



RADIFIX

REACTIVE DYES  
DIRECT DYES



*Live Colourful*

## VINYL SULFONE BASED DYES (RADIFIX V. S. DYES)

These dyes are having moderate reactivity and are widely used for dyeing & printing of cellulosic fibres for its very good fastness properties. These dyes are having very good features like good solubility, can be applied both by exhaust & padding methods and suitable for discharge printing very much effectively.

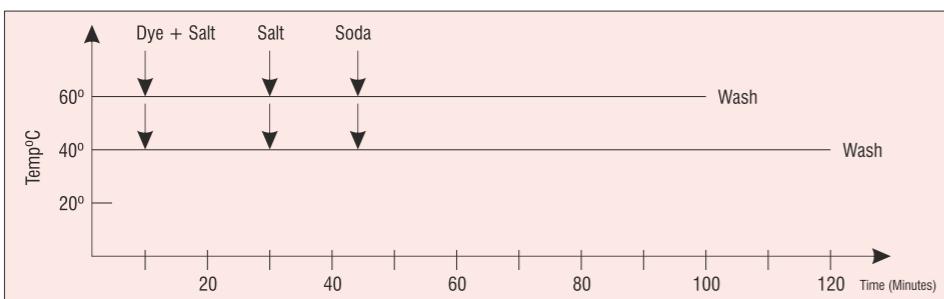
### 1. Exhaust Dyeing Method :-

Set the dye bath at recommended temp. (40/60°C) and add dye solution & other additives in the bath as under

#### Dyeing at 40° C - Dyeing time is 90 minutes

	Jigger Dyeing	Winch Dyeing	
Material : Liquor Ratio	1:2 - 1:3	1:4 - 1:6	1:15 - 1:30
Glauber's Salt gms/l.t.	50	50	50
Soda Ash gms/l.t.	5	5	5
Caustic Soda 72° Tw ml/l.t.	4-6	3-4	1-2
Or. Tri. Soda. Phosphate gms/l.t.	-	30	10-15

After addition of alkali continue dyeing for 90 min. & 60 min. respectively and wash.



### 2. Pad Batch Dyeing :-

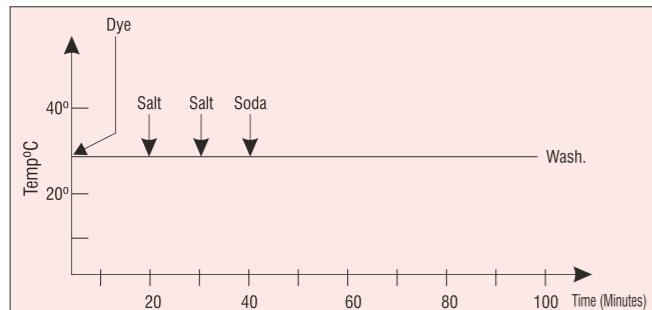
- (i) SHORT TIME PAD BATCH :  
Dye stuff + Sod. Silicate 100 gms/l.t (100-106°Tw) + Caustic Soda (72° Tw) 15ml / lt ---> 4 Hrs. Batch ---> Wash
- (ii) ONE BATH-PAD BATCH PROCESS :  
Dye stuff + Sod. Silicate (100-106° Tw) 100 gm / lt. + Caustic Soda (72° Tw) 5-10ml / lt ---> Wash

- (iii) ONE BATH-PAD-BATCH SYSTEM PROCESS :  
Dye stuff + Urea 50 gms / lt + Sodium Bicarbonate 20-50 gm / lt + Resist Salt - 10 gms / lt ---> Dry ---> Steam 3-4 min. at (100 - 105°C) ---> Wash
- (iv) TWO BATH-PAD-BATCH PROCESS :  
Dye stuff ---> Dry (1-3 min. at 150-200°C) ---> Chemical pad (Glauber's salt - 250 gms/lt. + Caustic Soda 30 ml / lt.) ---> 2-4 Hrs. Batch ---> Wash

## CYANURIC CHLORIDE BASED COLD BRAND (RADIFIX 'M' DYES)

These dyes are having good reactivity, fastness properties. These dyes require milder alkaline conditions for application & fixation at optimum temp. of 30-40°C.

**1. Exhaust Dyeing Process :-** Set the dye bath at 30-40°C and add predissolved dyestuff then enter the material and run for 15 minutes. Add half of the predissolved Glauber's salt and continue dyeing for 15 minutes, add remaining amount of predissolved salt and continue dyeing for further 15 min. now add predissolved Soda Ash solution and continue dyeing for further 30-60 minutes and wash the material.



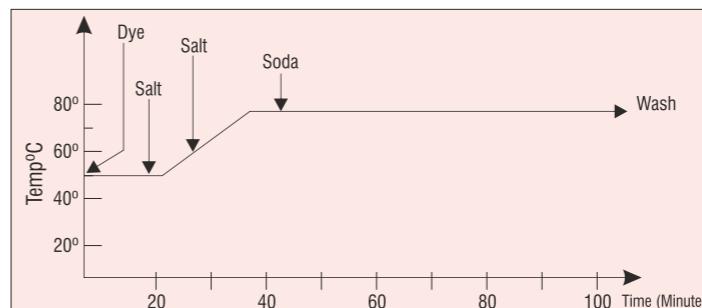
### 2. Semi Continous And Continous Process :-

