..... 10-20 parts

Titanium Dioxide (1:1). 10 parts

Dischagre salt W..... 6 parts

Thickening agent..... 40 parts

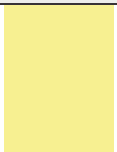













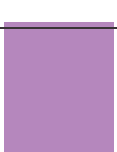

Caustic Soda 38° Be..... 10-20 parts

Water..... 4 parts











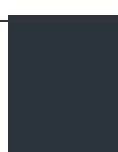


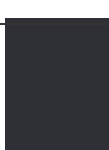
Total..... 100 parts

After printing, fabric is dried at about 80°c and the steamed for 10-15 min in a steam ager. After steaming, fabric is rinsed in cold water and then with warm water. It is then soaped with non-ionic or anionic detergent at boil for 15-20 min.

VS DYES

VS DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES										
1% Shade	4% Shade	Product Name Reactive # (C.I. No)	Solubility g/l at 30°C				Application		Temp (°C)	Exhaust Dying	Pad Batch Dying	Exhaust Dying/Fixation	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
			in water at 30°C	with 50gpl common	with 50gpl glauber's	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying									(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect /Stain)	ISO-4 (Effect/ Stain)	Acid (Effect/ Stain)	Alkaline (Effect/ Stain)		
		Yellow FG # Yellow 42	100	30	50	20	LS	S	60°C	GS	6	LS	G	4 5	2-3 3	4 4-5	4 3-4	4 4-5	4 4	4 3	2 4			
		Yellow GR # Yellow 15	100	50	80	20	S	S	60°C	GS/CS	6	S	G	4-5 5	2-3 3	4-5 4	4 4	5 4-5	5 5	4 3	2 4			
		Golden Yellow R # Yellow 77	100	50	50	10	S	S	60°C	GS/CS	6	NS	G	2-3 3	2 2-3	4 4	4 3-4	4 4	4 3-4	4 3	2 4			
		G.Yellow RNL #Orange107	100	100	100	30	S	S	60°C	CS/GS	6	S	G	4-5 5	3 3-4	4 4-5	4 4	4 4	4-5 4	4 3	2 4			
		Orange 2R # Orange	60	30	50	10	S	LS	60°C	GS/CS	6	NS	G	3 3-4	2-3 3	4 4	4 3-4	4 4	4 4	4 3	1-2 4			
		Orange 3R #Orange 16	60	30	50	10	S	LS	60°C	GS	5	S	G	4-5 5	3 3-4	4-5 4-5	4 4	4-5 4-5	4 4-5	4-5 3	2-3 4			
		Red 5B # Red 35	60	40	40	10	NS	S	-	GS/CS	4	S	G	3-4 4-5	2-3 3-4	4 4	3-4 4	4-5 5	4-5 5	4 3	2 4			
		Violet 5R #Violet 5	100	50	80	10	S	S	60°C	GS/CS	4	LS	F	5-6 6	3 4	4-5 4-5	4 4	5 5	4 5	4 3	2-3 4			

VS DYES

VS DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
1% Shade	4% Shade	Product Name Reactive # (C.I. No)	Solubility g/l at 30°C				Application		Exhaust Dying/Fixation Temp (c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
			in water at 30°C	with 50gpl common	with 50gpl glauber' s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect/ Stain)	Acid (Effect /Stain)	Alkaline (Effect /Stain)		
		T.Blue G #Blue 21	100	15	60	10	S	S	80°C	GS	6	S	P	5-6 6	3-4 4	4 4	4 3-4	4-5 4-5	4 4-5	4 3	2 4
		T.Blue H2G #Blue 21	100	15	60	10	S	S	80°C	GS	6	S	P	5-6 6	3-4 4	4 4	4 3-4	4-5 4-5	4 4-5	4 3	2 4
		Blue R # Blue 19	200	20	100	10	S	NS	60°C	GS	6	LS	P	6 6-7	4 4	4-5 5	4 4	5 4	5 4	4 3	3 4
		Blue BBID # Blue 220	100	40	80	10	S	S	60°C	GS	6	s	G	6 6-7	3-4 4	4-5 5	4 4	5 4	5 4	4 3	3 4
		Black B H/C #Black 5	100	100	100	30	S	S	60°C	CS/GS	10	NS	G	5* 3-4*	3-4* 4	4 4	4 3-4	4 4	4 4	4 2-3*	1-2 3-4
		Black B #Black 5	100	100	100	30	S	S	60°C	CS/GS	10	NS	G	5* 3-4*	3-4* 4	4 4	4 3-4	4 4	4 4	4 2-3*	1-2 3-4
		Black RL #Black-31	100	50	50	20	LS	S	60°C	CS/GS	5	LS	G	5-6 6	3-4 4	4 4	4 3-4	4 4	4 3-4	4 2-3*	2-3 4

Maheshwari Chemicals F DYES

Our 'F' Dyes are hetero bifunctional dyes. These dyes contain at least one vinylsulfone and one monochlorotriazine reactive group and are mainly recommended for exhaust dyeing. These dyes can also be used in pad-batch (sillicate method) and printing applications. 'F' dyes can be used in combination with vinylsulfone dyes for producing mixture shades.

EXHAUST DYEING METHOD

Winch/jet Dyeing: start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions of 20 min. Continue dyeing for 15 min at room temperature and then add 1/5th alkali and raise temperature to 600 C in 20-30 min and continue dyeing at 60° C for 30 min. Add remaining alkali in 2-3 portions and continue dyeing for 60-90 min.

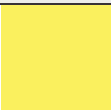

















Jigger Dyeing Method: Start dyeing at room temperature by adding the required amount of dye and salt over two ends. Then give two ends and add half the amount of alkali over two ends and raise temperature to 60° C and add balance quantity of alkali over two ends and dye for further 4-6 ends, depending on the depth.

Salt and alkali Requirements:

% Shade	Common Salt	Soda Ash
	(g/l)	(g/l)
up to 0.1	5-10	10
0.1 to 0.5	15-25	10-15
0.5 to 2.0	25-50	15-20
above 2.0	60<	20

Pad Batch Dyeing and printing Methods generally used for vinylsulfone reactive dyes can be used for 'F' dyes also.

