COLOUR PLUS DYES & CHEM

Manufacture & Exporters of

Dyes & Auxiliaries For Textile

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1%	4%	Reactive BI-FUNCTIONAL (ME) Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow ME4GL Yellow 160A	100	H	L	60	*	*	*	*
		Golden Yellow MERL Yellow 145	150	H	M	60	**	**	*	*
		Orange ME2RL Orange 122	100	H	M	60	*	⊘	★	★
		Red ME3BL Red 194	150	M	M	60	**	**	*	*
		Red ME4BL Red 195	150	M	M	60	**	**	*	*
		Red ME6BL Blue 250	80	M	M	60	*	★	⊘	*
		Blue ME2RL Blue 248	100	M	M	60	*	★	★	*
		Blue ME2GL Blue 194	100	M	M	60	*	*	*	*
		Nevy Blue 3GF Blue 223	100	M	M	60	**	*	*	*
		Nevy Blue BFN Blue 222	120	M	M	60	**	*	*	*
		Blue BRF Blue 221	80	H	L	60	**	*	*	*
		Black GR	200	H	M	60	**	**	*	*

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Good	4-5	4-5	4-5	4	4	4	4-5	3	4-5	1	-	4-5	4-5
Moderate	4	4-5	4-5	4	4	4	4	4-5	4-5	4-5	-	4	4
Moderate	4-5	4	3-4	2-3	3	3-4	4	4-5	5	2	-	4	4
Poor	4-5	4	3-4	3	3-4	4	4	4	1	1	4	4-5	4-5
Poor	4-5	4	3-4	3	3-4	4	4	4	1	1	4	4-5	4-5
Poor	4-5	4	4	3	3-4	4	4	4	4-5	1	4	4-5	4-5
Poor	3-5	4	4	3	3	3-4	3-4	3-4	4	3-4	-	4	4
Poor	4-5	4	4	3	3	3-4	4	4	4-5	1	4	4-5	4-5
Good	4-5	4	4	3	3-4	3-4	4	4	4-5	1	4	4-5	4-5
Good	4-5	4	4	3	3	3-4	4	4	1	1	4	4-5	4-5
Moderate	4-5	4	3	4	4	4	4	4	1	1	4	4-5	4-5
Good	4-5	4-5	4	5-6	5-6	5-6	4	4	1	1	4	4-5	4-5

★- Suitable ★★- Most Suitable 1 ⊘- Not Suitable ★- Less Suitable

Trichromy Recommendations

Light Shade (With high light fastness)

Reactive Yellow ME4GL
Reactive Golden Yellow MERL
Reactive Blue BRF / BRF (M)

Medium Shade

Reactive Yellow ME4GL	
Reactive Golden Yellow MERL	
Reactive Blue BRF	<1.0%
Reactive Navy Blue 3GF	<1.5%

Dark Shade

Reactive Yellow ME4GL	
Reactive Golden Yellow MERL	
Reactive Red ME4BL	>2.0 %
Reactive Navy Blue 3GF	> 1.5%
Reactive Navy Blue BFN	> 2.0%

Dyeing Method : Exhaust Dyeing Method

M: L Ratio - 1 : 10

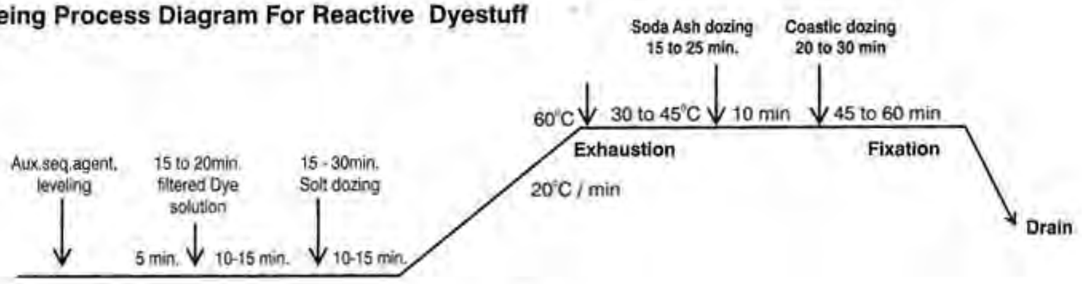
SALT & ALKALI REQUIREMENT :

DEPTH OF SHADE	SODIUM CHILORIDE OR GLAUBER SALT UNMERC.	VISCOSE OR MERC	SODA ASH	SODA + CAUSTIC	FIXATION (MINUTES)
UPTO 0.10%	10	7	10		30
0.11% -0.30%	20	10	15		30
0.31% -0.50%	30	20	20		30
0.51% -1.00%	40	30	20		45
1.01% -2.00%	50	40	20	10 + 0.5	45
2.01% -4.00%	60	50	20	10 + 0.75	60
>4.00%	70	60	20	10 + 1.00	60

