



WORLD  
CLASS  
BY  
DYE



We add colour to your lives



## COMPANY PROFILE

### Profile:

Dyechem International Pvt. Ltd. was founded in 1978 to specialize in the field of Reactive dyes for cotton fabrics. Today, the company has a full range of Reactive dyes for use in cotton knit hosiery, jute and cotton viscose. Over the past three and half decades, our track record of introducing exclusive technological innovations in the field of reactive dyes for textiles has been the envy of the world's leading dye manufacturers. Our growth has been achieved in tandem with that of the Indian textile industry and has made a valuable contribution to our country's national competitiveness.

### Quality :

The quality of Dyechem's products is no accident – we put in a lot of effort into delivering the highest quality products to our consumers. This is ensured by the very strict norms we have laid out for our quality control department. And even so, we are constantly striving to make sure that our products are of the highest possible standard in the market. Our major Reactive dyes are GOTS certified. Dyechem's range of products comprises of high strength and fastness dyes and also low salt dyes. This results in bright and fast shades, better reproducibility and has better pickup, thereby reducing the load on the effluent system. We conduct our testing at our own R&D centre which has state-of-the-art equipment.

### Services :

A customer's requirement is the minimum standard we work to and customer satisfaction is our primary goal. At Dyechem, we provide various services to our buyers, such as :

- We are able to provide technicians to assist consumers with issues during dyeing or printing.
- We match shades by giving dyeing recipes
- We constantly strive to introduce tailor made dyes to reduce load on effluent, reduce fuel and chemicals in order to reduce the consumer's cost and make their units profitable.
- We provide Azo-free dyestuff (free from banned amines as per International regulations) and take sincere care to protect the environment ensuring we abide by all the pollution norms.
- We take measures to see that all round high fastness norms are strictly maintained on light and deep shades consistently.
- We believe in the concept RFT (Right First Time). Our products are thoroughly checked before despatch as we firmly believe that no colour should vary in strength or tone at any given time and dyeing results must be accurate from the first attempt.



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**VS Series :**  
Vinyl Sulphone Based  
Dyes With Excellent  
All-Round  
Fastness Properties











Name of Dye (C.I. Number)		Dyes Strength 2%		General Properties							Fastness Properties								
				Suitability					Light Day Light		Washing					Perspiration			
				Solubility g/l at 30 °C	Substantivity	Exhaust	Pad-Batch	Printing	Dischargeability	1/6	1/1	I.S.O.3		I.S.O.4		Hypochlorite		Alkaline	
									Effect	Stain	Effect	Stain	Effect	Stain	Effect	Stain	Effect	Stain	
Yellow FG (Yellow 42)		100	L	LS	S	S	G	4	5	4-5	5	4-5	5	1	5	4	5	5	5
Yellow GR (Yellow 15)		100	H	S	S	S	G	4-5	6	4	5	5	5	1	5	5	5	5	4-5
Golden Yellow R (-----)		100	H	S	S	S	F	4-5	5	4-5	4-5	4	4-5	1	5	5	4-5	5	4-5
Golden Yellow RNL (Orange 107)		100	H	S	S	S	G	4	5	5	4-5	5	4-5	1	5	5	5	5	5
Orange 3R (Orange 16)		80	H	S	LS	S	G	5-6	5-6	5	5	3	4-5	1	5	5	5	5	5
Red BS (Red 111)		100	H	S	S	S	G	3-4	4	5	5	5	4-5	3	5	5	5	5	5
Red 3RS (-----)		100	H	S	S	S	G	3-4	4	5	5	5	4-5	3	5	5	5	5	5
Violet 5R (Violet 5)		100	H	S	S	S	P	6	6-7	4-5	5	5	2-3	5	3-4	4-5	5	4-5	5
T. Blue XLR (Blue 21)		80	H	S	S	S	P	4-5	5	4	4	4-5	4-5	3-4	5	3-4	3-4	3-4	3-4
T. Blue 3RS (Blue 21)		80	H	S	S	S	P	4-5	5	4	4	4-5	4-5	3-4	5	3-4	3-4	3-4	3-4
T. Blue H2GP (-----)		80	H	S	S	S	P	5-6	6	4	4	5	5	3-4	5	5	4-5	5	4-5
Blue RN 150% (Blue 19)		100	H	S	S	S	F	5-6	6	4-5	5	4-5	4-5	3-4	5	4-5	5	5	5
Blue BB 133% (Blue 220)		100	H	S	S	S	G	6-7	7	4-5	5	4	5	3	5	3-4	5	4	5
Blue 3R (Blue 28)		100	H	S	S	S	G	6-7	7	4	5	3-4	5	2-4	5	3-4	4-5	4	4-5
Dark Blue HR (-----)		100	H	S	S	S	F	5-6	6	4	5	3-4	5	2-4	5	3-4	4-5	4	4-5
Black B 150% (Black 5)		100	H	S	S	S	G	5	5	4-5	5	4	4-5	1	5	5	4	5	4
Navy Blue DRN (-----)		100	H	S	S	S	G	5	5	4-5	5	4	4-5	1	5	5	4	5	4
Green 4BX (-----)		100	H	S	S	S	P	4	5	4-5	5	4	4-5	1	5	5	4	5	4
Brown GR (-----)		100	H	S	LS	S	G	4-5	5	4-5	5	4-5	4-5	1	5	4	3	4	5
Brown GR-PR (-----)		100	H	S	LS	S	G	4-5	5	4-5	5	4-5	4-5	1	5	4	3	4	5
Black HFGR (-----)		100	H	S	S	S	P	7	7	4-5	5	4	4-5	3-4	5	4	5	4	5
Super Black RN (-----1)		100	H	S	S	S	F	5	5	4-5	5	4	4	3-4	5	3-4	5	3-4	5