F DYES

F DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name Reactive # (C.I. No)	Solubility g/l at 30°C				Application		Exhaust Dying/Fixation Temp (c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
			in water at 30°C	with 50gpl common	with 50gpl glauber` s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect/ Stain)	Acid (Effect /Stain)	Alkaline (Effect/ Stain)		
		Yellow F-4G 150% #Yellow160A	100	20	80	10	S	LS	60°C	GS	6	LS	G	5 5-6	2-3 3	4-5 4-5	4 3-4	4 4	4 4	4 3	2-3 4
		Yellow F3R 150% #Yellow145A	150	80	80	30	S	S	60°C	CS/GS	6	S	F	6 6-7	4 4	4-5 4	4 3-4	5 4	5 4	4 3	2-3 4
		Orange F2R 150% #Orange122A	60	15	25	5	S	LS	60°C	GS	5	LS	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 3	4 3	2-3 4
		Red F3B 150% #Red 195A	150	100	100	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3-4	4 4	4 3-4	4 4	4 4	4 3	3 4
		Red FRB, 150% #Red 198A	100	80	80	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2 3-4
		Red FBSID #Red-111	100	80	80	30	S	LS	60°C	CS/GS	6	S	P	4 5	2-3 3	4-5 4	4 3-4	4 4-5	4 4	4 3	2-3 3-4
		N. Blue FBS #Blue 222A	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4	4 4	4 3-4	2 4
		Blue HFBR #Blue 221	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4	4 4	4 3-4	2 4
		Black FGR 150% #Black	100	100	30	10	S	LS	60°C	CS/GS	10	NS	P	5* 5-6	3-4* 3-4	4 3-4	4 3	4 3-4	4 3-4	3 2-3*	3 4

Maheshwari Chemicals ME DYES

Our ‘ME’ Dyes are hetero bifunctional dyes. These dyes contain atleast one vinylusifone and one monochlorotriazine reactive group and are mainly recommended for exhaust dyeing. These dyes can be used in pad-batch (silicate method) and printing applications. ‘ME’ dyes can be used in combination with vinyl sulfone dyes for producing mixture shades.

EXHAUST DYEING METHOD

Winch/jet Dyeing: Start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions over a period of 20 min. continue dyeing for 15 min at room temperature and then add 1/5th alkali and raise temperature to 60°C in 20-30 min and continue dyeing at 60°C for 10 min. Add remaining alkali in 2-3 portions and continue dyeing for 60-90 min.

















Jigger Dyeing Method: Start at room temperature by adding the required amount of dye and salt over two ends. Then give two more ends and add half the amount of alkali over two ends and rise temperature to 60°C and add balance quantity of alkali over two ends and dye for further 4-6 ends, depending on the depth.

Salt and Alkali Requirements:

% Shade	Common Salt (g/l)	Soda Ash (g/l)
up to 0.1	5-10	10
0.1 to 0.5	10-25	10-15
0.5 to 2.0	25-50	15-20
above 2.0	60<	20

Pad Batch Dyeing and printing Methods recommended for vinylsulfone reactive dyes can be used for ME dyes also.

ME DYES

ME DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name Reactive # (C.I. No)	Solubility g/l at 30°C				Application		Exhaust Dying/Fixation Temp (c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
			in water at 30°C	with 50gpl common	with 50gpl glauber` s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect /Stain)	ISO-4 (Effect/ Stain)	Acid (Effect /Stain)	Alkaline (Effect /Stain)		
		Yellow ME4GL #Yellow160A	100	30	80	20	S	LS	60°C	GS	6	LS	G	5 5-6	2-3 3	4 4-5	4 3-4	4 4	4 4	4 3	2-3 4
		G.Yellow MERL Conc #Yellow145A	150	100	100	30	S	S	60°C	CS/GS	6	S	F	6 6-7	4 4	4-5 4	4 3-4	4 4	4 4	4 3	2-3 4
		Orange ME2RL #Orange122A	40	15	30	5	S	LS	60°C	GS	5	LS	P	4 4-5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2 4
		Red ME4BL Conc. #Red 195A	150	100	100	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4 4	4 3-4	4 4	4 4	4 3	3 4
		Red RB conc #Red 198A	100	80	80	30	S	S	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4	4 4	4 3	2-3 3-4
		Red BS #Red 111	100	80	80	30	S	LS	60°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 3-4	4 4-5	4 4	4 3	2-3 4
		N.Blue BFID #Blue 222A	100	50	80	30	S	S	60°C	CS/GS	6	S	F	5 5-6	3 3-4	4 4	4 3-4	4 4-5	4 4	4 3	2 4
		Black HFGR #Black	100	100	100*	30	S	S	60°C	CS/GS	10	NS	P	5* 3-4*	3-4*	4 3-4	4 3	4 3-4	4 3-4	3* 2-3*	3 4



Maheshwari Chemicals M DYES

Our 'M' dyes are based on Dichlorotriazine reactive system. These dyes are highly reactive and can be applied to cellulosic material at about 30-40° C.

EXHAUST DYEING:

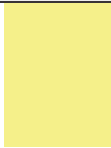















Set the dye bath at room temperature with predissolved dye and enter the goods. Run the machine..20-30 min. and then add common salt or Glauber's salt. Run the machine for 30-45 min. and add predissolved alkali and continue dyeing for 60-90 min at room temperature. After dyeing goods are given thorough and efficient washing off treatment.

Salt and Alkali Requirement:

% Shade	Common Salt (g/l)	soda Ash (g/l) at M L R			
		1.5	1.10	1.20	1.30
Below 0.5	30	5	5	3	3
0.5-2.0	40	10	5	4	3
2.0-4.0	50	15	10	8	5
Above 4.0	60	20	15	10	5

Notes: Yellow MGR and Blue MR should be dyed at 40°C.  
Use of Glauber's Salt is recommended for Yellow MGR & Blue MR

