

# JAKOFIX<sup>®</sup> ME

for reliable & economical cellulosic dyeing



JAKOFIX® ME dyes belong to Bi-functional class, mainly suitable for exhaust dyeing. These dyes provide good fastness ratings. Having good build-up property with moderately good reproducibility for good RFT levels.

## BENEFITS AND RECOMMENDATIONS

### Jakofix ME : Cost Effective trichromate for pale to medium shade

#### Customer Benefits:

- Wide range Product.
- Good Build up.
- Moderately good reproducibility for RFT level.
- Over all good fastness.

#### Pale Dyes

Jakofix Golden Yellow MERL 150  
Jakofix Red MEGF  
Jakazol Blue CF-R

#### Medium Dyes

Jakofix Golden Yellow MERL 150  
Jakofix Red ME4BL 150  
Jakofix Navy Blue MEBF

#### Support Dyes

Jakofix Yellow ME4GL  
Jakofix Orange ME2RL  
Jakofix Red MEGF

## GENERAL

### STORING DYES

Jakofix and Jakazol dyes have good storage stability. It is recommended that dye containers are tightly closed between use, and stored in cool, dry conditions

### PRETREATMENT

The goods should have a neutral pH and good absorbency. Impurities, sizes and lubricants must be carefully removed. Any peroxide residues from bleaching must be destroyed in order to prevent losses of yield and/or unlevelness

### WATER HARDNESS

To prevent precipitation of calcium salt under alkaline conditions, it is advisable to use soft water (< 4°dH, < 5° Clark). Sequestering agent can be used to soften water and bond free heavy metal ions

### DISSOLVING POWDER DYES

Best condition to dissolve dye is by stewing into 10 times it's weight of hot water (better not higher than 80°C / 176°F) with high stirring. It is advisable to use water with slightly acidic or neutral pH in order to avoid hydrolysis

### BATH STABILITY

Neutral pad liquors are stable at room temperature about  $25 \pm 2^\circ\text{C}$  for at least 8 hours. The type and amount of alkali and the temperature of the pad liquor determine bath stability

## TEST METHOD (Description)

### EFFECT OF METALS

- (a) 0.2%  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  on weight of fiber in the dyebath  
(b) 0.5%  $(\text{NH}_4)_2\text{SO}_4 \cdot \text{Fe}_2(\text{SO}_4)_3 \cdot 24 \text{H}_2\text{O}$  on weight of fiber in the dyebath

### DISCHARGEABILITY

Neutral	15% Rongolite
Alkaline	20% Rongolite, 10% Soda Ash, 10% Potassium Carbonate, 10% Titanium Dioxide, 2% OBA

### STRIPPING METHOD

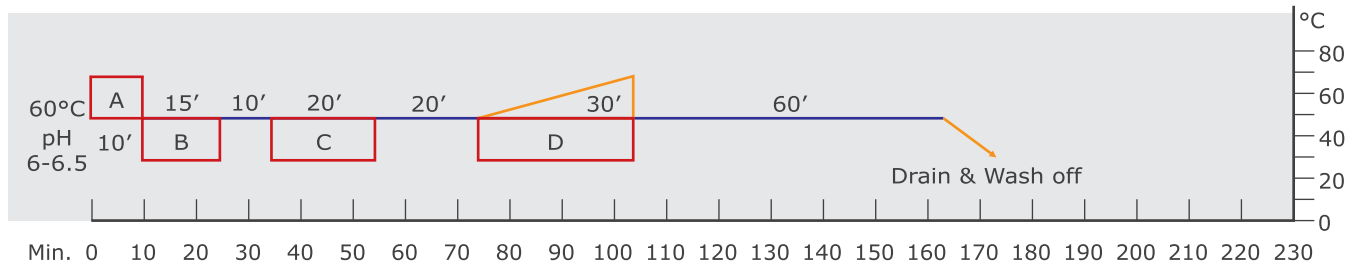
Method I	15 ml/l Caustic Soda (32.5%), 5 g/l Sodium Hydrosulphite LR 1:20 - 30 min at 90°C
Method II	Sodium Hypochlorite (5 g/l available chlorine) pH 10-11 LR 1:20 - 30 min at 25°C Neutralization with 1 g/l Sodium Bisulphite at 40°C for 10 min
Method III	Stripping Method I followed by Stripping Method II
Results	Strength compared to original dyeing