 <b>ME Series :</b> Bifunctional, Mild Exhaust Dyes		General Properties						Application					Fastness Properties				
		Solubility g/l at 30 °C		Dyeing Properties				Dyeing			Printing		Light Fastness	Washing I.S.O.4		Perspiration	
		Straight	30pts/1000 Common Salt	Substantivity	Optimum Dyeing Temp °C	Fixation %	Dischargeability	Exhaust Dyeing	One Bath Cold Pad - Batch Process	Two Bath Pad - Dry Chem Pad Stear	Print - Dry - Steam	Print - Dry Pad Silicate	Day Light 1/1	Effect	Stain	Effect (Alkaline)	Effect (Acidic)
Name of Dye (C.I. Number)	Dyes Strength 2%																
Yellow 7GL (-----)		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
Yellow 5GL (Yellow 160A)		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
G. Yellow MERL (Yellow 145)		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
Orange ME2RL (Orange 122)		60	10	H	60	70	P	S	S	S	S	S	4	4	4	3	3
Brilliant Red R (-----)		100	90	H	60	70	P	S	S	S	N	S	5	4	4	4	4
Red ME4BL (Red 195)		90	70	H	60	75	P	S	S	S	S	S	5-6	4-5	4-5	4-5	4-5
Red F3B (Red 180)		90	70	H	60	75	P	S	S	S	S	S	5-6	4-5	4-5	4-5	4-5
Red ME6BL (Red 250)		30	10	H	60	70	P	S	S	S	N	S	5	4	4	3-4	3-4
Blue ME2RL (Blue 248)		60	10	H	60	70	P	S	S	S	N	S	5	4	4	4	4
Blue 2GX (-----)		60	10	H	60	70	P	S	S	S	N	S	5	4	4	4	4
Red Brown CRR (-----)		100	50	H	60	70	P	S	LS	LS	S	S	5	4-5	4-5	4-5	4




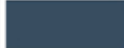

 <b>RMB Series :</b> High Strength Dyes For Deep Shades		General Properties						Application					Fastness Properties				
		Solubility g/l at 30 °C		Dyeing Properties				Dyeing			Printing		Light Fastness	Washing I.S.O.4		Perspiration	
		Straight	30pts/1000 Common Salt	Substantivity	Optimum Dyeing Temp °C	Fixation %	Dischargeability	Exhaust Dyeing	One Bath Cold Pad - Batch Process	Two Bath Pad - Dry Chem Pad Stear	Print - Dry - Steam	Print - Dry Pad Silicate	Day Light 1/1	Effect	Stain	Effect (Alkaline)	Effect (Acidic)
Name of Dye (C.I. Number)	Dyes Strength 2%																
Lemon RMB		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
G. Yellow RMB		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
Orange RMB		100	10	H	60	70	P	S	S	S	S	S	4	4-5	4-5	4-5	4-5
Red RMB		100	90	H	60	70	P	S	S	S	N	S	5	4	4	4	4
Maroon RMB		100	90	M	60	70	P	S	S	S	S	S	4	4-5	4-5	3-4	4
Black 5RMB		100	90	H	60	70	P	S	S	S	S	S	3-4	4	4-5	4	4




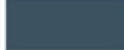
 <b>CN Series :</b> Dyes With All-Round Fastness And High Depth		General Properties						Application					Fastness Properties				
		Solubility g/l at 30 °C		Dyeing Properties				Dyeing			Printing		Light Fastness	Washing I.S.O.4		Perspiration	
		Straight	30pts/1000 Common Salt	Substantivity	Optimum Dyeing Temp °C	Fixation %	Dischargeability	Exhaust Dyeing	One Bath Cold Pad - Batch Process	Two Bath Pad - Dry Chem Pad Stear	Print - Dry - Steam	Print - Dry Pad Silicate	Day Light 1/1	Effect	Stain	Effect (Alkaline)	Effect (Acidic)
Name of Dye (C.I. Number)	Dyes Strength 2%																
Lemon CN		100	90	H	4	60	70	P	S	S	S	S	S	6	5	4-5	4
Yellow CN		100	90	H	4	60	70	P	S	S	S	S	S	6	5	4-5	4
Orange CN		100	10	H	4-5	60	70	P	S	S	S	S	S	4	4-5	4-5	4-5
Red CN		100	90	H	4	60	70	P	S	S	S	N	S	5	4	4	4
Rose CN		60	10	M	4	60	70	P	S	-	-	-	-	4	4-5	4-5	3-4
Navy CN		100	90	H	5	60	70	G	S	S	S	S	S	5	4	4-5	5
Black CN		100	90	H	4	60	70	P	S	S	S	S	S	3-4	4	4-5	4
Grey CN		100	80	M	60	70	F	S	S	S	S	S	4-5	4-5	4	5	5

 <b>L Series :</b> Dyes For Light Shades		General Properties						Application					Fastness Properties				
		Solubility g/l at 30 °C		Dyeing Properties				Dyeing			Printing		Light Fastness	Washing I.S.O.4		Perspiration	
		Straight	30pts/1000 Common Salt	Substantivity	Optimum Dyeing Temp °C	Fixation %	Dischargeability	Exhaust Dyeing	One Bath Cold Pad - Batch Process	Two Bath Pad - Dry Chem Pad Stear	Print - Dry - Steam	Print - Dry Pad Silicate	Day Light 1/1	Effect	Stain	Effect (Alkaline)	Effect (Acidic)
Name of Dye (C.I. Number)	Dyes Strength 2%																
Yellow FRXL (Yellow 145)		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
Pink 3GF (----)		80	10	M	60	70	P	S	S	S	S	S	4	4-5	4-5	4-5	4
Rose CN (----)		60	10	M	60	70	P	S	-	-	-	-	4	4-5	4-5	3-4	4
Aqua XL (Blue 38)		100	90	H	60	70	P	S	S	S	S	S	4-5	4-5	3-4	5	4-5
Blue FNXL (----)		100	80	M	60	70	F	S	S	S	S	S	4-5	4-5	4	5	5
Dark Blue SGL (----)		100	90	H	60	70	G	S	S	S	S	S	4-5	4-5	4-5	3-4	4
Blue BB (Blue 220)		100	80	H	60	70	G	S	S	S	S	-	4-5	4-5	4-5	3-4	4
Blue BF (Blue 222)		100	90	M	60	70	G	S	S	S	S	S	4-5	5	4-5	4	4
Grey CN (----)		100	80	M	60	70	F	S	S	S	S	S	4-5	4-5	4	5	5