M DYES

M DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES								
1% Shade	4% Shade	Product Name Reactive # (C.I. No)	Solubility g/l at 30°C				Application		Exhaust Dying/Fixation Temp (c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)	
			in water at 30°C	with 50gpl common	with 50gpl glauber` s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect /Stain)	Acid (Effect /Stain)	Alkaline (Effect/ Stain)			
		Yellow M4G #Yellow 22	60	20	40	10	S	NS	30°C	GS/GS	6	S	P	5 5-6	2-3 3	4-5 5	4 4	4 4-5	4-5 5	4 3	2 3-4	
		Yellow MGR #Yellow	40	10	20	10	S	NS	40°C	GS	4	LS	P	5-6 6	3 3-4	4-5 4-5	4 4	4-5 4	5 4	4 3	3-4 4-5	
		Golden Yellow MR #Yellow 44	80	50	50	20	S	NS	30°C	CS/GS	6	S	P	5-6 6	3 3-4	4 4-5	4 3-4	5 5	5 5	4 3	2 3-4	
		Orange M2R #Orange 4	100	50	80	30	S	NS	30°C	CS/GS	6	S	P	4-5 5	2-3 3	4 4	4 3-4	4-5 4	4-5 4-5	4 3	2 4	
		Red M5B #Red2	40	20	20	10	S	NS	30°C	CS/GS	6	S	P	4-5 5	2-3 3	4-5 4	4 4	5 4-5	5 5	4 3	2 4	
		Red M8B #Red 11	50	10	20	10	S	NS	30°C	CS/GS	6	S	P	4-5 5	2-3 3	4 4	4 3-4	4-5 4	4-5 4-5	4 3-4	2 4	
		Magenta MB #Violet13	30	5	15	5	S	NS	30°C	CS/GS	6	LS	P	4 4-5	2-3 3	4 4	4 3-4	4 4	4 4-5	4 3	2 3-4	
		Blue MR #Blue 4	60	20	40	10	S	NS	40°C	GS	4	LS	P	6 6-7	3-4 4	4 4-5	4 4	5 5	5 4-5	4 3	3 4	

Maheshwari Chemicals RGB DYES

Our 'RGB' Dyes are high performance dyes, produced from specialty dyestuff intermediates and reactive groups. These dyes have been uniquely formulated by incorporating novel levelling agents and fixing agents to give excellent levelling and reproducible result. These dyes can be used for exhaust, continuous and semi-continuous dyeing. MC 'RGB' dyes can be used in combination with 'VS' and 'ME' dyes for producing whole gamut of shades.

Salient Features

- Suitable for Exhaust Dyeing at 60°C
- Suitable for Continuous Dyeing
- Excellent shade reproducibility
- Versatile Application
- Economical for Medium and Dark Shades
- Very Good Shade Build-up
- Very good solubility in water
- Excellent levelling Characteristics
- Eco Friendly Products
- Good around fastnes properties

















EXHAUST DYEING METHOD

Winch/soft flow Jet Dyeing : start dyeing with required amount of dye at room temperature. Run the fabric for 10 min. Add the required amount of salt in 2-3 portions over a priod of 20 min. and raise the temperature to 60° c in 20-30 min. Continue dyeing at 60° C for 15-30 min. Add alkali in 2-3 portions over a period of 20 min and continue dyeing for 60-90 min.

SALT AND ALKALI REQUIREMENTS

% Shade	Common Salt (g/l)	Soda Ash (g/l)	Mixed Alkali (g/l)	
			Soda Ash	Caustic soda solid
up to 0.1	5-10	8	8	-
0.1to 0.5	10-40	10-15	10	-
0.5 to 1.0	40-50	15-20	5	0.2-0.4
1.0 to 2.0	50-70	20	5	0.4-0.5
2.0 to 4.0	70-80	20	5	0.5-0.8
Above 4.0	80	20	5	1.0

RGB DYES

RGB DYES			GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES							
1% Shade (all blacks 4.0%)	4% Shade (all blacks 8.0%)	Product Name	Solubility g/l at 30°C				Application		Dying/Fixation Temp (c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light		Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect Stain)
			in water at 30°C	with 50gpl common	with 50gpl glauber` s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(1.0%, 2.0% shade) (ISO-105-B02)	(1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect /Stain)	ISO-4 (Effect /Stain)	Acid (Effect/Stain)	Alkaline (Effect/Stain)		
		MC Lemon Yellow RGB	150	50	100	10	S	LS	60°C	GS	4	S	G	4-5 5	3 3-4	4-5 4-5	4 3-4	4 4	4 4	5 4	3-4 4
		MC G.Yellow RGB	120	80	80	20	S	S	60°C	GS/CS	6	S	F	5 5-6	4 4	4-5 4-5	4 3-4	4-5 4-5	4-5 4-5	5 4	3 4
		MC Red RGB	120	80	80	20	S	S	60°C	GS/CS	6	S	P	4-5 5	3 4	4-5 4-5	4 4	4-5 4	4-5 4	5 4	4 4
		MC Deep Red RGB	100	50	80	15	S	S	60°C	GS	4	N.S	G	4 5	3 4	4-5 4	4 3-4	4-5 4-5	4-5 4	4-5 4	3-5 4
		MC Brill. Red RGB	150	100	100	20	S	S	60°C	GS/CS	6	S	P	4-5 5	3 4	4-5 5	4-5 4-5	5 5	5 5	4-5 4-5	4 4
		MC Blue RGB	100	50	80	20	S	S	60°C	GS	4	L.S	G	4-5 5	4 4	4-5 4-5	4 4	4-5 5	4-5 5	4-5 4	4 4
		MC Navy Blue RGB	120	100	100	20	S	S	60°C	GS/CS	6	N.S	G	- 4	- 3	4-5 5	4-5 4-5	5 5	4 4	4-5 4	3 4
		MC Black RGB	100	100	100	20	S	S	60°C	GS/CS	8	N.S	G	5 5	4 4	4 4	4-5 5	4-5 4	4 4	4 3	3 4

SALIENT FEATURES OF RGB DYES

Our 'RGB' dyes are high performance dyes. These dyes are uniquely formulated to give on-tone shade build-up and excellent shade reproducibility These dyes give best performance in medium and dark shades.