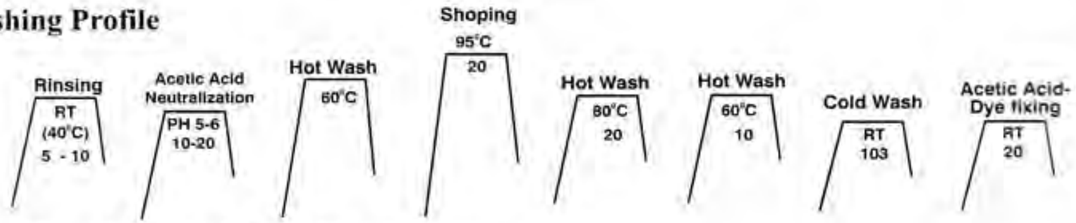
Dyeing : Exhaustion : 30 -60 min.

Temp. at : 60°C Fixation : 30 -60 min.

Dyeing Process Diagram For Reactive Dyestuff



Washing Profile



Pad - Dry - Chemical Pad - Steam Process

COLOUR PADDING SOLUTION	Dyestuff	X	GPL
	Anti-migrating agent	1-2	GPL?
	Urea	30-50	GPL
	Resist Salt	1	GPL

pad with 70% expression
Dry the fabric of maximum 100° temp

CHEMICAL PAD	Glauber Salt	150-250	GPL
	Soda Ash	15-20	GPL?
	Caustic Flakes	2-4	GPL

pad with 90% expression
Steam at 102° C for 45-60 Seconds

E-Control Method :

pad Liquor composition

X	Gms/ltr. Dyestuff
1-2	Gms/ltr. Wetting Agent
0.5-1	Gms/ltr. Sequestering Agent
2-3	Gms/ltr. Mild Cxidizing Agent
3-5	Gms/ltr. Anti-Migrating

Alkali :

	Total Dyes Concentration	
Reactive Dyes	<10 GPL	<10 GPL
Soda Ash	10 GPL	10 GPL
Caustic Soda	---	2 GPL

Cold Pad Batch Dyeing Method :

Dye Solution (prepared below 30°C)	Dyestuff	X	4 Parts
	Urea	50-100	
	Wetting & Rewetting Agent	1-2	
	Sequestering Agent	1-2	
Silicate Solution	Soldium Silicate (110-120° TW) Na_2O : Sio_2 : 1:2:1	100	1 Parts
	Caustic Flakes	2-4	

1%	4%	REACTIVE VINYAL SULPHONE Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow FG Yellow 42	120	H	M	60	*	*	*	⊘
		Yellow GL Yellow 37	130	H	M	60	**	*	*	*
		Yellow GR Yellow 15	150	H	M	60	*	**	*	*
		Golden Yellow R Yellow 77	150	H	M	60	*	**	*	⊘
		Golden Yellow RNL Orange 107	150	H	M	60	*	**	*	*
		Orange 2R Orange 7	120	M	M	60	*	★	*	⊘
		Orange 3R Orange 16	120	M	M	60	*	★	*	★
		Pink 5B Pink 35	70	M	M	60	★	*	*	*
		Red C2G Red 106	100	M	M	60	★	*	*	*
		Red RB Red 198	100	M	M	60	*	*	*	*
		Red BS Red 111	100	M	M	60	**	*	⊘	★
		Red BB Red 21	150	M	M	60	*	*	*	*

★- Suitable ★★- Most Suitable

⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Good	5	4-5	4	3	3-4	3-4	4-5	4-5	4-5	1	-	5	5
Good	4	5	4	3	3	3-4	4-5	2-3	4-5	1	-	5	4-5
Good	3-4	5	4	3	3	3-4	4	1	5	1	-	5	5
Good	5	4	4	3	3-4	4	5	2-3	4-5	1	-	5	5
Good	5	5	4	3-4	3-4	4	5	2-3	4-5	1	4	5	5
Good	4-5	5	3-4	3	3	3	4-5	4	4-5	1	-	5	5
Good	4-5	5	3-4	3	3-4	3-4	4-5	4	4-5	1	-	5	5
Good	3-4	3-4	3-4	3	3	3-4	4	4	4	1	-	4-5	4-5
Good	3-4	3-4	3-4	3	3	3-4	4	4	4	1	-	4-5	4-5
Moderate	4-5	4-5	3-4	3-4	4	4	4-5	4	4	1	-	4-5	3-4
Moderate	4-5	5	3-4	2-3	3	3	5	2-3	3	1	-	4-5	4-5
Good	4-5	5	3-4	3	3-4	3-4	4-5	2	4-5	1	-	4-5	4-5