 <b>XLRN Series :</b> High Quality Dyes For Level Dyeing And All-Round Fastness Properties		General Properties							Fastness Properties								
		Suitability							Light AATCC 16E 20 AFU		Washing				Perspiration		
		Solubility g/l at 30 °C	Substantivity	Exhaust 60 °C	Cold Pad-Batch Silicate	Pad Dry-Pad Steam	Dischargeability	Washing-off Properties			I.S.O.3		I.S.O.4				Chlorinated Water (20 PPM active)
1%	3%								Effect	Stain	Effect	Stain					
Name of Dye (C.I. Number)	Dyes Strength 2%																
Yellow XLRN		100	H	S	S	S	G	G	4	4	4	5	5	5	2-3	5	5
Red XLRN		100	H	S	S	S	G	G	3	4	5	5	4	4-5	3	5	5
Blue XLRN		100	H	S	S	S	G	G	3	3-4	5	4-5	4-5	4-5	2-3	5	5
Navy Blue XLRN		100	H	S	S	S	G	G	3	3-4	4	5	4	4-5	2	5	5

 <b>XL-RGB Series :</b> Trichromatic Dyes for Light And Medium Shades		General Properties							Fastness Properties								
		Suitability							Light AATCC 16E 20 AFU		Washing				Perspiration		
		Solubility g/l at 30 °C	Substantivity	Exhaust 60 °C	Cold Pad-Batch Silicate	Pad Dry-Pad Steam	Dischargeability	Washing-off Properties			I.S.O.3		I.S.O.4				Chlorinated Water (20 PPM active)
1%	3%								Effect	Stain	Effect	Stain					
Name of Dye (C.I. Number)	Dyes Strength 2%																
Yellow XL-RGB		100	H	S	S	S	G	G	4	4	4	5	5	5	2-3	5	5
Red XL-RGB		100	H	S	S	S	G	G	3	4	5	5	4	4-5	3	5	5
Blue XL-RGB		100	H	S	S	S	G	G	3	3-4	5	4-5	4-5	4-5	2-3	5	5
Navy Blue XL-RGB		100	H	S	S	S	G	G	3	3-4	4	5	4	4-5	2	5	5

 <b>XLRR Series :</b> High Quality Trichromatic Dyes For Light And Medium Shades		General Properties							Fastness Properties								
		Suitability							Light AATCC 16E 20 AFU		Washing				Perspiration		
		Solubility g/l at 30 °C	Substantivity	Exhaust 60 °C	Cold Pad-Batch Silicate	Pad Dry-Pad Steam	Dischargeability	Washing-off Properties			I.S.O.3		I.S.O.4				Chlorinated Water (20 PPM active)
1%	3%								Effect	Stain	Effect	Stain					
Name of Dye (C.I. Number)	Dyes Strength 2%																
Yellow XLRR		100	M	S	S	S	S	G	5	3-4	5	4-5	5	4-5	4-5	4-5	4-5
Red XLRR		100	M	S	S	S	S	G	4	3	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Blue XLRR		100	M	S	S	S	S	G	5	4	4-5	4	4-5	4	3	4	4





**HE Series :**  
Dyes For  
Exhaust Dyeing

Name of Dye (C.I. Number)		Dyes Strength 2%		General Properties						Fastness Properties									
				Solubility g/l at 30 °C		Dyeing Properties			Light Day Light		Washing				Bleaching Hydrogen Peroxide			Alkaline Perspiration	
				Straight	30pts/1000 Common Salt	Substantivity	Reactivity	Fix Temp °C (Exhaust Dyeing)	1/25	1/1	I.S.O.3		I.S.O.4		Hypochlorite	Effect	Stain	Effect	Stain
Yellow HE6G (Yellow 135)		45	45	H	H	80	3-4	4-5	4G	5	4R	5	1	2R	5	4WR	4		
Yellow HE4G (Yellow 81)		25	20	H	H	80	5	5-6	5	5	4-5	5	1-2	4-5	4-5	4-5	4-5		
Yellow HE4R (Yellow 84)		70	60	H	H	80	5	5-6	5	5	5	5	2-3	4-5	5	4-5	4-5		
G. Yellow HER (Yellow 84A)		70	60	H	H	80	5	5-6	5	5	5	5	2-3	4-5	5	4-5	4-5		
Orange HER (Orange 84)		35	5	H	H	80	3	3-4	4Y	5	4	5	4-5	4	4-5	4Y	4		
Orange HE2R (Orange 84A)		35	5	H	H	80	3	3-4	4	5	4	5	4-5	4	4-5	4Y	4		
Scarlet HE3G (-----)		70	60	H	H	80	3-4	4-5	4-5	4-5	4-5	4-5	1	3-4	3-4	4-5	5		
Red HE3B (Red 120)		85	75	H	H	80	4	5	5	5	5	5	1	4	4	4-5	5		
Red HE7B (Red 141)		150	150	H	H	80	3	4-5	5	5	4-5	4-5	3	4-5	4-5	5	4-5		
Red HE8B (Red 152)		160	160	H	H	80	3-4	4-5	5	3	4-5	2-3	3-4 B1	4-5	4-5	5	4-5		
T. Blue HEG (Blue 71)		70	60	H	H	80	5-6	6	4	4	5	5	2-3	3-4	5	5	4-5		
Blue HEGN (Blue 198)		70	20	H	H	80	5	5-6	5	5	5	5	2-3	4-5	5	4-5	4-5		
Blue HERD (Blue 160)		80	60	H	H	80	5-6	6	5	3	5	5	3	4-5	4-5	4	4		
Navy Blue HER (Blue 171)		60	60	H	H	80	3-4	4	5	4-5	4-5	4-5	1-2D	4	4-5	4	4-5		
Navy Blue HE2R (Blue 172)		70	60	H	H	80	3-4	4	5	4-5	4-5	4-5	1-2	4	4-5	4	4-5		
Green HE4BD (Green 19A)		100	60	H	H	80	3-4	4	4-5	4	4-5	4	1	4	4	4B	4		
Black HER (-----)		70	30	H	H	80	3	4	4-5	4	4-5	4	2	4	4	4-5	4		