- (i) PAD BATCH PROCESS :  
Dye stuff + Sod. Bicarbonate & Soda Ash mix (4:1) 5-30 gms/lt. + 2.5 g/l wetting agent ---> 24 Hrs. Batch --> Wash
- (ii) PAD - DRY - BAKE PROCESS :  
Dye stuff + Urea 50-200 gms/l.t. + Sodium Bicarbonate 5-10 gms/l.t. + 2.5 g/l wetting agent ---> Dry ---> Bake 1 min. at 200° C or (3min. at - 150° C) ---> Wash
- (iii) PAD - DRY - SYSTEM PROCESS :  
Dye stuff + Urea 50-200 gms/l.t + Sodium Bicarbonate 5-10 gms/l.t. + 2.5 g/l wetting agent ---> Dry ---> Steam (7 min. at 100-105° C) ---> Wash
- (iv) PAD - DRY - PAD SYSTEM PROCESS :  
Dye stuff + Resist Salt 10 gms/l.t ---> Dry ---> Chemical Pad (Caustic Soda 2 gms/l.t. + salt 200 -300 gm/lt.) ---> Dry ---> Stea (7-10 min at 100 - 105° C) ---> Wash

## CYANURIC CHLORIDE BASED HOT BRAND (RADIFIX 'P' DYES)

These are named as 'HOT BRAND DYES'. These dyes are applied under strong alkaline condition at high temp of application compared to cold brand dyes. These dyes contains very good fastness properties. These dyes are suitable particularly for printing, Cotton, Viscose, Cuprammonium rayons & natural silk. Dyeing process of these dyes is as below :

**1. Exhaust Dyeing Process :-** Set dye bath at 50°C add predissolved dyestuff, enter the material and run for 15 minutes. Add half of the predissolved Glauber's salt and continue dyeing, now gradually raise temp to 80-85°C and in the mean time add remaining amount of predissolved salt and continue dyeing for 10 minutes further after attaining temp. 80-85° C now add soda ash solution and continue dyeing for 30-60 minutes maintaining temp. 80-85°C and wash the material.



### SALT & ALKALI REQUIREMENT

Depth of Shade %	Salt (gms / lt.)	Soda Ash (gms/l.t.)
Up to 0.5	30	10
0.5 - 1.0	45	15
1.0 - 2.0	60	15
2.0 - 4.0	70	20
Above 4.0	90	20

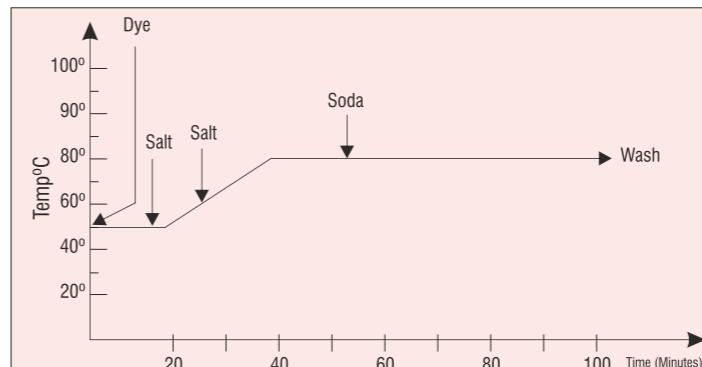
### 2. Semi Continous And Continous Process :-

- (i) PAD - BATCH - PROCESS :  
Dye stuff + Caustic Soda 15gm / lt. + Glauber's salt 10-30 gms / lt---> 24 Hrs Batch ---> Wash
- (ii) PAD - DRY - BAKE PROCESS :  
Dye stuff + Urea 200gm / lt + Soda Ash 10-20 gms / lt--->Dry--->Bake 30 Sec. at 200° C or (3 min. at 150°C) ---> Wash
- (iii) PAD - DRY - STEAM PROCESS :  
Dye Stuff + Soda Ash 10 gms / lt+Resist salt 10gms/lt --->Dry--->Steam (7-10 min. at 100-105° C)---> Wash
- (iv) PAD-DRY-PAD-SYSTEM PROCESS  
Dye stuff + Resist salt 10gms / lt--->Dry---> Chemical Pad (Caustic Soda 10-15 gms/lt + Salt 200-300 gm/lt) --->Dry--->Steam (7-10min. at 100-105° C)---> Wash

## HIGH EXHAUST DYES (RADIFIX 'HE' DYES)

These dyes are suitable for dyeing cotton & other Cellulosic material. These dyes posses significantly higher exhaustion & fixation efficiency which result in appreciable cost reduction in comparison to other conventional reactive dyes. The high fixation and good buildup are of particular importance when dyeing polyester/cellulosic blends where liquor to material ratio is quite high. Due to higher fixation of REACTIVE HE dyes, the drained and wash liquors after dyeing contain much less quantity of unfixed dyes in comparison to conventional reactive dyes. This facilities quicker wash off and efficient soaping. The improved stability of REACTIVE HE dyes gives improved batch to batch consistency.

**1. Exhaust Dyeing Process :-** Set dye bath at 50°C and add predissolved dyestuff, entre the material and run for 15 minutes now add half of the predissolved glauber's salt and continue dyeing raise the temp to 80-85°C in the mean while add remaining amount of predissolved glauber's salt and continue dyeing till temp 80-85° is reached. Continue dyeing for further 15 minute after getting temp. 80-85°C now add soda ash solution and, Continue dyeing for 30-60° min. maintaining temp 80-85°C and wash the material.