1%	4%	REACTIVE VINYAL SULPHONE Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Violet 5R Violet 5	100	H	M	60	*	*	*	⊘
		Truq. Blue G Blue 21	100	H	M	80	*	*	*	★
		T. Blue H2GP Blue 77	80	H	M	80	*	*	*	★
		Blue 3R Blue 28	100	L	L	60	*	*	*	★
		Blue BB Blue 220	100	H	M	60	*	*	*	*
		Blue R Blue 19	100	H	M	60	*	*	*	★
		Brown GR Brown 18	100	M	M	60	*	*	*	*
		Nevy Blue GG Blue 203	100	H	M	60	**	**	*	*
		Black B Black 5	250	H	M	60	**	**	*	*
		Grey RL Black 31	100	L	L	60	*	*	*	*
		Black WNN	250	H	M	60	*	*	*	*

★- Suitable ★★- Most Suitable

⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Poor	4	5	3-4	3-4	4	4	4-5	4-5	2-3	5	-	4-5	3-4
Poor	2-3	3-4	2-3	3	3-4	3-4	3	-	3	3-4	-	4	4
Poor	2-3	3-4	2-3	3	3-4	3-4	3	-	3	3-4	-	4	4
Poor	3-4	5	3-4	4	4	4	4	3-4	2-3	3-4	-	4	3-4
Poor	4	5	3-4	4	4-5	4-5	4	3	4	1	-	3-4	4
Poor	4	5	3-4	4	4	4	4-5	4-5	4	4-5	-	5	5
Good	3-4	4-5	3-4	3-4	3-4	4	4	1	1-2	1	-	4	4
Good	4-5	3-4	3	3	3-4	4	4	3-4	4-5	1	-	4-5	4-5
Good	4	4-5	3	2-3	3	3	4	5	4	1	-	5	5
Poor	4	4-5	3	3-4	4	4	4-5	5	4	3-4	-	5	5
Poor	4	4-5	3	3-4	4	4	4-5	5	4	3-4	-	5	5

Dyeing Method : Exhaust Dyeing Method

M: L Ratio - 1 : 10

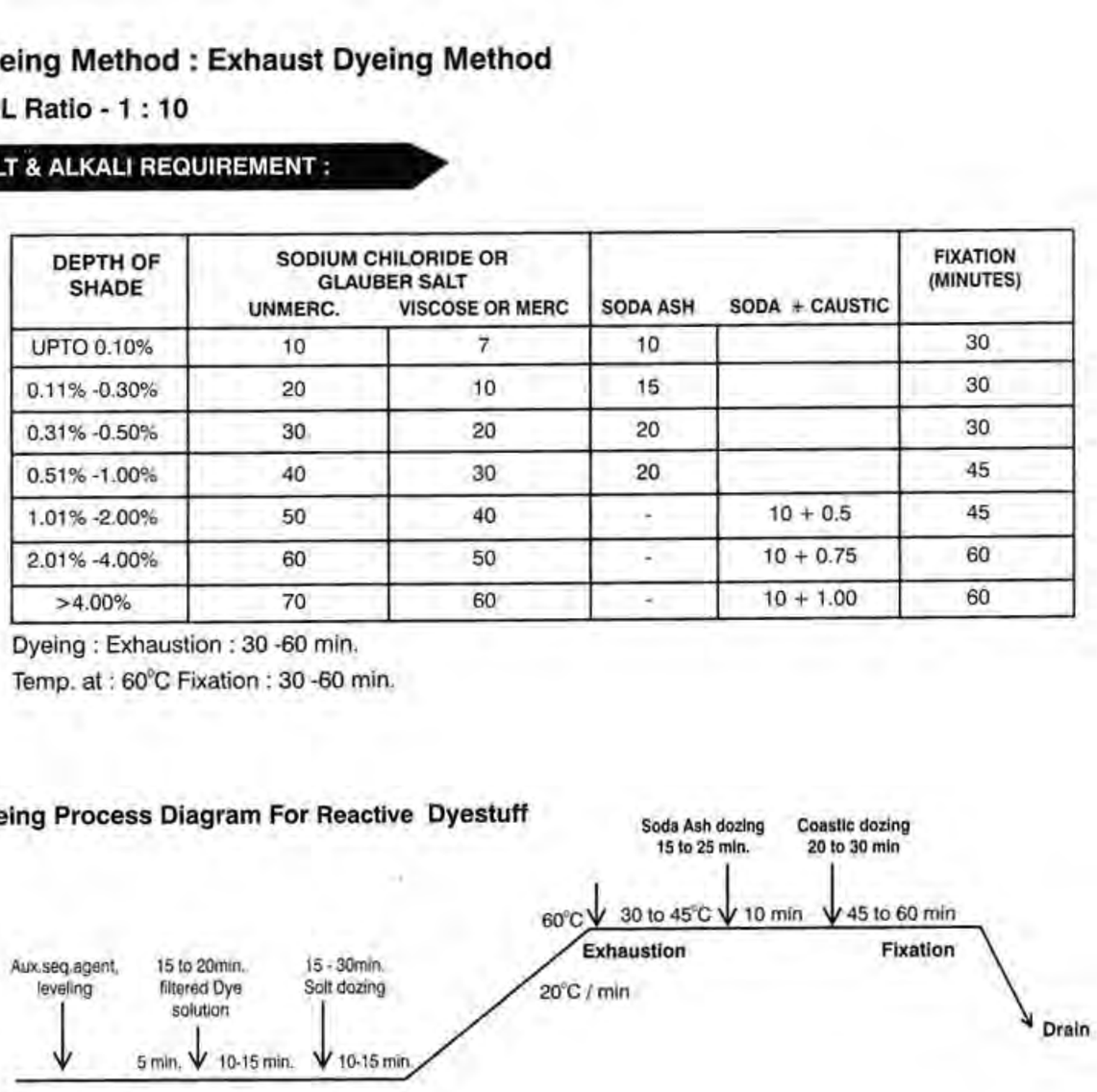
SALT & ALKALI REQUIREMENT :