**M-Brand Series :**  
Cold Brand  
Reactive Dyes For  
Cellulose And Fabric  
Exhaust Dyeing

Name of Dye (C.I. Number)		Dyes Strength 2%		General Properties						Fastness Properties										
				Solubility g/l at 30 °C		Dyeing Properties		Light Day Light		Washing				Bleaching Hydrogen Peroxide		Soda Boil		Alkaline Perspiration		
				Straight	30pts/1000 Common Salt	Substantivity	Reactivity	Fix Temp °C (Exhaust Dyeing)	1/25	1/1	Effect	Stain	Effect	Stain	Effect	Stain	Effect	Stain	Effect	Stain
Yellow M4G (Yellow 22)		40	20	M	M	40	5	6	5	5	4-5	5	1	3-4 RD	5	4-5	5	4-5	4-5	
Yellow MGR (Yellow 7)		30	<5	H	M	40	5	5-6	5	5	5	5	4-5	4-5	5	5	4-5	5	4-5	
Yellow M3R (Yellow 86)		160	120	H	H	40	5	6	5	5	5	5	2-3	3-4	5	5	4	4	4	
Yellow M4R (Yellow 14)		80	40	M	M	40	4	5	5	5	4-5	5	1	3-4	5	5	4	4R	4	
G. Yellow MR (Yellow 44)		160	130	H	H	40	5	6	5	5	4-5	5	2-3	4-5 R	5	4-5 R	4-5	4-5	4	
Orange M2R (Orange 4)		180	160	M	M	40	3	4	5	5	4-5	5	4R	4-5 Br	5	4-5	4Y	4-5	4	
Red M5B (Red 2)		80	50	H	H	30/ 40	4	4-5	5	4-5	4	4-5	1	2W Br	4-5	4-5	3	5	3-4	
Red M8B (Red 11)		50	10	H	H	30	3-4	4	5	5	4-5	3-4	4W Br	4-5	4	4-5	3-4	4-5	2	
Magenta MB (Violet 13)		20	<5	H	H	30	3-4	4-5	5	5	3	3-4	1	3	3	4	4-5	4	4	
Violet C4R (Violet 12)		20	<5	H	H	30	3-4	4-5	5	5	3	3-4	1	3	3	4	4-5	4	4	
T. Blue MGN (-----)		130	<5	H	H	40/ 60	4	4-5	4-5	4	4	4	2-3 WG	2 WG	4	3	2	4	4	
Blue M2R (Blue 81)		80	40	H	H	30	3	3-4	4-5	4-5	4-5	4-5	-	-	-	-	-	-	-	
Blue MR (Blue 4)		80	40	L	M	40/ 60	6	6	5	5	4	4-5	2D	3-4	4-5	3-4	3	4	5	



**H Series :**  
Reactive Dyes  
For Printing

Name of Dye (C.I. Number)		Dyes Strength 2%		General Properties						Fastness Properties											
				Solubility g/l at 30 °C		Dyeing Properties			Light Day Light		Washing				Bleaching Hydrogen Peroxide			Soda Boil		Alkaline Perspiration	
				Straight	30ppts/1000 Common Salt	Substantivity	Reactivity	Fix Temp °C (Exhaust Dyeing)	1/25	1/1	Effect	Stain	Effect	Stain	I.S.O.3	I.S.O.4	Hypochlorite	Effect	Stain	Effect	Stain
Yellow H4G (Yellow 18)		130	100	L	M	80	5-6	6	5	5	4-5	5	1	4R	5	4-5	4-5	5	4-5		
G. Yellow HR (Orange 12)		110	50	M	M	80	5-6	6	5	5	5	5	3	4-5	5	4G	5	5	5		
Orange H2R (Orange 13)		150	100	M	M	80	3	4	5	5	4-5	5	4W	4	4-5	5	4-5	4-5	4		
Red H8B (Red 31)		80	10	H	L	80	4	4-5	4-5	5	4	4-5	4-5	4	4-5	3	4	4B	4		
Red PB (Red 24)		150	80	M	M	80	3	3-4	4-5	5	4	4-5	3	4	4	4	4	4	4-5		
Red 6BX (Red 76)		80	40	M	L	60	4	4	5	5	3-4	4	3-4	4-5	5	3-4	4	4	4		
Red P3B (Red 45)		100	80	M	M	80	4	4-5	5	5	4	4	4	4	4	4	4-5	4-5	4		
Magenta HB (Red 14)		80	40	M	L	80	4	4-5	4	5	4	5	1	3	5	4-5	4-5	4-5	3		
Blue H2RP (Blue 49)		80	40	L	H	80	5	6	5	5	5	5	2	3-4	4	5	5	5	5		
Blue 5RH (Blue 13)		120	30	M	L	80	5	6	5	5	4	4-5	1	1	5	4	4	4-5	4		
T. Blue H5G (Blue 25)		120	80	H	H	90	4-5	5-6	5	4	4	3-4	3-4 G	2	3	4R	2	4-5	3		
Red Brown H4R (Brown 9)		90	30	L	M	80	4	4-5	5	4-5	4-5	4-5	4-5	5	4-5	3-4	3	4-5	3-4		
Black HN (Black 8)		40	40	L	M	80	4-5	6	5	5	4-5	5	4	3G	5	4-5	4-5	4-5	3		