MC LEMON YELLOW RGB

- high tinctorial yellow dyestuff
- appropriate component for bright green shades
- excellent solubility in water
- good levelling and wasting off characteristics
- gives best results with glauher's salt
- limited solubility in alkali-preferable to avoid color addition in alkaline bath for shade correction
- dischargeable upto2% shade

MC GOLDEN YELLOW RGB

- very economical product for g. yellow shades
- excellent solubility and good levelling
- excellent shade build-up and reproducibility
- very good light and wet rubbing fastness
- suitable for trichromatic combination with Red RGB and Navy Blue RGB
- dischargeable upto 1.0% shade

MC RED RGB

- economical red component for medium shades
- excellent solubility in water
- excellent levelling in pastel and light shades
- excellent shade build-up and reproducibility
- acceptable light fastness in medium shades
- suitable for trichromatic combination with G.Yellow RGB and Navy Blue RGB
- non-dischargeable product

MC DEEP RED RGB

- very high tinctorial dyestuff
- most economical component for dull reds, browns and maroons
- limited solubility in alkali-preferable to avoid color addition in alkaline bath for shade correction
- gives best results with glauher's salt
- 100% discahrgeable product

MC BRILL RED RGB

- very high tinctorial dyestuff
- most economical component for brilliant reds and scarlets
- excellent solubility in water
- excellent levelling in pastel and light shades
- excellent washing off characteristics
- acceptable light fastness in medium shades
- non-dischargeable product

MC BLUE RGB

- economical blue component for medium shades
- excellent solubility and good levelling
- very good levelling in light and medium shades
- excellent shae build-up and medium shades
- good light fastness in medium shades
- suitable for trichromatic combination with G.Yellow RGB and Red RGB

MC NAVY BLUE RGB

- high tinctorial greenish navy shade
- most economical navy for medium and dark shades
- good trichromatic component for medium and dark shades
- not recommended for light shades and for toning
- 100% dischargeable product

MC BLACK RGB

- high tinctorial bluish black
- most economical for deep blacks
- very good shade build-up and reproducibility
- acceptable light fastness
- 100% dischargeable product

MC S/W DYES

MC S/W Dyes are High Performance dyes, made from speciality dyestuff intermediates and reactive group. These days are specially engineered to give high tinctorial value and therefore can be used for producing deep shades by exhaust dyeing. MC S/W dyes can also be used in combination with regular VS and ME dyes for producing mixture shades.

SALIENT FEATURES

- Suitable for Exhaust Dyeing at 60° c
- Possible to produce Deepest Shades
- Very Much Economical for Medium and Dark shades
- Excellent shade Build-up
- Excellent Solubility in water
- Excellent Levelling Characleristics
- Least Sensitivity to Variation in Dyeing Conditions
- Very Good Fastness to Washing, Rubbing and Light

EXHAUST DYEING METHOD

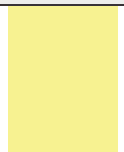
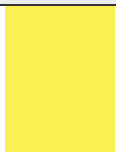






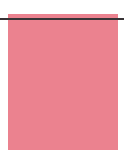

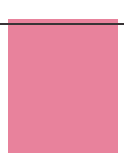

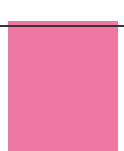

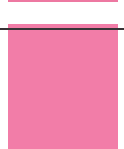

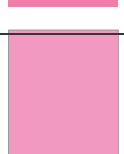

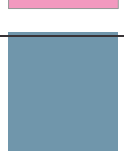

**Winch/Soft flow jet Dyeing:** Start dyeing with the required amount of dye at room temperature. Run the fabric for 10 min. add the required amount of salt in 2-3 protions over a period of 20 min. and raise the temperature to 60° C in 20-30 min. and continue dyeing for 60-90 min.

SALT AND ALKALI REQUIREMENTS












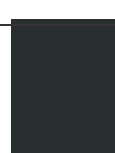








% Shade	Common Salt (g/l)	Soda Ash (g/l)	Mixed Alkali (g/l)	
			Soda Ash	Caustic soda solid
upto 0.1	5-10	8	8	-
0.1 to 0.5	10-40	10-15	10	-
0.5 to 1.0	40-50	15-20	5	0.2-0.4
1.0 to 2.0	50-70	20	5	0.4-0.5
2.0 to 4.0	70-80	20	5	0.5-0.8
Above 4.0	80	20	5	1.0



S/W DYES

S/W DYES				GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES								
% Shade 0.2% (All Blacks) 4.0%	% Shade 2.0% (All Blacks) 8.0%	Product Name		Solubility g/l at 30°C				Application							Light	Washing		Perspiration					
		MC Yellow S2G 200%	2.4	150	50	80	10	S	NS	60	GS	4	S	G	2-3 3 3	4-5 4--5 3-4	4 4 4	4 4 4	5 3-4 4	4 4 4	4-5 4-5 4-5		
		MC Yellow S3R 200%	1.68	150	100	100	50	S	S	60	GS/CS	4	S	F	3 4 4	4-5 4 4	4 4 4	5 4 4	5 4 4	4-5 3-4 4	4-5 4 4-5	3-4 4-5	
		MC G.Yellow SR 200%	1.5	100	80	80	10	S	S	60	GS	4	L.S.	G	3 3-4 4	4-5 4 4	4 4 4	5 4 4	5 4 4	4-5 3-4 4-5	4 4-5 4	3-4 4	
		MC Orange W3R 150%	1.33	100	80	80	10	S	S	60	GS	4	L.S.	G	3 3-4 4	4-5 4 4	4 4 4	5 4 4	5 4 4	4-5 3-4 4-5	4 4-5 4	3-4 4	
		MC Deep Red WB 150%	1.36	100	80	80	25	S	LS	60	GS/CS	5	L.S.	G	3 3-4 4	4-5 4 4	4 4 4	5 4 4	5 4 4	5 3-4 4-5	4 4-5 4	3-4 4	
		MC Deep Red SB 200%	1.4	100	50	50	25	S	LS	60	GS/CS	4	L.S.	P	2-3 3 4	4-5 4-5 4	4 4 4-5	4 4 4-5	4 4-5 4	4-5 4 4	4 4 3	3-4 3	
		MC Brill. Red S3R 200%	1.90	150	100	100	50	S	S	60	GS/CS	6	S	P	2-3 3 4	4-5 4-5 4	4 4 4	5 4 4	5 4 4	4 3-4 3-4	3-4 3-4 3-4	3-4 3-4	
		MC Red S2Y 200%	1.48	150	100	100	50	S	LS	60	GS/CS	5	S	P	2-3 2-3 3-4	4 4 3-4	4 3-4 4	4 4 4	4 4 4	4-5 3-4 4	3-4 4 4	3-4 4	
		MC Red Win H/C	2.52	150	100	100	50	S	LS	60	GS/CS	6	S	P	2 3 3	4 4-5 3-4	3-4 3-4 4	4 4 4	4 4 4	4-5 3-4 3-4	3-4 3-4 3-4	3-4 4 4	
		MC Navy SG 200%	2.1	150	100	100	35	S	LS	60	GS/CS	5	S	G	2-3 3 3-4	4-5 4 4	4-5 4 4	4-5 4 4	4-5 4 4	4 3-4 4	4 4 4	3-4 4-5	