DEPTH OF SHADE	SODIUM CHILORIDE OR GLAUBER SALT		SODA ASH	SODA + CAUSTIC	FIXATION (MINUTES)
	UNMERC.	VISCOSE OR MERC			
UPTO 0.10%	10	7	10		30
0.11% -0.30%	20	10	15		30
0.31% -0.50%	30	20	20		30
0.51% -1.00%	40	30	20		45
1.01% -2.00%	50	40	-	10 + 0.5	45
2.01% -4.00%	60	50	-	10 + 0.75	60
>4.00%	70	60	-	10 + 1.00	60

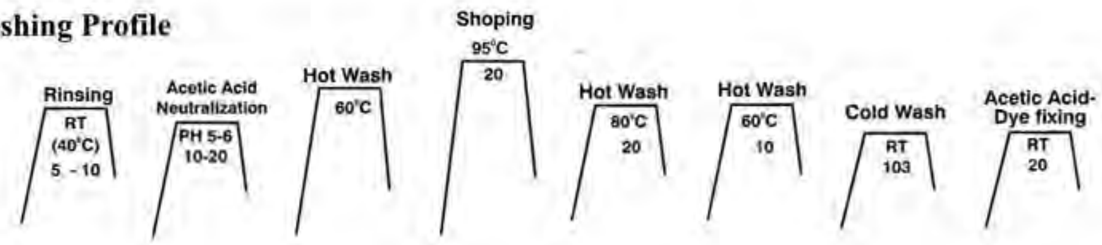
Dyeing : Exhaustion : 30 -60 min.

Temp. at : 60°C Fixation : 30 -60 min.

Dyeing Process Diagram For Reactive Dyestuff



Washing Profile



Pad - Dry - Chemical Pad - Steam Process

COLOUR PADDING SOLUTION	Dyestuff	X	GPL
	Anti-migrating agent	1-2	GPL?
	Urea	30-50	GPL
	Resist Salt	1	GPL

pad with 70% expression

Dry the fabric of maximum 100° temp

CHEMICAL PAD	Glauber Salt	150-250	GPL
	Soda Ash	15-20	GPL?
	Caustic Flakes	2-4	GPL

pad with 90% expression

Steam at 102° C for 45-60 Seconds

E-Control Method : pad Liquor composition

X	Gms/ltr. Dyestuff
1-2	Gms/ltr. Wetting Agent
0.5-1	Gms/ltr. Sequestering Agent
2-3	Gms/ltr. Mild Cxidizing Agent
3-5	Gms/ltr. Anti-Migrating

Alkali :

	Total Dyes Concentration	
Reactive Dyes	<10 GPL	<10 GPL
Soda Ash	10 GPL	10 GPL
Caustic Soda	—	2 GPL

Cold Pad Batch Dyeing Method :

Dye Solution (prepared below 30°C)	Dyestuff	X	4 Parts
	Urea	50-100	
	Wetting & Rewetting Agent	1-2	
	Sequestering Agent	1-2	
Silicate Solution	Soldium Silicate (110-120° TW) Na_2O : Sio_2 : 1:2:1	100	1 Parts
	Caustic Flakes	2-4	

1%	4%	REACTIVE "H" Series	Solubillity in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow H4G Yellow 18	150	L	L	107	⊘	⊘	*	⊘
		Golden Yellow HR Orange 12	100	M	M	107	⊘	⊘	*	⊘
		Orange H2R Orange 1	100	M	M	107 110	⊘	⊘	*	⊘
		Bright Pink H3B Red 45	100	M	L	107 110	⊘	⊘	*	⊘
		Pink H8B Red 31	80	M	L	107 110	⊘	⊘	*	⊘
		Magenta HB Violet 13	80	M	L	107 110	⊘	⊘	*	⊘
		Purple H3R Violet 1	100	M	L	107 110	⊘	⊘	*	⊘
		Turq. Blue H5G Blue 25	80	H	L	107 110	⊘	⊘	*	⊘
		Blue H5R Blue 13	80	M	L	107 110	⊘	⊘	*	⊘
		Red Brown H4R Brown 9	50	M	L	107 110	⊘	⊘	*	⊘
		Black HN Black 8	80	L	M	107 110	⊘	⊘	*	⊘