**Specialty Series:**  
Dychem's  
Recommended  
Specialty Series  
For Dyeing Cotton Knits  
in Exhaust Method

Name of Dye		Dyes Strength 2%		General Properties				Application					Fastness Properties				
				Solubility g/l at 30 °C		Dyeing Properties		Dyeing			Printing		Light Fastness	Washing I.S.O.4		Perspiration	
				Straight	30pts/1000 Common Salt	Substantivity	Optimum Dyeing Temp °C	Fixation %	Dischargibility	Exhaust Dyeing	One Bath Cold Pad - Batch Process	Two Bath Pad - Dry Chem Pad Stear	Print - Dry - Steam	Print - Dry Pad Silicate	Day Light 1/1	Effect	Stain
Yellow FRXL		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
G. Yellow RMB		100	90	H	60	70	P	S	S	S	S	S	6	5	4-5	4	4
Orange RMB		100	10	H	60	70	P	S	S	S	S	S	4	4-5	4-5	4-5	4-5
Pink 3GF		80	10	M	60	70	P	S	S	S	S	S	4	4-5	4-5	4-5	4
Rose CN		60	10	M	60	70	P	S	-	-	-	-	4	4-5	4-5	3-4	4
Scarlet F3G		100	90	M	60	70	P	S	S	S	S	S	4	4-5	4-5	3-4	4
Red F3G		100	90	M	60	70	P	S	-	-	-	-	4	4-5	4-5	3-4	4
Red RMB		100	90	H	60	70	P	S	S	S	N	S	5	4	4	4	4
Red FBXL		100	90	M	60	70	G	S	S	S	S	S	4	4-5	4-5	3-4	4
Maroon XLR		100	90	M	60	70	P	S	S	S	S	S	4	4-5	4-5	3-4	4
Deep Maroon CR		100	80	M	60	70	P	S	S	S	S	S	4	4-5	4-5	3-4	4
Violet XLR		100	80	M	60	70	P	S	S	S	S	S	4	4	4	3-4	4
Magenta XLR		100	80	M	60	70	P	S	S	S	S	S	4	4	4	3-4	4
T. Blue XLR		100	80	H	60	70	G	S	S	S	S	S	4-5	4-5	4-5	3-4	4
D. Blue G		80	80	H	60	70	P	S	S	S	S	S	5	4-5	4-5	3-4	3-4
Super Blue XLBR		100	80	H	60	70	G	S	-	-	S	-	4-5	4-5	4-5	3-4	4
Blue FGFN		70	30	H	80	70	G	S	-	-	-	-	4-5	4-5	4-5	3-4	4
Sky Blue G		100	80	H	60	70	G	S	-	-	-	-	4-5	4-5	4-5	3-4	4
Blue FNXL		100	80	H	60	70	G	S	-	-	-	-	4-5	4-5	4-5	3-4	4
Blue XLGN		70	20	H	80	70	P	S	-	-	-	-	5-6	5	5	4-5	4-5
Blue BRF		100	70	M	60	70	G	S	S	S	S	S	4-5	5	4-5	4	4
Navy DRN		100	80	H	60	70	G	S	S	S	S	S	5	4	4-5	5	5









**Textile Auxiliaries :**  
Dyechem's range of Auxiliaries for Textile and Other Industry Application

PRODUCT NAME	APPLICATION	PRODUCT NAME	APPLICATION
HIFAST WT	Wetting & Scouring Agent	TG LIQUID	Premium Quality OBA against CHT, for Cotton Knits, Paper etc.
HIWASH 98	Sequestering & Levelling Agent	UP LIQUID	Optical Brightening Agent For Paper
HIGHWASH LUBE	Lubricating Anti-creasing Agent	ABP LIQUID	Optical Brightening Agent
DEFOAMER 21	Silicone Based Defoaming Agent	BBU LIQUID	Optical Brightening Agent for Continuous Bleach
HIZYME CR	Highly Quality Bio-polishing Enzyme (0.15-0.2%)	BBN POWDER	Optical Brightening Agent
HIZYME SPLUS	Bio-Polishing Enzyme (0.5-0.8%)	BBN BLUE POWDER	Optical Brightening Agent - Bluish
HIZYME ZB	Mild Bio-Polishing Enzyme (1%)	2BH POWDER	Optical Brightening Agent
HIZYME NTZ PLUS	Neutral / Dye bath Bio-Polishing Enzyme	COLLS POWDER	Optical Brightening Agent for Tint
HIFIX RN	Dye-fixing Agent	HIBLANC CA	Optical Brightening Agent for Cotton Knits
HIFIX FF	Dye-fixing Agent (Formaldehyde Free)	HIBLANC CA PLUS	High Quality Optical Brightening Agent for Cotton Knits
RSKI PLUS	Soaping Agent		
PS 600	Highly Concentrated Silicone Softener (Hydrophobic)		
PS 600 H/C	Silicone Softener with Slippery Feel (Hydrophilic)		
PS 900	Silicone Softener with Slippery and Bouncy Feel (Hydrophobic)		
HISOFT SFC CONC	High Quality Cationic Softener		
HISOFT CWS 100%	Cold Water Soluble Softener Flakes		



## APPLICATION OF REACTIVE DYES

### APPLICATION OF VS BASED REACTIVE DYES :

#### DYE SOLUTION :

Reactive Dyes are dissolved by pasting it with a little water and pouring boiling hot water over it under stirring. The water used should be neutral. (If alkaline, it should be made neutral by addition of acid prior to use). Further, if the water is hard, one gram per liter of any Sequestering agent may be added.

As far as possible prepare the dye solution just prior to use.

#### FABRIC :

The fabric to be dyed should be thoroughly boiled, desized, bleached and made highly absorbent and neutral in pH to get good results. For deeper shades in cotton, the material is to be either mercerised or causticised with 28°Be' caustic solution. For viscose, caustic treatment may be made with 6 to 8°Be' caustic solution. The treated material, in all cases should be made neutral prior to use.