### SALT & ALKALI REQUIREMENT

Depth of Shade %	Salt (gms / lt.)	Soda Ash (gms/l.t.)
Up to 0.5	30	10
0.5 - 1.0	45	15
1.0 - 2.0	60	15
2.0 - 4.0	70	20
Above 4.0	90	20

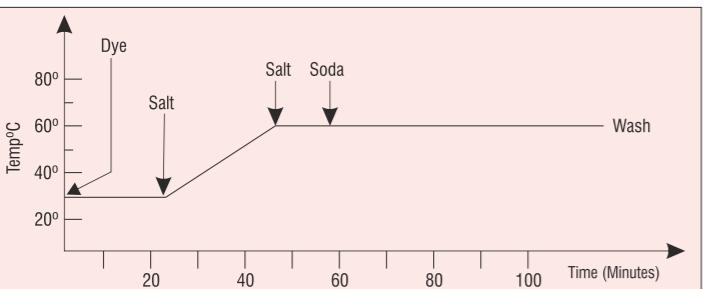
### 2. Semi Continous and Continous Process :-

This Process for REACTIVE 'HE' dyes is same as for REACTIVE 'H' Dyes.

## BIFUNCTIONAL DYES (RADIFIX 'ME' DYES)

Reactive ME dyes are low temp. high exhaust reactive dyes suitable for dyeing, padding and printing of all types of cellulosic material. These dyes offer high grade of all round fastness properties. They offer excellent levelling properties and excellent alkali stability. These dyes gives exceptionally good result on various textile printing including on discharge printing except RED which gives slight yellowish stain. Fixation temp of these dyes is 60-65°C.

**1. Exhaust Dyeing Process :-** Set dye bath at room temp. add predissolved Glauber's salt, now enter the material and run for 20 minutes, add half amount of predissolved Glauber's salt and continue dyeing now gradually raise temp to 60-65°C and add remaining amount of predissolved Glauber's salt after reaching 60°C temp. Continue dyeing for 15 min. further, now add soda ash solution and continue dyeing for 60 min. maintaining temp. 60-65° C and wash the material.



### PRINTING (REACTIVE V.S. BASED DYES & HOT BRAND DYES)

These dyes react with cellulosic fibers in presence of alkali & heat. The direct chemical linkage which result there by accounts for excellent fastness. The reaction between cellulosic fibers and V.S./ Hot Brand range of dyes can be achieved by any of the following method.

#### (1) ONE PHASE METHOD

(i) Steaming Process : Print---> Dry ---> Steam 10 min. at 100-102°C ---> Wash

(ii) Dry Heat Process : Print ---> Dry ---> Bake for 5 min. at 105°C ---> Wash or 1 min. at 200°C

#### (2) TWO PHASE METHOD

(i) Pad Silicate Batch Process : Print (Dyestuff paste without alkali) ---> Dye ---> Silicate Pad (Sodium Silicate 100-106°Tw.)--->24 Hrs. Batch--->Wash

### PRINTING PASTE RECIPE

	One Phase method	Two Phase method
Dyestuff	10-60	10-60
Urea	50-100	50-100
Hot Water	300	300
Thickener (Sodium Alginate 4%)	350-400	350-400
Resist salt	10	10
Sodium Bicarbonate	15-30	-
	Adjust remaining volume by addition of water	
TOTAL	1000 PARTS	1000 PARTS

### DISCHARGE PRINTING

V.S. based dyes are suitable for discharge printing. Cotton fabrics discharge is better than spun viscose fabrics. Prior to discharge printing the dyed fabric should be treated with resist salt 10gms/l.t. to protect the dyed ground shade from reducing effect.

### RADIFIX ED DYES :

These are reactive dyes for dyeing natural cellulose fibers or regenerated cellulose fibers and their blends.

#### Radifix ED dyes offer the following advantage:

Cost-effective, excellent build-up for deep shades dyeing - high exhaustion, high fixation excellent levelling properties - high color yield - easy wash-off-versatile application excellent compatibility - excellent fastness properties - reliable reproducibility

### SALT AND ALKALI RECOMMENDATION

depth	Glauber's salt or common salt (g/l)		Alkali (g/l)			Fixing time (min)
	Unmercerized cotton	Mer. cotton, Viscose rayon	Soda ash	Soda ash + Caustic soda	Na <sub>3</sub> PO <sub>4</sub>	
<0.5%	20	10	10	5+0.5	6	30
0.5-%	30	20	15	5+0.5	6	45
1-2%	40	30	20	5+1.0	8	60
2-3%	50	40	20	5+1.0	8	60
3-4%	60	50	20	5+1.0	8	60
4-5%	70	60	20	5+1.0	10	60
5-6%	80	70	20	5+2.0	10	60
>6%	80	70	20	5+2.0	10	90

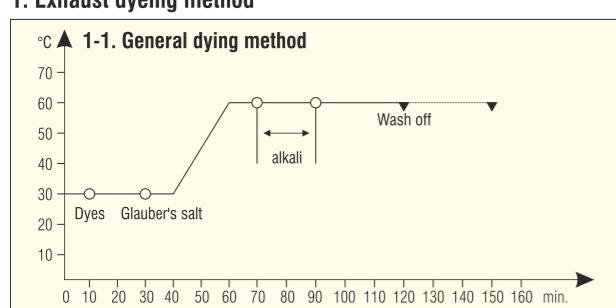
### INFORMATION ABOUT DYEING TEMPERATURE

Suitable for all Radifix dyes for pale shades, precise

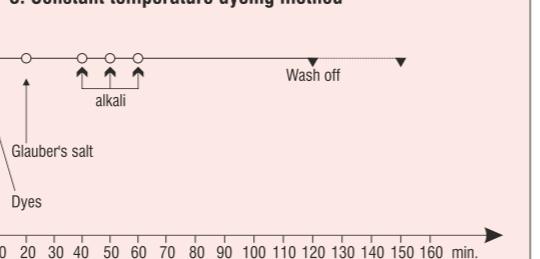
60°. temperature control and alkali addition will enhance the leveling and reproducibility.