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162-2002	Hydrogen Paroxide	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %						
Poor	4	4-5	4	3-4	4	4	5	-	3-4	-	-	4.5
Poor	4	4-5	4	3-4	4	4	5	-	3-4	-	-	4.5
Poor	4-5	4	3-4	3	3-4	4	4-5	-	4	-	-	4
Poor	4-5	3-4	3	2-3	3	3	4-5	-	2-3	-	-	4
Poor	4-5	3-4	3	2-3	3	3	4-5	-	2-3	-	-	4
Poor	4-5	4	3	3	3	3-4	4-5	-	2-3	-	-	4
Poor	5	4	3-4	3-4	4	4	5	-	2-3	-	-	3-4
Poor	2-3	3-4	2-3	3	3	3-4	3	-	3	-	4	4
Poor	4	4	3-4	3-4	4	4	4	-	1	-	-	4-5
Poor	4-5	4	3-4	3	3	3-4	4-5	-	3	-	-	4-5
Poor	4-5	3-4	3	3	3-4	4	4-5	-	3	-	-	4-5

★- Suitable ★★- Most Suitable

⊘- Not Suitable ★- Less Suitable

Printing Recipe For REACTIVE "H" Dyestuff

Water	56 Ltr.
Sodium Hexa Meta Phosphte	0.50 Kg.
Sodium Alginate	3.00 Kg.
Gum Stirring For 3 Hours	
Urea	7.50 Kg.
Resist Salt	1.5 Kg.
Sodium Bicarbonate	2.50 Kg.
Niogen EL-40	0.40 Kg.
Kerosene	20 Kg.
Perminol KBI	0.500 Kg.
Add Water to Make	**100 Kg. Paste**

Print - Dry - Steam (107-110 C For 10-12 Minutes)

After Treatment

- Over Flow Washing
- Neutralisation with Acetic Acid
- Hot Wash
- Soaping at Boil
- Soaping at Boil
- Hot Wash
- Hot Wash
- Cold Wash
- Neutralisation with Acetic Acid

1%	4%	REACTIVE "HE" Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow HE6G Yellow 135	100	H	L	80	*	⊘	*	⊘
		Yellow HE4G Yellow 81	100	M	H	80	**	⊘	⊘	⊘
		Yellow HE4R Yellow 84	120	H	H	80	**	*	*	⊘
		Golden Yellow HER Yellow 84 A	100	H	H	80	**	*	⊘	⊘
		Orange HER Orange 84	100	H	H	80	**	★	⊘	⊘
		Orange HE2R Orange 94	100	H	M	80	*	★	⊘	⊘
		Red HE3B Red 120	100	H	M	80	**	★	⊘	⊘
		Red HE7B Red 141	150	H	M	80	**	*	⊘	⊘
		Red HE8B Red 152	150	H	L	80	*	⊘	⊘	⊘
		Blue HERD Blue 160	100	H	H	80	**	*	⊘	⊘
		Blue HEGN Blue 198	100	H	H	80	**	*	⊘	⊘
		Navy Blue RX Blue 59	100	H	H	80	*	*	⊘	⊘

★- Suitable ★★- Most Suitable

⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105C0	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162-2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Good	4-5	4-5	3-4	3-4	3-4	4	4-5	3	4-5	-	-	4-5	4-5
Poor	4	3-4	3-4	3-4	3-4	4	4	4	4-5	-	4	4-5	4-5
Poor	4	3-4	3	3	3-4	4	4	4	4-5	-	4	4-5	4-5
Poor	-	3-4	3	3	3-4	4	4	4	4-5	-	4	4-5	4-5
Poor	4-5	3-4	2-3	2-3	3-4	3-4	3-4	3-4	4-5	-	3	4	4
Poor	3-4	3-4	2-3	2-3	3	3-4	4	4-5	5	-	3	4	4
Poor	4-5	4	3	3-4	4	4	4-5	4	4	-	4	4-5	4-5
Poor	5	4	3	3-4	3-4	4	4-5	4	4	-	4	4-5	4-5
Poor	4-5	4	3	2-3	3	3	4	4-5	4	-	4	4-5	4-5
Good	4-5	4	4	3-4	4	4	5	3	3-4	-	4	4-5	4-5
Poor	4-5	4	3	3-4	4	4	5	1	3-4	-	4	4-5	4
Good	4-5	3-4	3-4	3	3-4	3-4	4-5	4	4	-	4	4-5	4-5