#### DYEING : EXHAUST DYEING JIG DYEING

In this method dye bath is heated to about 5°C above the recommended temperature to get the desired temperature on the material. Dye solution and additives are added as under

- 1st End - Half amount of dye + Half amount of Salt
- 2nd End - Remaining Quantity of Dyestuff and Salt
- 3rd End - Half amount of Alkali
- 4th End - Balance amount of Alkali

#### DYEING AT 40°C - DYEING TIME 90 MINUTES

Liquor Ratio		1 : 2 to 1 : 3	1 : 4 to 1 : 6
Glauber's Salt	Gms/litre	50	50
30% Caustic	ml/litre	4-6	3-4
Solution & Soda Ash	gms/litre	5	5
or Trisodium Phosphate	gms/litre	—	30

#### DYEING AT 60°C - DYEING TIME 60 MINUTES

Liquor Ratio		1 : 2 to 1 : 3	1 : 4 to 1 : 6
Glauber's Salt	Gms/litre	50	50
30% Caustic	ml/litre	3-6	2-3
Solution & Soda Ash	gms/litre	5	5
or Trisodium Phosphate	gms/litre	30	20-25

#### NOTES :

- (a) For Reactive Turquoise Blue G dyeing is carried out at 80°C, using 50 gms/litre Glauber's Salt and 15 to 20 gms/litre Soda Ash along with 3-5 gms/lit Caustic Soda (72°Tw) in last 2 ends at same temp.
- (b) For Reactive Yellow FG, Red C2G and Red 5B using 80 gms/litre Glauber's salt gives better colour yield.
- (c) In case of Reactive Brilliant Blue R (Spl.) only 1 qtr of required salt is added over 1st & 2nd ends. The remaining salt is added only after the addition of alkali.

#### AFTERTREATMENT :

Following after treatments are recommended :

- » Cold rinse with overflow 1 End
- » Neutralise at 40°C with 2-3 ml/lit 60% Acetic Acid 2 End
- » Hot rinsing (60-70°C) 1 End
- » Soaping at boil with neutral detergent 2 End
- » Hot rinsing (80°C or more) with change of bath water 2-4 End
- » Cold rinse 1-2 End

#### WINCH DYEING :

Dyestuff and salt are added to the dye bath (25-30°C). Alkali is then added. Bath is heated to the recommended temperature within 20-30 minutes. Dyeing is carried out at 40°C for 90 minutes or at 60°C for 60 minutes.

Liquor Ratio		1 : 15 to 1 : 3
Glauber's Salt	Gms/litre	50
30% Caustic Solution or	ml/litre	1-2
Soda Ash or	gms/litre	5
Trisodium Phosphate	gms/litre	10-15

The after treatment is similar to that given under jig Dyeing.



**PADDING PROCESS :****ONE BATH PAD-BATCH PROCESS**

This process can be used for dyeing all Cellulosic fabrics. The process consists of :

- |                     |                                       |
|---------------------|---------------------------------------|
| (a) Padding         | - Here dye is picked up by the fabric |
| (b) Batching        | - Dye is fixed                        |
| (c) After treatment | - To remove unfixed dyestuffs         |

**PREPARATION OF PADDING LIQUOR :**

The Dye is dissolved by pouring small quantity of boiling water under stirring. This is then diluted with cold water. Urea is added below 40°C.

**QUANTITY OF UREA TO BE ADDED**

Strength of Dyes Solution	Upto 20 gms/lit	20 to 35 gms/lit
Urea	100 gms/lit	200 gms/lit

Required quantity of Sodium Silicate and Caustic Soda are added to the padding solution in dilute form just prior to entering the fabric. The quantity of caustic required for various grades of Sodium Silicates are tabulated as follows :

Sodium Silicate		Caustic Sode 32%, ml/Lit		
'Be'	Weight Ratio Na <sub>2</sub> O : SiO <sub>2</sub>	gms/lit	Upto 25 gms/lit Dye Soln.	Above 25 gms/lit Dye Soln.
37-40	1 : 3.3	135	13	18
40-42	1 : 3.3	120	11	16
48-50	1 : 2.6	100	5	10
58-60	1 : 2.1	85	—	4

**PADDING :**

Well prepared fabric is padded at 20-30°C. Smaller capacity trough is better as it would entail faster liquor replenishment at higher fabric speed. The liquor pickup should be 60-70% for cotton and 90-100% for viscose fabrics. Kindly note that the dye solution is not stable under alkaline conditions and as such the desired alkali is to be added just prior to dyeing. Further, the speed of operation should be such that the dye liquor prepared in a lot is consumed within 20-30 minutes.

**FIXATION :**

If Fixation is done at 25-30°C, then the padded Cloth roll is covered with Plastic film and allowed to batch for 24 hours. No significant damage is seen upto 48 hours of batching.

**AFTER TREATMENTS :**

After treatments may be carried out on any suitable equipment such as jigger, winch or open width soaper. The after treatment procedure on jigger or winch has been already discussed during exhaustion dyeing process. Only the normal process of neutralising the Vinyl Sulphone Based Reactive dyes dyed goods with Acetic acid should be avoided at the same time pH of the dyed goods should be below 9 before soaping.

**DISCHARGE PRINTING WITH V.S. BASED DYES****GENERAL :**

V.S. 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- O solution containing a little Lactic or Glycolic acid. This will protect the ground shade from alkali and reductive effect of printing paste.

**PREPARATION OF PRINTING PASTE (TYPICAL) :**

	/ gms	// gms
Rangolite-C	20	20
Titanium Dioxide (1 : 1)	10	10
Leucotrope-W/Discharge Salt-W	8	—
Thickening Agent	40	50
30° Be1 Caustic	20	5
Water	2	15
Total	100	100

Suitable thickening agents are Starch, British Gum, Crystal Gum, Tragacanth as well as their mixtures.