S/W DYES

S/W DYES				GENERAL PROPERTIES							GENERAL PROPERTIES				FASTNESS PROPERTIES								
% Shade 0.2% (All Blacks) 4.0%	% Shade 2.0% (All Blacks) 8.0%	Product Name	1/1 Standard	Solubility g/l at 30°C				Application		Dyeing/Fixation Temp (°c)	Preferred electrolyte	Optimum % shade for	Suitability for	Dischargeability	Light	Washing		Perspiration		Rubbing (Dry/Wet)	Chlorinated Water (Effect /Stain)	Post Mercerization (Effect /Stain)	
				in water at 30°C	with 50gpl common	with 50gpl glauber` s	with 50 gpl comm. Salt & 20 gpl soda ash at 30°C	Exhaust Dying	Pad Batch Dying						(0.2%, 1.0% 2.0% shade) (AATCC, 16E, 20 AFU)	ISO-3 (Effect/ Stain)	ISO-4 (Effect/Stain)	Acid (Effect /Stain)	Alkaline (Effect /Stain)				
		MC Navy Blue SGB, 200%	2.3	150	100	100	50	S	S	60	GS/CS	6	L.S.	G	- - 3	4 4 3-4	4 3-4 4	4 4-5 4	4 4 3	3-4 3-4 3-4	3-4 3-4 3-4		
		MC T.Blue S2G 200%	1.8	150	35	100	15	S	S	80	GS	5	S	P	4 4 4	4 4 3-4	4 4 4	4 4 4	4 4 3	2-3 2-3 4	4 4 4		
		MC Blue SNG 150%	2.2	100	50	50	20	S	LS	60	GS	4	S	P	4 4 4	4-5 4 4	4 4 4	4 4 4	4 3-4 4-5	4 4-5 4	4 4 4		
		MC Navy SRB 200%	Deep Navy 7.2	150	100	100	50	S	S	60	GS/CS	6	N.S.	G	- - 4	4 4 4	4 4 4	4 4 4	4 3 3	3-4 3-4 3-4	3-4 3-4 3-4		
		MC Navy WB	Deep Navy 10	150	100	100	50	S	S	60	GS/CS	8	N.S.	G	- - 4	4-5 4-5 4	4 4 4	4 4-5 4	4-5 4 4	4 4 2-3	3 2-3 3		
		MC Black WNN H/C	Deep Black 8	150	100	100	50	S	S	60	GS	8	L.S.	G	- - 4-5	4 4 4	4 4 4	5 4 4	5 4 3	3-4 3-4 3-4	3-4 3-4 3-4		
		MC Black G	Deep Black 6	150	80	80	50	S	S	60	GS/CS	6	L.S.	G	- - 4-5	4 4 4	4 4 4	5 4 4	5 4 3	3-4 3-4 3-4	3-4 3-4 3-4		
		MC Black R	Deep Black 6	150	80	80	50	S	S	60	GS/CS	6	L.S.	G	- - 4-5	4 4 4	4 4 4	5 4 4	5 4 3	3-4 3-4 3-4	3-4 3-4 3-4		
		MC Black CDN	Deep Black 8	150	100	100	50	S	S	60	GS/CS	8	L.S.	G	- - 4-5	4 4 3-4	4 4 4	4 4 4	4-5 3-4 3-4	3-4 4 4	3-4 4 4		
		MC Black NX	10	100	80	80	30	S	S	60	GS/CS	8	L.S.	G	- - 4	4 4 3	4 4 4	4 4 4	4 3 3	3-4 4 4	3 2-3 3		

SALIENT FEATURES OF S/W DYES

S/W dyes are high tinctorial dyes. Most of the dyes give 100-200% higher strength, when compared with conventional ME or VS DYES. Therefore, these will give most economical dyeing result in medium and dark shades.

MC YELLOW S2G, 200%

- high tinctorial product
- lemon yellow shade, appropriate component for bright green shades
- excellent solubility, acceptable light fastness
- good leveling & washing off characteristics
- limited solubility in alkali-preferable to avoid color addition in alkaline bath for shade correction

MC YELLOW S3R 200%

- high tinctorial product
- very economical product for G.Yellow shades.
- very good light fastness and wet rubbing fastness
- excellent solubility, good levelling
- suitable for trichromatic combination with Red S2Y, 200% and Navy SG,200%

MC G.YELLOW SR,200%

- Very high tinctorial dye
- 100% dischargeable product
- excellent shade build-up
- very economical product for orangish yellow shade
- very good light fastness and wet rubbing fastness
- most economical toning component for black and navys.
- most economical component for dull greens, browns, etc.

MC ORANGE W3R 150%

- Very high tinctorial dye
- 100% dischargeable product
- excellent shade build-up
- very good light fastness and wet rubbing fastness
- most economical toning component for black and navys.

MC DEEP RED WB,150%

- very high tinctorial product
- 100% dischargeable product
- excellent shade build-up
- most economical component for maroons, browns, dull reds
- most economical toner for blacks and navys
- good light fastness

MC DEEP RED SB, 200%

- very high tinctorial product
- most economical component for dull reds, browns and maroons
- excellent shade build-up
- very good light fastness and web rubbing fastness

MC BRILL RED S3R, 200%

- high tinctorial product
- brilliant red
- excellent solubility and good levelling characteristics
- most economical product for brilliant reds and scarlets
- good light fastness
- very good washing fastness
- least sensitive to residual alkali on fabric

MC RED S2Y,200%

- high tinctorial value
- brilliant red for scarlet and blood red shades
- excellent solubility, good levelling suitable for trichromatic combination with yellow S3R, 200% and navy SG, 200%
- least sensitive to residual alkali on fabric

MC RED WIN H/C

- brilliant red shade
- excellent levelling in pastel and light shades
- suitable for trichromatic combination with yellow S3R, 200% and navy SG, 200%

MC NAVY SG, 200%

- very high tinctorial value
- excellent levelling in pastel and light shades
- good light fastness
- suitable for trichromatic combination with red S2Y, 200% and Yellow S3R, 200%
- gives best results with glauber's salt

MC NAVY BLUE SGB, 200%

- high tinctorial greenish navy shade
- 100% dischargeable product
- most economical navyfor medium & dark shades
- good wet rubbing fastness