1%	4%	REACTIVE "HE" Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Navy Blue HER Blue 171	120	H	H	80	**	*	⊘	⊘
		Navy Blue HE2R Blue 172	120	L	M	80	*	*	*	⊘
		Green HE4BD Green 19	100	H	M	80	**	★	⊘	⊘
		Black HEBL	50	H	L	80	*	⊘	⊘	⊘

*- Suitable **- Most Suitable ⊘- Not Suitable ★- Less Suitable

Suitable Recommendation for Post Mercerization Fastness

Reactive Yellow HE6G
Reactive Yellow HE4R
Reactive Orange HER
Reactive Red HE3B
Reactive Red HE7B
Reactive Green HE4BD
Reactive Navy Blue HER
Reactive Blue HERD
Reactive Blue HEGN

Dyeing Method : Exhaust Dyeing Method

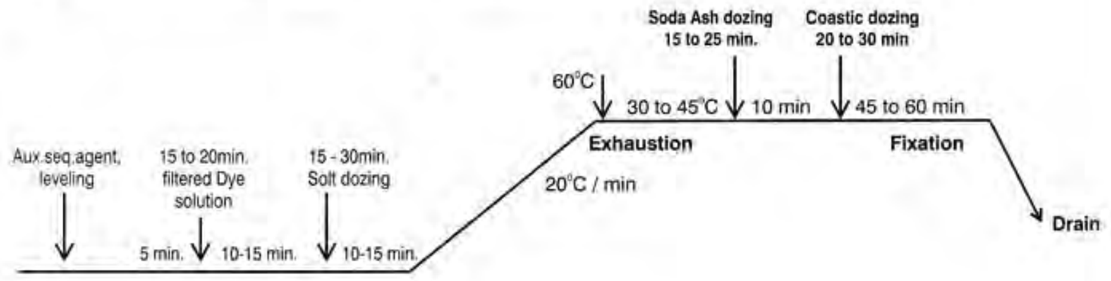
SALT & ALKALI REQUIREMENT :

DEPTH OF SHADE	SODIUM CHILORIDE OR GLAUBER SALT		SODA ASH		FIXATION (MINUTES)
	UNMERC.	VISCOSE OR MERC			
UPTO 0.10%	10	7	10		30
0.11% -0.30%	20	10	15		30
0.31% -0.50%	30	20	20		30
0.51% -1.00%	40	30	20		45
1.01% -2.00%	50	20	-		45
2.01% -4.00%	60	20	-		60
>4.00%	70	20	-		60

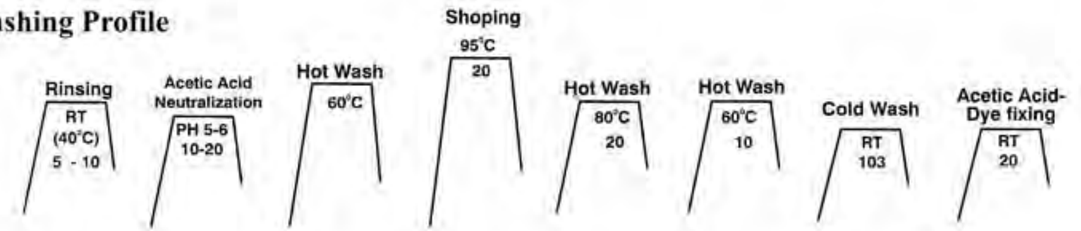
Dyeing : Exhaustion : 30 -60 min.
Temp. at : 80°C Fixation : 30 -60 min.

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Poor	4	3-4	3	3	3-4	4	4	-	4	-	2-3	4-5	4-5
Poor	4-5	3-4	3	3-4	3-4	4	4-5	4	3-4	-	4	4-5	4-5
Good	4	-	-	2-3	3	3	4	4	4	-	3-4	4	4
Good	4	-	-	2-3	3	3	4	4	4	-	3-4	4	4

Dyeing Process Diagram For Reactive Dyestuff



Washing Profile



1%	4%	REACTIVE "M" Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow M8G Yellow 86	90	M	H	RT	*	⊘	*	⊘
		Yellow M4G Yellow 22	70	M	H	RT	*	⊘	*	⊘
		Yellow MGR Yellow 7	50	M	H	RT	*	⊘	⊘	⊘
		Yellow M3R Orange 86	100	M	M	RT	*	★	*	⊘
		Golden Yellow MR Yellow 44	100	M	M	RT	*	★	*	⊘
		Yellow M4R Orange 14	80	M	M	RT	*	★	*	⊘
		Orange M2R Orange 4	70	M	M	RT	*	★	*	⊘
		Red M5B Red 141	80	H	M	RT	*	★	*	⊘
		Red M8B Red 11	70	H	M	RT	*	*	*	⊘
		Magenta MB Violet 13	70	H	M	RT	*	⊘	*	⊘
		Violet C4R Violet 14	70	H	M	RT	*	⊘	*	⊘
		Truq. Blue MGN Blue 140	50	H	M	RT	*	⊘	*	⊘