After printing it is dyed at 90°C and steamed for 5 to 10 minutes. The fabric is then rinsed in open width soaper, first cold, then warm. Subsequently it is washed with a neutral detergent at 90°C rinsed with cold water and dried.

**DISSOLVING :**

- |     |  |
|-----|--|
| (a) | Feed the dye powder steadily into the vortex created by a high-speed stirrer running in water at a temperature not higher than 50°C for Reactive M dyes, 80°C for Reactive H & HE dyes, or |
| (b) | Paste the dye powder with cold water and dissolve by adding water at the temperature indicated in (a)  |

Do not attempt to dissolve reactive dyes together with dyeing assistance or auxiliary products. Where the solubility limits of the dyes (see tables in pattern pages) are exceeded, satisfactory solutions can be produced by additions of urea. Where this is necessary dry-mix the urea with the dye powder before pasting with water at 60°C.

The temperature of the final solution when using a maximum of 200 parts of urea per 1,000 parts will then fall to approximately 25°C owing to the endothermic dissolution of the urea.

## PREPARATION OF GOODS FOR DYEING :

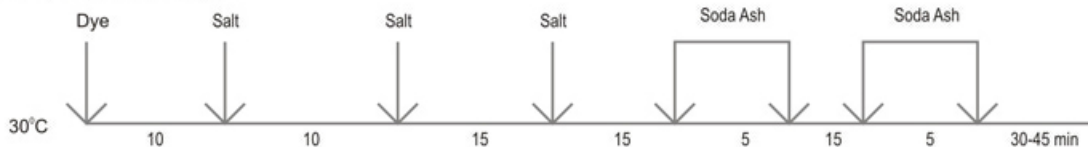
Desize where necessary and scour, as Reactive dyes react with starches and gelatine.

With bleached goods, eliminate residual chlorine or peroxy-compounds before dyeing.

Goods prepared for dyeing must be free from alkali, where necessary, treat them in a liquor containing 0.5-1.0 part of acetic acid (90%) per 1,000 parts of water prior to adding dye solution. This prevents premature localized fixation and improves leveling with Reactive M dyes on difficult substrates.

## REACTIVE 'M' DYES

### EXHAUST DYEING : STANDARD METHOD



- Minutes : Load machine, run liquor and/or fabric, raise temperature to 30°C, Ensure pH is below 7. Adjust pH with acetic acid if necessary
- 5 : Add pre-dissolved dye
- 10 : Continue at 30°C
- 2 : Add 2.5 gms/l common salt
- 10 : Continue at 30°C
- 3 : Add 7.5 gms/l common salt
- 15 : Continue at 30°C
- 5 : Add remaining quantity of salt
- 15 : Continue at 30°C
- 5 : Add 0.5 gms/l soda ash (dissolved and well diluted)
- 15 : Continue at 30°C
- 5 : Add remainder of dissolved of slurred soda ash
- 30-45 : Continue at 30°C  
Check the shade

- NOTE :**
1. Raise temperature to 60°C for the last 20 minutes if Reactive Turquoise M-G is used in mixtures.
  2. In machinery with a high rate of liquor exchange, e.g. many modern package dyeing machines, most atmospheric jet dyeing machines and modern winches, it may often be possible to shorten this method by adding the salt more quickly or even by starting with all the salt present.

### STANDARD METHOD : SALT & ALKALI REQUIREMENTS

Depth of Shade (% on weight of goods)	Salt (gms/l)	Soda Ash (gms/l)		
		L. R. 15 : 1	L. R. 20 : 1	L. R. 30 : 1
Upto 0.5	25	5	3	2
0.51 to 2.0	35	5	4	2
2.01 to 4.0	45	10	8	4
Above 4.0	55	15	10	5

### SOAPING AFTER EXHAUST DYEING

For maximum Fastness it is necessary to wash off efficiently.

- Minutes : Drop Dyebath
- 10 : Cold
- 10 : Rinse Cold
- 15-30 : 'Soap' at the boil. For heavy shades two 15 min. 'Soaps' are preferred
- 10 : Rinse warm (50°C)  
Rinse cold until clear and soften if required

### EXHAUST DYEING : JIG

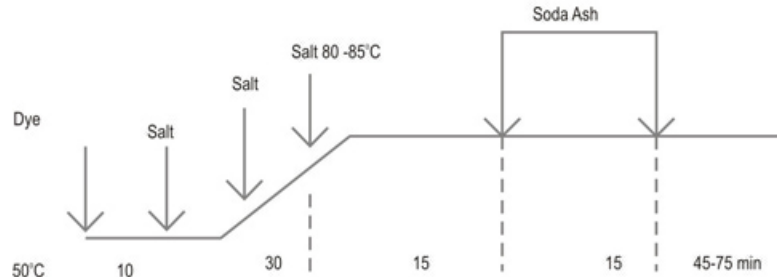
Set the bath at 30-40°C  
Add dissolved dye over two ends  
Add Salt over two ends  
Run for a minimum of 30 minutes (2 ends or more)  
Add alkali over two ends  
Run for a further 30-60 minutes (4 ends or more)  
Rinse thoroughly and wash off

- NOTE :**
- With 'difficult' materials it may be advantageous to dye at 60°C using a mixed alkali. If Reactive Turquoise MGN is used in mixtures, raise temperature to 60°C for the last 20 minutes.

### JIG DYEING : SALT AND ALKALI REQUIREMENTS

Depth of Shade (% on weight of goods)	Salt (gms/l)	40°C Sode Ash (gms/l)	60°C	
			Sodium Bicarbonate(gms/l)	Soda Ash (gms/l)
Upto 0.5	25	5	2.5	2.5
0.51 to 2.0	35	10	5	5
2.01 to 4.0	45	15	7.5	7.5
Above 4.0	55	20	10	10

**REACTIVE 'HE/H' DYE  
EXHAUST DYEING**



Minutes : Load machine, run liquor and/or fabric Ensure that the pH is below 7. Adjust with acetic acid if necessary.