80°C. For dyeing brilliant shade with Radifix Yellow ED-2G.

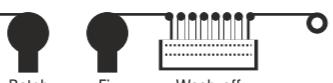
### 1. Exhaust dyeing method



### 1-3. Constant temperature dyeing method



### 2. Cold Pad-Batch Process



#### (a) Alkali requirements:

##### A. Silicate free method :

Radifix dyes X g/l  
Caustic soda (38°Be) 8+X/5 ml/l Glauber's salt 30 g/l

##### B. Sodium silicate method:

Na <sub>2</sub> SiO <sub>3</sub> (48.500~°Be)	Amount of Radifix dyes used ~20g/l 20g/l~40g/l 40g/l~70g/l 70g/l Amount of Caustic soda solution 32.5% (38°Be) in cc/l required in addition to sodium silicate
100 g/l	15 cc/l 20 cc/l 25 cc/l 30 cc/l

##### C. Modified silicate method:

Na <sub>2</sub> SiO <sub>3</sub> (48.500~°Be)	Amount of Radifix dyes used ~10g/l 10g/l~30g/l 30g/l~60g/l 60g/l Amount of Caustic soda solution 32.5% (38°Be) in cc/l required in addition to sodium silicate
50 g/l	5 cc/l 10 cc/l 15 cc/l 20 cc/l

#### Fastness Properties

- Fastness properties were tested in accordance with SN-ISO 105 and carried out under our laboratory conditions.
- All wet & rubbing fastness test for were performed at 3% o.w.f., for other blacks 6% dye was used.
- Depths of colored shades for lightfastness testing were 0.3 & 3% and 3 & 6% for other blacks.
- Depth of alkaline perspiration lightfastness test for colored shade was 3% for all blacks, 6%.

### WASH-OFF PROCESS (Recommended)

Bath	Temp (°C)	Time (min)	Function
1	30-50	10-15	cold rinsing or over-flow rinsing
2	30-50	10-15	neutralizing
3	60-70	10-15	warm rinsing
4	80-98	10-15	hot rinsing
5	98	10-15	soaping
6	60-70	10-15	warm rinsing
7	30-50	10-15	cold rinsing
8	30-50	10-15	softening & fixing

### GENERAL DYEING METHOD INTRODUCTION

#### Winch, jet dyeing

Dyes, salt and partial alkali are added to the dyebath at room temperature. Heat to the desired temperature gradually. Hold 10-20 min, add the rest alkali and dye for next 60-90 min.

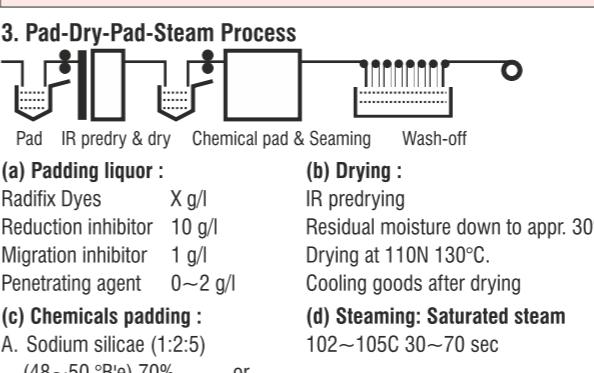
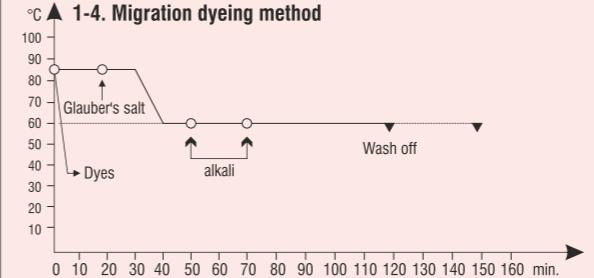
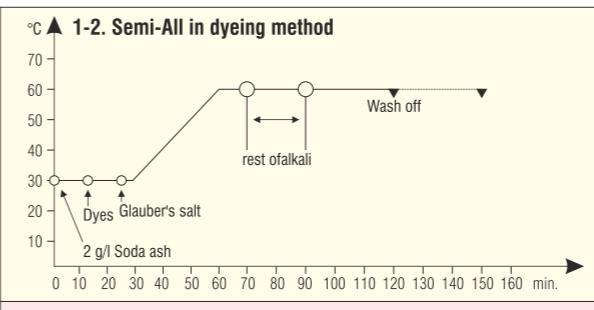
**Remark:** Automatic dosing system for dyes and alkali will benefit the levelingness and reproducibility.