MC T.BLUE S2G, 200%

- very high tinctorial value
- excellent levelling in pastel and light shades
- highest solubility in water and glauber's salt
- excellent light fastness and wet rubbing fastness
- give best result with glauber's salt
- limited solubility in common salt

MC BLUE SNG, 200%

- high tinctorial royal blue
- excellent levelling in pastel and light shades
- excellent light fastness
- gives best results with glauber's salt
- very economical/reliable component for royal blue shades
- good solubility/stability in alkaline bath

MC NAVY SRB, 200%

- high tinctorial reddish navy shade
- 100% dischargeable product
- most economical navy for medium and dark shades
- good trichromatic component for medium and dark shades
- good wet rubbing fastness

MC NAVY WB

- economical Navy Blue
- 100% dischargable product
- suitable only for medium and dark shades
- good trichromatic component for dark shades

MC BLACK WNH H/C

- high tinctorial dye
- 100% dischargeable product
- suitable for post mercerisation ( under optimum conditions) excellent shade build up good light, washing and wet rubbing fastness
- most economical and reproducible jet black

MC BLACK G

- very high tinctorial greenish black dye
- jet black shades can be obtained at 6% shade
- very good wet rubbing and washing fastness
- suitable for post mercerisation (under optimum conditions)
- most economical greenish black

MC BLACK R

- very high tinctorial reddish black dye
- jet black shades can be obtained at 6% shade
- very good wet rubbing and washing fastness
- suitable for post mercerisation (under optimum conditions)
- most economical jet black

MC BLACK CDN

- high tinctorial dye
- 100% dischargeable product excellent shade build-up
- most economical bluish black

MC BLACK NX

- economical black dye
- good light and washing fastness
- suitable for post mercerisation (under optimum conditions)

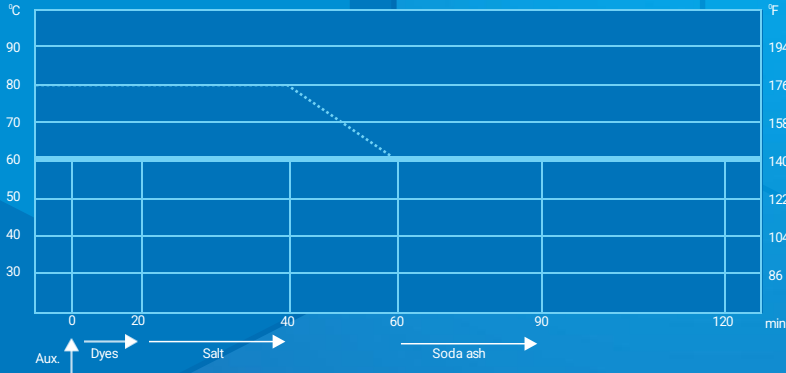
MC CN DYES

The MC CN dyes are hetero bifunctional reactive dyes for warm exhaust dyeing. Highly compatible range for Trichromatic shades and high all-round fastness performance. Excellent reproducibility and outstanding washing-off properties resulting in increased productivity.

Highlights of MC CN	Dyer Benefits....
<b>Outstanding speed of washing off</b> <ul style="list-style-type: none"><li>high degree of fixation (over 80%)</li><li>medium affinity of the dyes</li><li>very good diffusion</li><li>bond to cellulose, stable in both alkaline and acidic condition</li></ul>	<b>Top Productivity</b> <ul style="list-style-type: none"><li>saves water, energy and time</li></ul> <b>Excellent wet and wash fastness</b> <ul style="list-style-type: none"><li>appropriate dye selection fulfills very high requirements (M&amp;S, GAP... etc)</li><li>excellent multiwash fastness (including C10A)</li></ul>
<b>Robust dyeing system outstanding reproducibility</b> <ul style="list-style-type: none"><li>excellent compatibility of the trichromy dyes</li><li>on-tone build up</li><li>high degree of fixation</li><li>very good leveling properties</li></ul>	<b>Fewer corrections, fewer re-dyeing</b> <ul style="list-style-type: none"><li>right first time</li><li>excellent lab-to-bulk and bulk-to-bulk reproducibility</li><li>improved appearance of the fabric</li></ul>
<b>High Light fastness combinations</b>	<b>Excellent light fastness</b> <ul style="list-style-type: none"><li>appropriate dye selection fulfills very high requirements (M&amp;S, GAP, IKEA...etc)</li></ul>
<b>Very good ecological properties</b> <ul style="list-style-type: none"><li>high degree of fixation (over 80%)</li><li>outstanding washing off, less washing baths needed</li><li>AOX-free range</li></ul>	<b>Cost Saving</b> <ul style="list-style-type: none"><li>shorter washing off process:saves energy, water and time</li><li>less dye in waste water: reduced ecological costs</li></ul>

Exhaust Dyeing method for 100% cellulose

60°C method with soda ash



Salt and alkali recommendations/liquor ratio below 1 : 8

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

Salt and alkali recommendations/liquor ratio 1 : 8 and above

MC CN %	<0.5	0.5	1	2	3	4	>5
Salt*	g/l 20	30	40	50	60	70	80
Soda ash	g/l 8	10	12	14	16	18	18





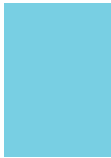

Cold Pad Batch Dyeing on 100% Cellulose

Alkali System	Dyes Concentration in g/l							Fixation Time at 25°C
	<10	20	30	40	50	60	>70	

Sodium Silicate (58 - 60°Be) - g/l (Na <sub>2</sub> O : SiO <sub>2</sub> 1 : 2.1)	90	90	90	90	90	90	90	10 –12 hours
Caustic Soda (Solid) g/l	-	2	3	3	4	4	5	

- Note:**
- In order to increase the solubility of the dyes and reduction of substantivity as well as cooling of the pad liquor, the use of 30-50 gpl Urea is recommended.
  - Fixation (Dwelling) time is 10 –12 hours depending on the depth of the shade.