Raise temperature to 50°C

- 5 : Add Pre-dissolved dye
- 10 : Continue dyeing
- 2 : Add 5 gms/l common salt (2.5gms/l) for very pale shades
- 10 : Continue dyeing

80-85°C at approximately 1°C per minute while the salt is being added

- 3 : Add 20 gms/l common salt (10gms/l) for very pale shades
- 10 : Continue dyeing
- 15 : Add reminder salt

Continue at 80°C - 85°C to allow a uniform temperature to be achieved through out the machine. Allow 15 minutes after the last salt addition if salt is still being added when the temperature reaches 80-85°C

- 15 : Add alkali slowly
- 45-75 : Dye at 80-85°C
- Check shade

**REACTIVE 'HE/H' DYES : SALT AND ALKALI REQUIREMENTS :**

Depth of Shades (% on weight of goods)	Salt (g/l)	Soda Ash
Upto 0.5	30	10
0.51 to 1.0	45	15
1.01 to 2.0	60	15
2.01 to 4.0	70	20
Above 4.0	90	20

**SOAPING AFTER EXHAUST DYEING :**

For maximum fastness, wash off efficiently after dyeing.

- Minutes : Drop dye bath
- 10 : Rinse Cold
- 10 : Rinse cold
- 15-30 : 'Soap' at the boil. For very heavy shades two 15 min. 'soaps' are preferred
- 10 : Rinse warm
- Rinse cold until clear

**PRINTING**

**PREPARATION OF FABRIC :**

The fabric to be printed must be properly desized to make it highly absorbent. Mercerisation of cotton fabric and caustiazation of regenerated Cellulosic fabrics yield brilliant and deep prints.

**PRINTING OPERATION :**

Both one and two phase method can be used. A typical printing recipe is given below :

Ingredients, parts	Cold Brand	Hot Brand
Dyestuffs	10-16	10-60
Urea	40-60	40-60
Alginate Thickening (4.0%)	350-400	400
Resist Salt	40	40
Sodium Bicarbonate	10-12	15-30
Water	Balance	Balance
Total	1000	1000

Mix the dye with urea and water at 40°C for cold brand and near boiling water for hot brand. Cool to room temperature. Add Alginate thickening and Resist Salt. Mix well. Alkali is to be added just prior printing. If necessary sieve through fine muslin cloth.

Print the cloth with above paste. Dry and steam for 15-20 minutes in Star-Ager or for 5-7 minutes in continuous Ager at 100-102°C, give a cold and hot wash with water. Soap at boil with neutral soap wash again.

#### REACTIVE 'ME' DYES

##### EXHAUST DYEING JIG DYEING

In this method the dyebath is heated to above 5°C above the recommended temperature on the material. Dye solution and additives are added as under

- 1st End - Half amount of dye + Half amount of Salt
- 2nd End - Remaining Quantity of Dyestuff and Salt
- 3rd End - Half amount of Alkali
- 4th End - Balance amount of Alkali

##### DYEING AT 40°C - DYEING TIME 90 MINUTES :

Liquor Ratio		1 : 2 to 1 : 3	1 : 4 to 1 : 6
Glauber's Salt	gms/l	50	50
30% Caustic Solution	ml/litre	4-6	3-4
& Soda Ash	gms/litre	5	5
or Trisodium Phosphate	gms/litre	—	30

##### DYEING AT 60°C - DYEING TIME 60 MINUTES :

Liquor Ratio		1 : 2 to 1 : 3	1 : 4 to 1 : 6
Glauber's Salt	gms/l	50	50
30% Caustic Solution	ml/litre	3-6	2-3
& Soda Ash	gms/litre	5	5
or Trisodium Phosphate	gms/litre	30	20-25

#### AFTERTREATMENT :

Following after treatment are recommended :-

- Cold rinse with overflow 1 End
- Neutralise at 40°C with 2-3 ml/lit 60% Acetic Acid 2 Ends
- Hot rinsing (60-70°C) 1 Ends
- Soaping at boil with neutral detergent 2 Ends
- Hot rinsing (80°C or more) with change of bath water 2-4 Ends
- Cold rinse 1-2 Ends

#### NOTE :

For RMB, CN, XL-RGB, XLRN and XLRR Dyes the application would be same as per ME dyes but the salt and alkali should be strictly adjusted according to the depth of the shade.



## APPLICATION OF PIGMENT EMULSION

#### PREPARATION OF STOCK BINDER :

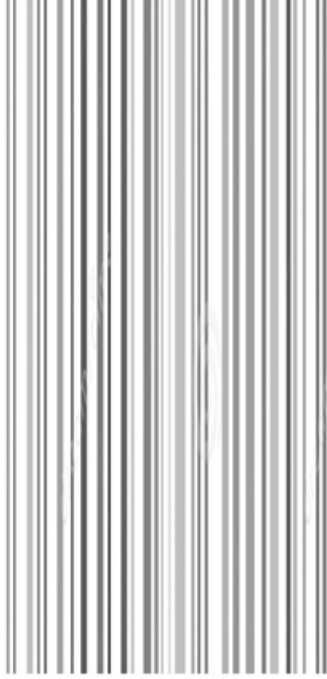
- Binder 10%
- Fixer 2%
- Urea 2%
- Emulsifier 2%
- Water 4%
- Kerosine Oil / M.T.O. 80%

#### PROCEDURE :

Stir the stock binder well - Add X% Pigment colour - Print with silk screen printing process - Dry - Cure in 120°C - 140°C temperature.







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\* The information and technical advice were prepared very carefully.  
However complete guarantee cannot be given considering various  
different conditions of dyeing. Our advice does not release you from  
obligation to check its validity and to test our products to their  
suitability for the intended processes and uses. If you have any  
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