### Salt and alkali recommendation of Radifix S dyestuffs in Exhaustion

Depth	Salt (g/l)	Soda Ash	Soda Ash + Caustic Soda NaOH(36° Be)	Fixing time (min)
<0.5%	20-30	10-12	10	30
0.5-1%	30-40	12-14	5+(0.75-1.25)	45
1-2%	40-50	14-16	5+(1.25-1.25)	60
2-3%	50-60	16-18	5+(1.50-2.00)	60
3-4%	60-70	18-20	5+(2.00-2.50)	60
4-5%	70-80	20	5+(2.50-3.00)	60
5-%	80	20	5+(3.00)	60

Application Wash-off:  
Exhaustion method Warm rinsing  
General dyeing method Neutralizing  
(With Acetic Acid Soaping)  
Warm soaping  
Cold rinsing

at 50°C x 10mins at 50°C x 10mins  
at 90°C x 10mins at 50°C x 10 mins  
at 30°C x 10mins



#### (a) Padding liquor :

Radifix Dyes X g/l  
Reduction inhibitor 10 g/l  
Migration inhibitor 1 g/l  
Penetrating agent 0~2 g/l

#### (b) Drying :

IR predrying  
Residual moisture down to appr. 30%  
Drying at 110N 130°C.

#### (c) Chemicals padding :

A. Sodium silicate (1:2.5) (48~50 °Be) 70% or

B. Caustic soda (38 °Be) 14~20 ml/l Common salt 250 g/l

#### (d) Steaming: Saturated steam

102~105°C 30~70 sec

#### (e) Wash-off

105°C 15 min

### RADIFIX RGB AND ULTRA RGB DYES

Advantages

- Suitable for trichromatic shades
- Economical Dyes
- Good exhaustion and buildup in deep shade
- Good compatibility

### RADIFIX 'S' SERIES

contains mult-chromophoric groups exhibiting very high Tinctorial values unlike any other class of reactive dyes. This series is characterized by its high exhaustion and fixation values and has better solubility than normal bifunctional dyes.

#### Key Features :

- Particularly suitable for economical dyeing of deep shades.
- Very low dye residue on dye bath due to high exhaustion/fixation characteristics.
- Lesser amount of dyes and electrolytes required to achieve deep shades as compared to conventional dyes.
- Suitable for exhaust dyeing and cold pad batch.

Depth of Shade% (O.W.F.)	Salt (g/l)	Soda Ash (g/l)




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		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Solubility gms / lt. at 30°C	Light	Washing I.S.O.3 (I.S.O.4)	Alkaline Perspiration Effect (Stain)	Bleaching Hypochlorite / Hyd. Peroxide	Dishargability	Fixation Temp° C (Exhaust Dyeing)
	YELLOW ME4GL Reactive Yellow 160 A	100	6	4-5 (4)	4-5 (4-5)	1 (4)	F	60 (S)
	GOL. YELLOW MERL Reactive Yellow 145	200	5	5 (5)	4 (3-4)	4 (3-4)	F	60 (S)
	ORANGE ME2RL Reactive Orange 122	50	5	4-5 (4)	4 (3)	4-5 (4-5)	F	60 (S)
	RED ME3BN Reactive Red 180	80	5	4 (5)	4 (5)	4 (5)	F	60 (S)
	RED ME3BL Reactive Red 194	60	4	4 (5)	4 (5)	4 (5)	F	60 (S)
	RED ME4BL Reactive Red 195	150	5-6	5 (4-5)	4 (4)	5 (4-5)	P	60 (S)
	RED ME6BL Reactive Red 196	80	5	4-5 (4)	4 (4)	3-4 (4)	F	60 (NS)
	RED MERBL Reactive Red 198	100	5	4-5 (4-5)	4-5 (4)	4-5 (4-5)	F	60 (S)
	SCARLET 2GF Reactive Red 222	100	5	4-5 (4-5)	4	4	F	60 (S)
	RED ME3GL Reactive Red 223	100	5	4-5 (4-5)	4	4	F	60 (S)
	N. BLUE ME2GL Reactive Blue 194	100	4-5	4-5 (3)	4 (4)	1 (3)	F	60 (LS)
	BLUE ME2RL Reactive Blue 248	100	4	5 (4-5)	4 (4)	1 (3)	F	60 (LS)
	BLUE BB Reactive Blue 220	100	7	4-5 (4)	4 (5)	1 (4)	F	60 (LS)
	BLUE BRF Reactive Blue 221	120	4-5	4	4 (3)	5 (4)	F	60 (S)
	BLUE MEBF Reactive Blue 222	150	5	5	5 (5)	1 (4)	F	60 (S)
	BLACK HFGR	100	4-5	4-5 4-5	5 (4)	4-5 (4-5)	F	60 (S)
	VIOLET MERL	80	4	4 3-4	4 (4)	4 (4)	F	60 (S)
	MAGENTA MERL	100	4	4 3-4	4 (4)	4 (4)	F	60 (S)