★- Suitable ★★- Most Suitable

⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Moderate	4-5	4	4	3-4	3-4	4	4	3	3-4	4-5	-	4-5	4-5
Good	4-5	4-5	4	3-4	4	4	5	3	3-4	4-5	-	4-5	4-5
Poor	4-5	4	4	4	4	4	5	3-4	4-5	4-5	-	5	4-5
Poor	5	4	3-4	3	4	4	5	3-4	4	5	-	4-5	4-5
Poor	5	4	3-4	3-4	3-4	4	5	3-4	4	5	-	4-5	4-5
Poor	4	4	3-4	3-4	4	4	4-5	3	3	4	-	4	4
Poor	4	3-4	4	3	3-4	3-4	4-5	3	3-4	4	-	4	4
Poor	4	3-4	3-4	3	3-4	3-4	4-5	3	3	4	-	4	4
Poor	4-5	3-4	4	3	3-4	3-4	4-5	2-3	3-4	4-5	-	3	3
Moderate	4	4-5	4	3	3-4	3-4	4-5	4	3-4	4-5	-	4-5	4-5
Poor	4	4-5	4	3	3-4	3-4	4-5	4	3-4	4-5	-	4-5	4-5
Poor	4	4-5	4	3	3-4	4	4-5	3-4	3-4	4-5	-	4	4

1%	4%	REACTIVE "M" Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Blue MR Blue 4	90	H	M	RT	*	★	*	⊘
		Blue M2R Blue 81	90	M	H	RT	*	★	*	⊘
		Navy Blue M3R Blue 9	70	M	M	RT	*	★	*	⊘

★- Suitable ★★- Most Suitable ⊘- Not Suitable ★- Less Suitable

Dyeing Method : Exhaust Dyeing Method

M: L Ratio - 1 : 10

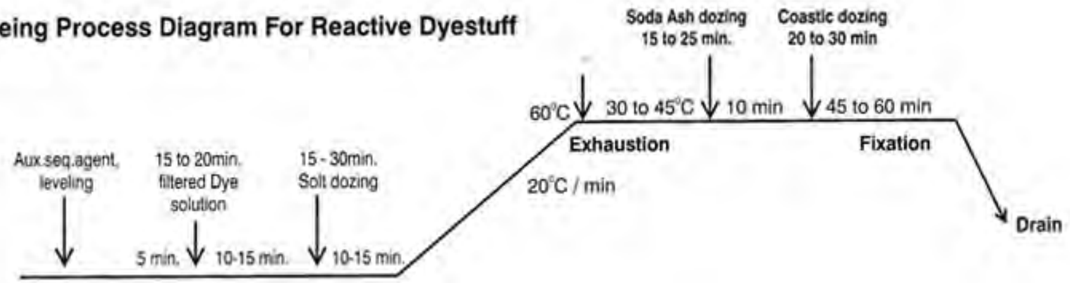
SALT & ALKALI REQUIREMENT :

DEPTH OF SHADE	SODIUM CHLORIDE OR GLAUBER SALT				FIXATION (MINUTES)
	UNMERC.	VISCOSE OR MERC	SODA ASH	SODA + CAUSTIC	
UPTO 0.10%	10	7	10		30
0.11% -0.30%	20	10	15		30
0.31% -0.50%	30	20	20		30
0.51% -1.00%	40	30	20		45
1.01% -2.00%	50	40	-	10 + 0.5	45
2.01% -4.00%	60	50	-	10 + 0.75	60
>4.00%	70	60	-	10 + 1.00	60

Dyeing : Exhaustion : 30 -60 min.

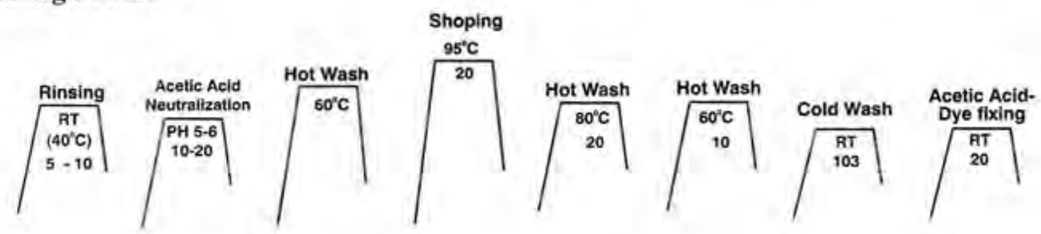
Temp. at : 60°C Fixation : 30 -60 min.