### ABBREVIATIONS

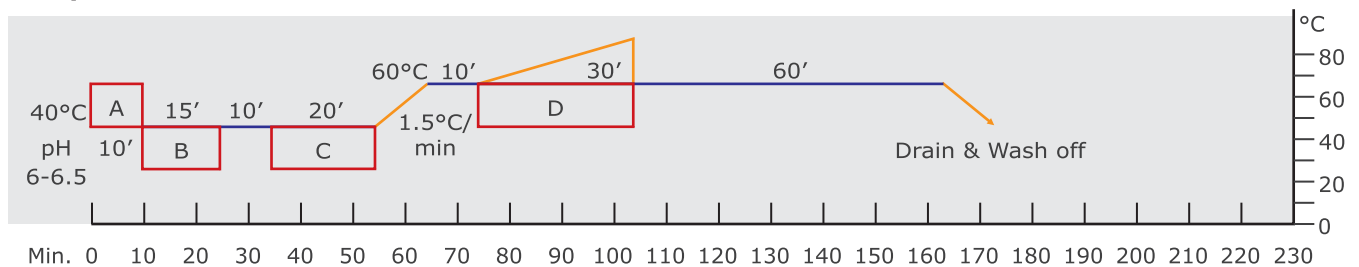
Bl - bluer, Br - brighter, Dk - darker, Dl - duller, G - greener,  
R - redder, Y - yellower, S - suitable, NS - not suitable,  
\*S - suitable for pale shade, SD - standard depth,  
A - white discharge, B - moderate discharge, C - non discharge,  
NA - not applicable

## WARM EXHAUST DYEING

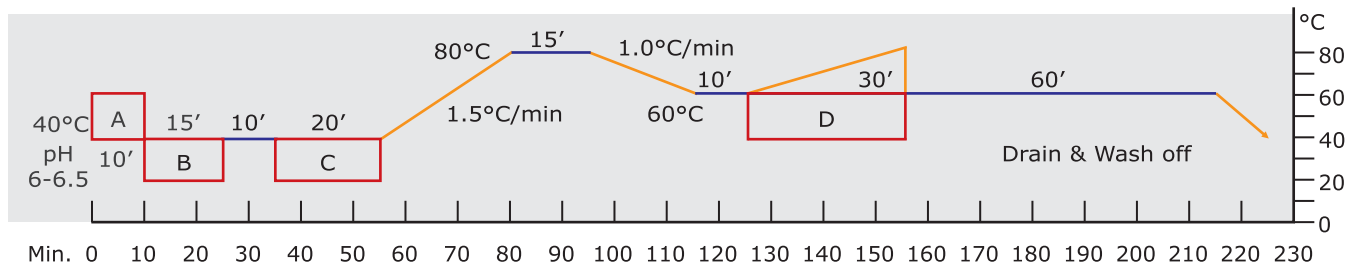
### Isothermal Process



### Temperature Rise Process



### Migration Process



Auxiliaries: OXXI.J DRS - 1.0 g/l, OXXI.J LUB 20 - 1.0 g/l (for Knits only)

— Dosing  
— Dwell

- A. Auxiliaries dosing
- B. Dye dosing (Linear)
- C. Salt dosing (Linear)
- D. Alkali dosing (Progressive)

### Salt and Alkali Table

Dyestuff%	Common Salt (g/l)	Single Alkali Soda Ash (g/l)	Alkali System	
			Mixed Alkali	
			Soda Ash (g/l)	Caustic Soda 50% (ml/l)
<0.1	20	5	5	0
0.1 to 0.5	20 - 25	5 - 7	5	0.6 - 0.75
0.5 to 1.0	25 - 40	7 - 10	5	0.75 - 0.9
1.0 to 2.0	40 - 50	10 - 13	5	0.9 - 1.2
2.0 to 3.0	50 - 60	13 - 15	5	1.2 - 1.5
3.0 to 5.0	60 - 80	15 - 20	5	1.5 - 2.0
>5.0	80 - 100	20	5	2.0

**NOTE:**

For Turquoise based shades & Mercerized cotton/ viscose rayon substrate migration method is recommended.