RADIFIX		REACTIVE 'P' DYES (Printing Series)		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Solubility gms / lt. at 30°C	Light	Washing I.S.O.3 (I.S.O.4)	Alkaline Perspiration Effect (Stain)	Bleaching Hypochlorite / Hyd. Peroxide	Dishargability	Fixation Temp° C (Exhaust Dyeing)		
	GOLDEN YELLOW HR Reactive Orange 12	110	6	5 (4-5)	5 (5)	3 (4-5)	P	90		
	YELLOW P4G Reactive Yellow 18	130	6-7	5 (4-5)	4-5 (4-5)	1 (4)	P	90		
	YELLOW P6G Reactive Yellow 85	60	4	4 (4)	4 (5)	4 (5)	P	90		
	YELLOW P8G Reactive Yellow 95	80	4-5	4 (5)	4 (4-5)	4 (4)	P	90		
	ORANGE P2R Reactive Orange 13	150	4-5	5 (5)	4-5 (5)	4 (4)	P	90		
	RED PB Reactive Red 24	80	4	4 (4-5)	4 (3-4)	1 (1-2)	P	90		
	RED P2B Reactive Red 45	80	4	4 (4-5)	4 (4-5)	4 (4)	P	90		
	RED P4B Reactive Red 245	70	3-4	4 (4)	3 (3-4)	4 (4)	P	90		
	RED P6B Reactive Red 218	120	4	4 (4)	4 (5)	4 (4)	P	90		
	RED P8B Reactive Red 31	100	4-5	4-5 (4)	4 (3-4)	3-4 (4)	P	80		
	RED BROWN H4R Reactive Brown 9	90	4-5	5 (5)	4-5 (3-4)	4-5 (5)	P	80		
	BROWN P2R Reactive Brown 11	150	5-6	4 (4-5)	3-4 (4)	2 (2-3)	P	90		
	TURQUOISE BLUE H5G Reactive Blue 25	120	5-6	5 (4-5)	4-5 (5)	3-4 (2)	P	90		
	PURPLE P3R Reactive Violet 1	100	6-7	5 (5)	2-3 (4)	4 (2-3)	P	80		
	MAGENTA PB Reactive Violet 26	80	4	4-5 (4)	4 (4)	1 (3)	P	80		
	BLUE P5R Reactive Blue 13	100	6	5 (5)	4-5 (4)	1 (1)	P	80		
	BLUE P2R Reactive Black 39	100	5	5 (4-5)	4 (4)	4 (4)	P	90		
	BLUE P3R Reactive Blue 49	100	5	5 (4-5)	4 (4)	2 (2)	P	80		
	BLACK PN Reactive Black 8	40	6	5 (4-5)	4-5 (3)	4 (3)	P	80		
	BLACK PGR	100	5	5 (4-5)	4 (4-5)	4 (4)	P	90		

RADIFIX		REACTIVE 'HE' DYES (High Exhaust Series)		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Solubility gms / lt. at 30°C	Light	Washing I.S.O.3 (I.S.O.4)	Alkaline Perspiration Effect (Stain)	Bleaching Hypochlorite / Hyd. Peroxide	Dishargability	Fixation Temp° C (Exhaust Dyeing)		
	YELLOW HE4G Reactive Yellow 81	50	5	5 (4-5)	4-5 (4-5)	1-2 (4-5)	G	80		
	YELLOW HE6G Reactive Yellow 135	45	4	4 (4)	4 (4)	1 (2)	G	80		
	GOLDEN YELLOW HER Reactive Yellow 84	70	5	4 (4)	4 (4-5)	2 (5)	P	80		
	GOLDEN YELLOW HE4R Reactive Yellow 84 A	80	5-6	5 (5)	4-5 (4-5)	3 (4-5)	P	80		
	ORANGE HER Reactive Orange 84	70	3-4	4 (4)	4 (4)	4-5 (4)	P	75-80		
	ORANGE HE2R Reactive Orange 94	40	3-4	4 (4)	4 (4)	4-5 (4)	P	80		
	RED HE3B Reactive Red 120	80	5	5 (4-5)	4-5 (4)	1 (4)	P	80		
	RED HE7B Reactive Red 141	100	4-5	5 (4-5)	5 (4-5)	3 (4-5)	P	80		
	RED HE8B Reactive Red 152	100	4-5	5 (4-5)	5 (4-5)	3-4 (4-5)	P	80		
	BLUE HERD Reactive Blue 160	80	5	5 (5)	4-5 (4)	2 (4-5)	F	80		
	NAVY BLUE HER Reactive Blue 171	80	4	5 (4-5)	4 (4-5)	1-2 (4)	F	80		
	NAVY BLUE HE2R Reactive Blue 172	80	4	4-5 (4)	4 (5)	2 (3)	F	80		
	GREEN HE4BD Reactive Green 19 A	130	4	5 (4-5)	4-5 (4)	1 (2-3)	F	80		
	BLACK HEBL Reactive Black HEBL	90	4	5 (4-5)	4 (4)	3 (4)	G	80		