Dyeing Process Diagram For Reactive Dyestuff



Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Poor	4-5	4-5	4	3-4	4	4	4-5	3-4	3-4	4-5	-	4-5	4-5
Poor	4-0	4	3-4	3	3	3-4	4-5	3-4	3-4	4	-	4	4
Good	4-5	4-5	4	2-3	3	3-4	4-5	4	4	4-5	-	4	4

Washing Profile



Padding Recipe For Reactive 'M' Type Dtestuff

Dye (X gpl)	**800 ml**
Urea (50 gpl)	
Soda	**200 ml**
Total	**1000 ml**

Keep for 4-8 Hours well covered & under constant rotation

Washing

Cold Wash

Cold Wash

Ascetic Acid Neutralization (Check pH)

Soaping (95 C)

Hot Wash Soaping (80 C)

Hot Wash (80 C)

Cold Wash and Neutralization (Chek pH)

1%	4%	REACTIVE "P" Series	Solubility in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow P4G	100	L	L	107	⊘	⊘	*	⊘
		Golden Yellow P2RN	100	M	M	107	⊘	⊘	*	⊘
		Orange PN2R	100	M	M	107 110	⊘	⊘	*	⊘
		Pink PB	100	M	L	107 110	⊘	⊘	*	⊘
		Red P4B	100	M	L	107 110	⊘	⊘	*	⊘
		Cherry Red P B	80	M	L	107 110	⊘	⊘	*	⊘
		Magenta PB	80	M	L	107 110	⊘	⊘	*	⊘
		Truq. Blue PGR	80	H	L	107 110	⊘	⊘	*	⊘
		Blue P3R	80	M	L	107 110	⊘	⊘	*	⊘
		Red Brown P4R	50	M	L	107 110	⊘	⊘	*	⊘
		Zade Black	80	L	M	107 110	⊘	⊘	*	⊘
		Green P3R	80	L	M	107 110	⊘	⊘	*	⊘

*- Suitable **- Most Suitable ⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %						
Poor	4	4-5	4	3-4	4	4	5	-	3-4	-	-	4.5
Poor	4	4-5	4	3-4	4	4	5	-	3-4	-	-	4.5
Poor	4-5	4	3-4	3	3-4	4	4-5	-	4	-	-	4
Poor	4-5	3-4	3	2-3	3	3	4-5	-	2-3	-	-	4
Poor	4-5	3-4	3	2-3	3	3	4-5	-	2-3	-	-	4
Poor	4-5	4	3	3	3	3-4	4-5	-	2-3	-	-	4
Poor	5	4	3-4	3-4	4	4	5	-	2-3	-	-	3-4
Poor	2-3	3-4	2-3	3	3	3-4	3	-	3	-	4	4
Poor	4	4	3-4	3-4	4	4	4	-	1	-	-	4-5
Poor	4-5	4	3-4	3	3	3-4	4-5	-	3	-	-	4-5
Poor	4-5	3-4	3	3	3-4	4	4-5	-	3	-	-	4-5
Poor	4-5	3-4	3	3	3-4	4	4-5	-	3	-	-	4-5

1%	4%	REACTIVE SPEICIALITY DYES	Solubillity in gpl at 30°C	Affinity	Reactivity	Flaxtion Temperature	Process Suitability			
							Exhaust	Cold Pad Batch	Printing	Continuous
		Yellow RGB	150	H	M	60	**	**	*	*
		Red RGB	100	M	M	60	**	**	*	*
		Blue RGB	100	M	M	60	*	*	*	*
		Navy Blue RGB	100	L	H	60	*	*	*	*
		Yellow W3R	150	H	M	60	**	**	*	*
		Orange W3R	100	H	M	60	*	⊘	★	★
		Deep Red CD	100	M	M	60	**	**	*	*

*- Suitable **- Most Suitable

⊘- Not Suitable ★- Less Suitable

Dischargeability	Washing Fastness ISO 105Co	Rubbing ISO 105 / X12 Dry	Rubbing ISO 105 / X12 Dry	Light Fastness AATCC 16E 20AFU			Water ISO 105 E01	Chlorinated Pool Water AATCC 162:2002	Hydrogen Paroxide	Hypochorite	Mercerizing (ISO 105 x 04)	Perspiration ISO 105 E04 Acid	Perspiration Alkali (E04)
				0.1 %	1.0 %	2.0 %							
Moderate	4	4-5	4-5	4	4	4	4	4-5	4-5	4-5	-	4	4
Poor	5	4-5	4	3-4	4	4	5	-	4-5	-	-	-	4-5
Good	4-5	4	4	3	3	3-4	4	4	4-5	1	4	4-5	4-5
Good	4-5	4-5	3	3	3-4	4	4-5	4-5	4	2	-	5	5
Moderate	4	4-5	4-5	4	4	4	4	4-5	4-5	4-5	-	4	4
Moderate	4-5	4	3-4	2-3	3	3-4	4	4-5	5	2	-	4	4
Poor	5	4-5	4	3-4	4	4	5	-	4-5	-	-	-	4-5