**Salt & Alkali Table for Mercerized Cotton & Viscose**

%Dye	Salt (g/l)	Soda Ash (g/l)
<0.1	20	3
0.1 - 1.0	20 - 30	4 - 5
1.0 - 2.0	30 - 40	5 - 7
2.0 - 3.0	40 - 50	7 - 8
3.0 - 5.0	50	8 - 10
>5.0	60	10

**Salt & Alkali Table for Turquoise**

%Dye	Salt (g/l)	Soda Ash (g/l)
<0.1	15	5
0.1 - 0.5	20	5 - 7
0.5 - 1.0	25	7 - 10
1.0 - 2.0	40	10 - 13
2.0 - 3.0	50	13 - 15
3.0 - 5.0	60	15 - 20
>5.0	80	20

\* Glauber's salt is recommended for turquoise, green, brilliant blue & royal shades

**Washing - off Process for Exhaust Dyeing**

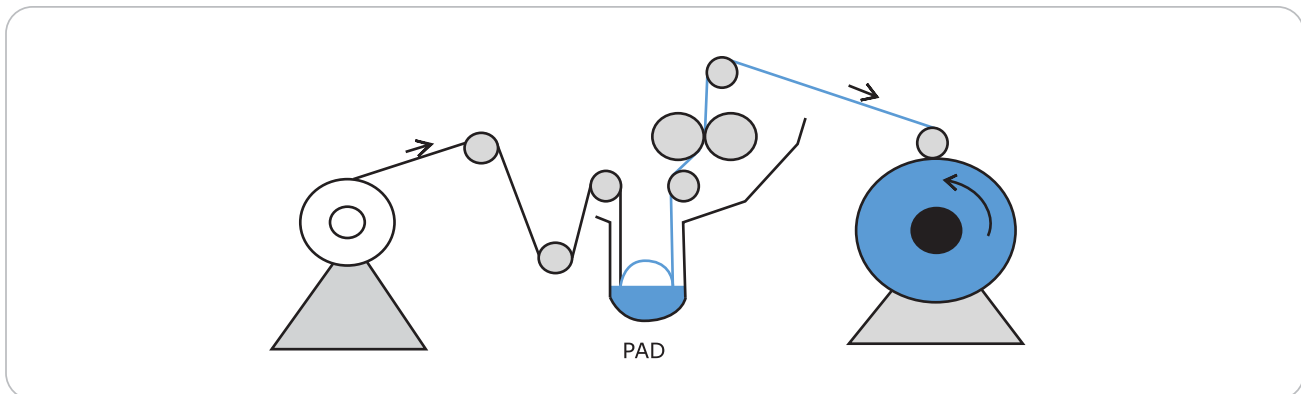
- Rinse at room temperature or with warm water (50°C) for 10 min
- Neutralize with Acetic Acid (pH 6 -6.5)
- Soap with OXXI.J WO 800 1-2 g/l at 90 - 95°C for 10 - 20 min\*\*
- Hot wash at 70 - 80°C for 10 min
- Room temperature wash for 10 min
- Neutralize with Acetic Acid (pH 6 -6.5) & dye fixing\* if required

\* OXXI.J FX 60 - 0.5 -1% OWM

\*\* For dark shades double soaping may be required for better fastness

#OWM - on weight of material

## COLD - PAD - BATCH DYEING



**Pad:** Dye - X g/l, OXXI.J DRS - 1.0 g/l, OXXI.J CS 2000 - 0.5 g/l, Urea 50-100 g/l

**Process:** Pad - Batch (12-16 hr with rotation)

### Padding

Padding is best performed at  $25 \pm 2^\circ\text{C}$ . To ensure rapid liquor exchange, pad troughs with low liquor content should be used. The best immersion time is 1-2 second for cotton and 2-4 second for viscose rayon.

### Process

Three dyeing methods (Tropical, Cold silicate & Silicate free) are generally used, depending on local conditions. The ratio of dye to alkali should be 4:1 and padding temperature  $25 \pm 2^\circ\text{C}$ . Higher temperatures may impair bath stability, lower temperatures the rate of fixation during batching.