RADIFIX		REACTIVE 'VS' DYES (Vinyl Sulphone Series)		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Solubility gms / lt. at 30°C	Light	Washing I.S.O.3 (I.S.O.4)	Alkaline Perspiration Effect (Stain)	Bleaching Hypochlorite / Hyd. Peroxide	Dischargeability	Fixation Temp° C (Exhaust Dyeing)		
	YELLOW GR Reactive Yellow 15	100	6	4 (2-3)	5 (5)	1 (5)	G	W (LS)		
	YELLOW RTN Reactive Yellow 24	100	6-7	4 (4)	4 (4-5)	2 (5)	F	60 (S)		
	YELLOW GL Reactive Yellow 37	100	5-6	5 (5)	4 (5)	2 (4)	G	60 (S)		
	YELLOW FG Reactive Yellow 42	100	5	4-5 (4)	4 (4)	1 (5)	G	60 (S)		
	YELLOW R Reactive Yellow 77	150	5	4-5 (4)	4 (4-5)	1 (4)	G	60 (S)		
	GOLDEN YELLOW RNL Reactive Orange 107	100	5	4-5 (4)	4-5 (4-5)	1 (5)	G	60 (S)		
	GOLDEN YELLOW R	100	5	4-5 (4)	5 (5)	1 (5)	G	60 (S)		
	ORANGE 2 R Reactive Orange 7	100	4-5	4-5 (4-5)	5 (5)	1-2 (5)	G	S (S)		
	ORANGE 3R Reactive Orange 16	80	5-6	5 (5)	5 (5)	1 (5)	G	60 (S)		
	RED BB Reactive Red 21	140	5	5 (4-5)	5 (4-5)	2 (3)	G	60 (S)		
	RED 3B Reactive Red 23	100	6	5 (5)	5 (4-5)	5 (4)	F	60 (S)		
	RED 5B Reactive Red 35	100	6	3-4 (3-4)	5 (4)	1 (4)	G	60 (S)		
	RED C2G Reactive Red 106	100	4	4-5 (3-4)	5 (5)	1 (5)	G	60 (S)		
	RED BS Reactive Red 111	100	5-6	4 (4)	3-4 (3-4)	1 (3-4)	F	60 (S)		
	RED 5BX Reactive Red 198 A	80	4-5	3 (3-4)	4 (4)	4 (4)	F	60 (S)		
	VIOLET 5R Reactive Violet 5	100	6-7	4 (5)	3-4 (4-5)	5 (3-4)	F	60 (S)		
	BLUE R Reactive Blue 19	100	7	5 (4-5)	4-5 (5)	3-4 (5)	F	60 (S)		
	TURQUOISE BLUE G Reactive Blue 21	100	6	4-5 (5)	5 (5)	3-4 (5)	P	60 (S)		
	BLUE 3R Reactive Blue 28	100	7	4 (3-4)	5 (4-5)	3-4 (5)	G	60 (S)		
	NAVY BLUE HR Reactive Blue 89	50	3-4	4 (4)	4 (4)	1 (2)	G	80 (S)		
	N. BLUE GG Reactive Blue 203	100	5	4-5	5	5	G	60 (S)		

RADIFIX		REACTIVE 'VS' DYES (Vinyl Sulphone Series)		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Solubility gms / lt. at 30°C	Light	Washing I.S.O.3 (I.S.O.4)	Alkaline Perspiration Effect (Stain)	Bleaching Hypochlorite / Hyd. Peroxide	Dischargeability	Fixation Temp° C (Exhaust Dyeing)		
	BROWN GR Reactive Brown 18	100	6	4-5 (3-4)	4 (4)	1 (5)	G	60 (S)		
	BLACK B Reactive Black 5	100	4-5	4-5 (4)	5 (4)	1 (5)	G	60 (S)		
	BLACK RL Reactive Black 31	100	6	4-5 (4-5)	5 (5)	3-4 (5)	G	60 (S)		
	BLACK WNN	140	4-5	4 (5)	4 (4-5)	4 (4)	G	60 (S)		
	SUPER BLACK AR	140	4-5	4 (5)	4-5 (4-5)	3-4 (4-5)	G	60 (S)		
	SUPER BLACK AG	140	4-5	4 (5)	4-5 (4-5)	3-4 (4-5)	G	60 (S)		

RADIFIX		REACTIVE 'RGB & 'ULTRA RGB' Series		FASTNESS PROPERTIES						
SHADE (2%)	PRODUCTS & C.I. NAME	Light	Washing ISO 4	Acidic Perspiration	Alkaline Perspiration	Hydrochloride Bleach	Peroxide Bleach	Dischargeability	Solubility 60°	
	YELLOW RGB	4-5	4-5	5	4-5	2	2	M	100	
	ULTRA YELLOW RGB	4	4-5	5	5	4	4	D	100	
	ULTRA ORANGE RGB	5	4-5	4-5	4-5	5	5	D	100	
	RED RGB	4-5	4-5	4-5	4-5	4	4	ND	120	
	ULTRA RED RGB	5	4-5	4-5	5	3-4	4-5	ND	100	
	ULTRA CARMINE RGB	5	4-5	4-5	5	3-4	4-5	ND	100	
	NAVY RGB	5	5	5	5	3	3	D	120	

RADIFIX		REACTIVE 'S' DYES		FASTNESS PROPERTIES								
SHADE (4%)	PRODUCTS & C.I. NAME	Light	Washing ISO 4	Acidic Perspiration	Alkaline Perspiration	Hydrochloride Bleach	Peroxide Bleach	Dischargeability	Solubility 60°			
	YELLOW S3R	5-6	4	5	4	4	4	M	200			
	YELLOW SBG	3-4	4	5	4	4	4	M	200			
	RED S2B	4	4	5	4	4	4	M	100			
	DEEP RED SD	4	5	5	4	4	4	M	200			
	DEEP RED SBG	5	4-5	5	4	4	4	M	100			
	BRILLIANT RED SB	5	4-5	5	4	4	4	M	100			
	DARK BLUE SBG	4	4	5	4	4	4	M	200			
	NAVY BLUE SG	4	4	5	4	4	4	M	200			
	OCEAN BLUE SR	4-5	4	5	4	4	4	M	100			

RADIFIX		REACTIVE 'RR' DYES		FASTNESS PROPERTIES								
SHADE (4%)	PRODUCTS & C.I. NAME	Light	Washing ISO 4	Acidic Perspiration	Alkaline Perspiration	Hydrochloride Bleach	Peroxide Bleach	Dischargeability	Solubility 60°			
	YELLOW RR	4	4-5	4	4	4-5	4-5	D	100			
	ORANGE RR	4-5	4-5	4	4	4-5	4-5	ND	100			
	RED RR	4	4	3-4	3-4	3-4	3-4	ND	100			
	BLUE RR	4-5	4-5	5	4	4	4	M	150			