CN DYES

CN DYES				GENERAL PROPERTIES						FASTNESS PROPERTIES						
0.25% Shade	0.5% Shade	Product Name	Solubility in water at 30°C	Application Method	Dying/Fixation Temp (c)	Preferred electrolyte (Glauber' s Salt/common Salt)	Suitability for Light / Pastel shade	Dischargeability	Light		Washing	Perspiration		Chlorinated Water (Effect Stain)	Post Mercerization	Water Fastness (CH / CO)
				Exhaust Dyeing					(0.1%, 0.5%, 1%) (ISO-105-B02)	(0.1%, 0.5%, 1%) (AATCC, 16E, 20 AFU)	ISO-105 CZ5 (CH/CO)	Acid (CH/CO)	Alkaline (CH/CO)			
		MC Yellow CN2R	100	S	60°C	GS	S	G	4 5 6	4 4-5 4-5	5  5	4-5  5	4-5  5	4	Very  Good	5  5
		MC Red CN2BL	100	S	60°C	GS	S	G	5 5-6 6	4 4-5 4-5	5  5	5  5	5  5	2-3	Very  Good	5  5
		MC Blue CNR	100	S	60°C	GS	S	F	5 6 6-7	4 4-5 4-5	5  4-5	4-5  5	4-5  5	3-4	Very  Good	5  5

MC Ultra 3D dyes

MC Ultra 3D reactive dye series with an innovative chemistry, have been specially designed considering the increasing market requirements for TOTAL COST-EFFECTIVENESS in dyeing. These innovative dyes are focused on cost reduction, better dye yield and good overall fastness properties.

MC Ultra 3D - Saves...

- Dyes Consumption • Water consumption • Salt consumption • Energy consumption
- Effluent load reduction like TDS level, BOD & COD level etc • Production cost

Problem & Challenges presently faced in Dark shade dyeing

- High Percentages of conventional dyestuffs required
- High amounts of water and energy required for washing off processes
- Reduction in overall fastness properties, especially wet fastness
- Cost of production is higher

MC Ultra 3D dye range offers solutions to the above problems due to the following features

- Very high build-up properties
- Good Washing-off properties
- Good Overall fastness properties
- Most economical receipe cost

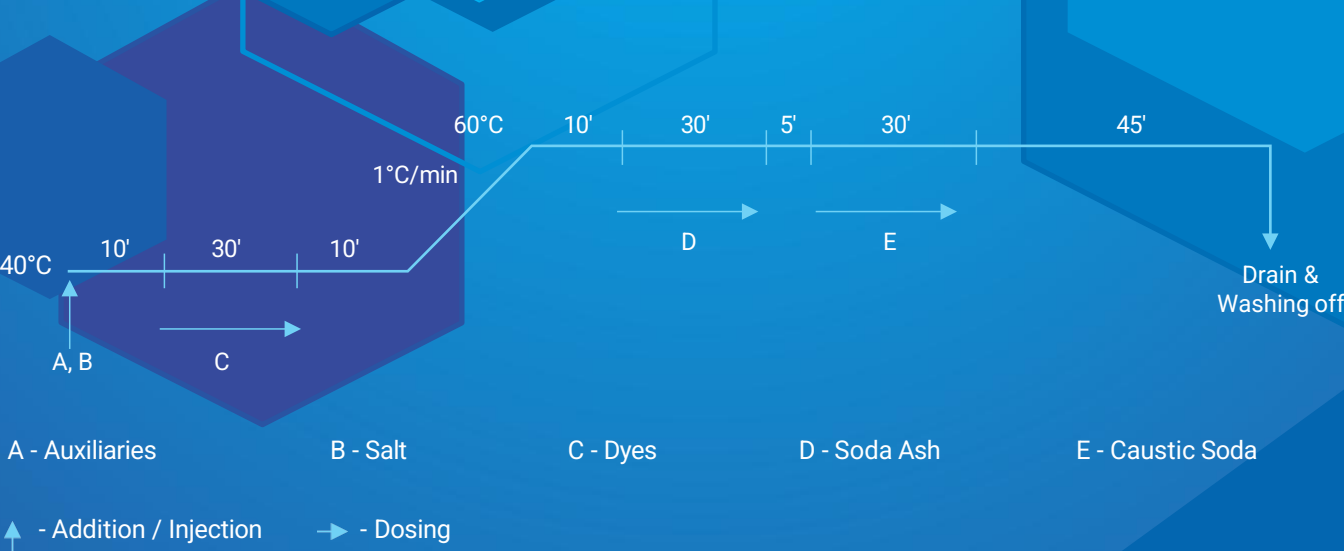
Special Features

- Highest Build up
- High degree of Fixation
- Excellent Washing off
- Excellent compatibility
- Most Economical receipes

Benefits

Deepest shades are possible with lowest amount of dyes & hence dyes Consumption will be reduced considerably offering cost effectiveness  
Shorter washing off cycles; saves energy, water and time.  
Drastically reduces water consumption, saves times & energy, reduced effluent load and overall increased productivity with lowest processing cost  
Excellent lab to bulk & bulk to bulk Shade reproducibility Very good level dyeing  
Cheapest dye receipe cost & cheapest over all production cost

Exhaust Dyeing method for 100% cellulose unmercerized  
60°C Mixed Alkali Method using Soda ash & Caustic soda












Salt & Alkali (Soda ash only) recommendations


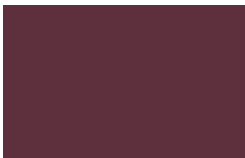







Dye (% owf)	1 - 2%	2 - 3%	3 - 4%	Above 4%
Salt in g/l	30 - 40	40	50	60
Soda ash in g/l	12 - 15	15 - 18	18 - 20	20

Salt & Mixed Alkali recommendations

Dye (% owf)	1 - 2%	2 - 3%	3 - 4%	Above 4%
Salt in g/l	30 - 40	40 - 50	50 - 60	60
Soda ash in g/l	5	5	5	5
Caustic soda (flakes) in g/l	1.0	1.0	1.5	1.5

Note: Turquoise based shades are to be dyed with Isothermal dyeing method at 80°C using Glauber's salt for the best dyeing results.