RADIFIX		REACTIVE 'AD' Series		2%	RED ADB	RED AD4B	SCARLET ADB	ORANGE ADB	YELLOW ADB	OLIVE GREEN ADB	BROWN AWR
50°C	Solubility (g/l)				100	150	100	100	100	100	100
Rating (1)	Lightfastness (Xenon test) ISO 105-B02, 1 (0.3 %, 3 % for colors) 2 (3 %, 6 % for blacks)				3	4	3	3	4	4	>6
Rating (2)					4-5	5	4-5	4-5	5	5	>6
3 % for colors 6 % for all blacks	Light fastness to Perspiration Alkali (Xenon test).....Modified ISO 105-B02				4	4	4	4	4	4-5	>6
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	5
C					4-5	4-5	4-5	4-5	3-4	5	4-5
N					5	5	5	5	5	5	5
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	5
C					4	4	4	4	3-4	4-5	4
N					5	5	5	5	5	5	5
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	5
C					4-5	5	4-5	4-5	4-5	5	4-5
N					4-5	4-5	4-5	4-5	4	4	4-5
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	4-5
C					4-5	5	4-5	4-5	4-5	5	4-5
N					4-5	4-5	4-5	4-5	4	4	4-5
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	4-5
C					4	4-5	4	4	3-4	4-5	4-5
N					5	5	5	5	3	4	4-5
E	Fastness to Washing ISO 105-C06-C2S (60°C x 30')				4-5	4-5	4-5	4-5	4-5	4-5	5
C					4	4	4	4	4	4-5	4-5
N					5	5	5	5	4	4-5	5
E	Fastness to Chlorinated Water (20ppm) ISO 105-E03 (27°Cx1hr)				3-4	3	3-4	3-4	3-4	4	1
Dry	Fastness to Rubbing....ISO 105-x12				5	5	5	5	4	4-5	5
Wet					3	2-3	3	3	2-3	2-3	2-3
E	Fastness to Dry Cleaning....ISO 105-D01 (27°Cx1hr)				4-5	4-5	4-5	4-5	4-5	4-5	4-5
E	UK-T0 (multicycle laundering) (60°C x 30')				4-5	4	4-5	4-5	4-5	4-5	5



RADIFIX

## DIRECT DYES

## DIRECT DYES

### SHADE

### PRODUCTS & C.I. NAME

	BRILLIANT YELLOW 3 GX DIRECT YELLOW 6
	PAPER YELLOW T DIRECT YELLOW 11
	CRYOSPHENINE DIRECT YELLOW 12
	TITAN YELLOW DIRECT YELLOW 9
	YELLOW GLT DIRECT YELLOW 132
	YELLOW 2GL DIRECT YELLOW 142
	YELLOW G DIRECT YELLOW 28
	YELLOW R DIRECT YELLOW 29
	YELLOW 5GLL DIRECT YELLOW 44
	SUPRA YELLOW RL DIRECT YELLOW 86
	SUN YELLOW RCH DIRECT YELLOW 99
	ORANGE GL DIRECT ORANGE 34
	ORANGE 7GLL DIRECT ORANGE 37
	ORANGE TGLL DIRECT ORANGE 39
	VISCOSE ORANGE A DIRECT ORANGE 108
	BORDEAUX 6B DIRECT RED 16
	SCARLET 4BS DIRECT RED 23
	RED 12B DIRECT RED 31
	RED 5BR DIRECT RED 80
	RED 5BL DIRECT RED 81



## DIRECT DYES

## DIRECT DYES

### SHADE

### PRODUCTS & C.I. NAME

	RED 2BL DIRECT RED 83
	BROWN 3R 133% DIRECT RED 111
	LIGHT ROSE FR DIRECT RED 227
	SCARLET 6BS DIRECT RED 239
	PINK 3B (SF) DIRECT RED 254
	VIOLET MB DIRECT VIOLET 9
	VIOLET BB DIRECT VIOLET 35
	HELIO B DIRECT VIOLET 51
	SKY BLUE FB DIRECT BLUE 1
	SKY BLUE FF DIRECT BLUE 15
	BLUE GLL DIRECT BLUE 71
	BLUE RLL DIRECT BLUE 80
	BRILLIANT BLUE F DIRECT BLUE 151
	T. BLUE SBL DIRECT BLUE 86
	TURQ. BLUE FBL DIRECT BLUE 199
	BLACK VB DIRECT BLACK 19
	GREY RLN DIRECT BLACK 56
	BLACK OB DIRECT BLACK 80
	BLACK AR DIRECT BLACK 168
	GREEN B DIRECT GREEN 26

**DIRECT BLACK 22 / BLACK VSF**

800 %

1200 %

1600 %

## NOTES



**RADIFIX**

## **R. A. DYESTUFFS INDIA P. LIMITED**

An ISO 9001 : 2008 & ISO 14001 : 2004 Certified Company  
Govt. Recognised Export House  
Manufacturers and Exporters of Dyestuffs & Agrochemicals  
CIN NO.: U24110GJ2005PTC045384

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R. A. HOUSE, 1, Ashwamegh Part-1,  
132' Ring Road, Near IOC Petrol Pump,  
Satellite, Ahmedabad - 380015. INDIA.

T: +91-79-26767 888 / 999

F: +91-79-26767444

E: [info@colorexindia.com](mailto:info@colorexindia.com)

W: [www.colorexindia.com](http://www.colorexindia.com)