Ultra3D			GENERAL PROPERTIES						FASTNESS PROPERTIES										
4% Shade	Product Name	1/1 Standard	Solubility g/l at 30°C			Application		Dyeing/Fixation Temp (°C)	Dischargeability	Light		Washing		Chlorinated Water/ISO 105 EO3	Perspiration ISO 105 EO4		Oxidative Bleach	Post Mercerization CH/CO	Rubbing (Dry/Wet)
			in water at 30°C	with 50gpl	with 50 gpl Salt & 20 gpl soda at 30°C	Exhaust Dyeing	Pad Batch Dyeing			ISO 105 B02	AATCC 16E, 20AFU	ISO-105 Co6, C25, CH, CO	AATCC 6 1-2A, CH, CO	CH/CO	Acid CH/CO	Alkaline CH/CO			
	MC Ultra Lemon 3D	2.2	150	50	20	S	NS	60	G	5-6	3	4-5 4-5	4	2-3 4	4 4	4 4	4	2 3-4	4 3
	MC Ultra Yellow 3D	1.0	150	100	100	S	S	60	F	6-7	4	4-5 4-5	4	4 4-5	5 4	4 4	4	3-4 4-5	4 3-4
	MC Ultra Sun Yellow 3D	1.1	150	10	100	S	S	60	F	6-7	4	4-5 4-5	4	4 4	4-5 4	4-5 4	4	3-4 4	4-5 4
	MC Ultra Golden Yellow 3D	1.15	150	100	100	S	S	60	F	6-7	4	4-5 4-5	4	3-4 4	4 4	4 4	4	4 3-4	4 3
	MC Ultra Orange 3D	2.2	80	25	10	S	NS	60	P	5	3	4 4-5	4 4-5	2 4	3-4 4	4 4	4	2 3-4	4 3
	MC Ultra Scarlet 3D	1.3	150	100	100	S	S	60	P	6	4	4-5 4-5	4-5 4	3 4	4 4	4 4	4	3 3-4	4 3
	MC Ultra Red 3D	1.25	150	100	100	S	S	60	P	5-6	3-4	4-5 4-5	4 4	3 4	4 4	4 4	4	3 3-4	4 3
	MC Ultra Rubine 3D	1.15	150	100	100	S	S	60	P	5-6	3-4	4-5 5	4 4-5	3-4 4	4-5 4-5	4 4-5	4	3 3-4	4 3
	MC Ultra Bordeaux 3D	1.0	150	80	50	S	S	60	F	6	4	4-5 4-5	4-5 4-5	3 4	4 4	4 4-5	4	3 3-4	4 3

Ultra3D			GENERAL PROPERTIES						FASTNESS PROPERTIES										
4% Shade	Product Name	1/1 Standard	Solubility g/l at 30°C			Application		Dyeing/Fixation Temp (°C)	Dischargeability	Light		Washing		Chlorinated Water/ISO 105 EO3	Perspiration ISO 105 EO4		Oxidative Bleach	Post Mercerization CH/CO	Rubbing (Dry/Wet)
			in water at 30°C	with 50gpl	with 50 gpl Salt & 20 gpl soda at 30°C	Exhaust Dyeing	Pad Batch Dyeing			ISO 105 B02	AATCC 16E, 20AFU	ISO-105 Co6, C25, CH, CO	AATCC 6 1-2A, CH, CO	CH/CO	Acid CH/CO	Alkaline CH/CO			
	MC Ultra Caramine 3D	1.4	100	80	50	S	S	60	G	6	4	4-5 4-5	4 4-5	4 4-5	4 4	4 4	4	3-4 4-5	4 3
	MC Ultra Rust Red 3D	0.85	200	150	100	S	S	60	G	6	4	4-5 4-5	4-5 4-5	4 4	4 4	4 4	4	3-4 4-5	4 3-4
	MC Ultra Turquoise 3D	1.7	200	35	15	S	S	80	P	6-7	4	4-5 4	4 4	2.3 3	4 4	4 4	4	3-4 4-5	4 3
	MC Ultra Ocean 3D	2.3	200	100	80	S	S	60	P	7	4-5	4-5 4-5	4-5 4-5	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3
	MC Ultra Royal 3D	2.2	200	100	80	S	S	60	P	7	4-5	4-5 4-5	4-5 4-5	4-5 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3-4
	MC Ultra Brilliant Blue 3D	1.55	200	50	25	S	LS	60	P	7	4-5	4-5 4-5	4-5 4-5	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 3
	MC Ultra Blue 3D	2.1	200	100	100	S	S	60	G	6	3-4	4-5 4-5	4 4	4 4	4-5 4-5	4-5 4	4	3-4 4-5	4 4
	MC Ultra Navy 3D	7.2	200	100	100	S	S	60	G	5-6	3-4	4-5 4-5	4-5 4	4 4-5	4 4	4-5 4	3	3 4	4 4
	MC Ultra Jet Black 3D	6.0	200	100	100	S	S	60	G	5-6	3-4	4 4	4 4	3-4 4	4 4	4-5 4	4	3 4	4 3

\* 8% Shade



**Washing off:** To achieve best possible fastness properties, it is essential to remove the unfixed /hydrolysed dye completely from substrate. Following sequence can be used for this purpose.

Cold rinse -> Hot rinse -> Neutralise (with acetic acid) -> soap (1-3 times)-> Hot rinse -> Cold rinse.

Soaping can be done with 1-2 g/l non\_ionic or anionic detergent or polymeric washing off agent at boil for 15min (M:L:1:15 to 1:20)

### FASTNESS PROPERTIES

Fastness of dyed material to various agencies was assessed as per the standard test methods at 1/1 std. depth, mentioned below:

**Washing:** ISO-3 and ISO-4 (Ratings by greyscale: 1-poor, 5-excellent)

**Rubbing:** ISO 105X12 (Rating by greyscale: 1-poor, 5- excellent)

**Light:** AATCC 16E 20hrs. (for blacks at 8.0% shade) (color change ratings by greyscale : 1-poor, 5-excellent)

**Perspiration:** ISO 105-E04 (Ratings by greyscale : 1-poor, 5-excellent)

**Chlorinated water:** ISO 105-E03 (Rating by greyscale : 1-poor, 5-excellent)

**Post Mercerisation:** 300g/l caustic soda solution at 20 C for 5min. Followed by cold rinsing and neutralization with sulfuric acid.(Ratings by greyscale: 1-poor, 5-excellent)

**Note : 1** since post mercerization results are more sensitive to processing conditions/sequence, the data mentioned in this shade card is only indicative, without any guarantee/assurance.

**Note: 2.** Standard depth was determined by using 40° mercerised poplin fabric, M:L::1:10, common salt: 60gpl, soda ash:20gpl:Dyeing time: 90min.

#### KEY TO ABBREVIATIONS:

S=Suitable LS=less Suitable NS=Not Suitable

**Dischargeability:** G=Good F=Fair P=Poor

(The information contained herein is provided in good faith but without any warranty)

This information and our technical advice are given in good faith but without warranty. Our advice, does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and therefore, entirely your own responsibility.



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