### Fixation

Padding is best performed at  $25 \pm 2^\circ\text{C}$ . To ensure rapid liquor exchange, pad troughs with low liquor content should be used. The best immersion time is 1-2 second for cotton and 2-4 second for viscose rayon.

### Washing - off Process

#### Tropical & Cold silicate

Cold (soft water)  
 Cold (Soft water)  
 60°C (soft water)  
 60°C (soft water)  
 95°C (soft water / soaping agent)  
 95°C (soft water / soaping agent)  
 95°C (soft water)  
 Cold (soft water+Acetic Acid pH 5-6)

#### Silicate free

50°C (soft water)  
 60°C (Soft water, acetic acid to pH 5-6)  
 95°C (soft water / soaping agent)  
 95°C (soft water / soaping agent)  
 95°C (soft water / soaping agent)  
 80°C (soft water)  
 60°C (soft water)  
 Cold (soft water+Acetic Acid pH 5-6)

## ALAKALI SYSTEM (PAD BATCH)

### Tropical Method

Padding temperature (25°C-30°C)

Dyes	g/l	5	10	20	30	40	50	80	>100
Sodium silicate 37-40°Be (69-77°Tw)	ml/l	100	100	100	100	100	100	100	100
Caustic soda 50%	ml/l	4	6	7	9	9	10	11	14

### Cold Silicate Method

Padding temperature (25°C-30°C)

Dyes	g/l	<20	30	40	50	60	70	80-100
Sodium silicate 37-40°Be (69-77°Tw)	ml/l	50	50	50	50	50	50	50
Caustic soda 50%	ml/l	4	6	7	9	9	10	11

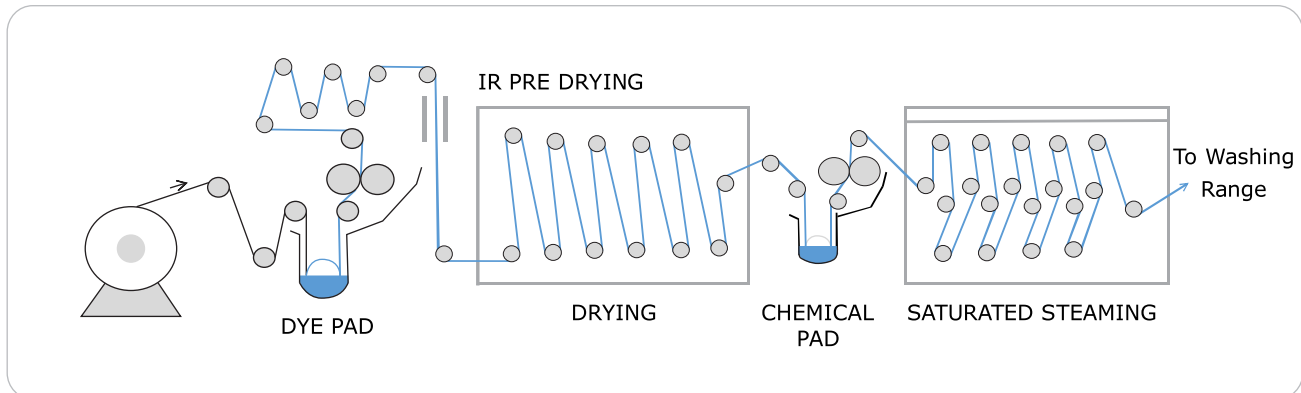
### Silicate Free Method

Padding temperature (25°C-30°C)

Dyes	g/l	20	40	60	80	100	>100
Soda ash	g/l	30	30	30	30	30	30
Caustic soda 50%	ml/l	4	6	8	10	12	14



## PAD DRY CHEMICAL PAD STEAM DYEING



**Pad:** Dye - X g/l, OXXI.J AM 1000 - 10-15.0 g/l, OXXI.J CS 2000 - 1.0 g/l, OXXI.J DRS - 1.0 g/l

**Chemical Pad:** Salt -200-250 g/l, Mild Oxidant - 5-10 g/l, Alkali as per the table

### Chemical Concentrations

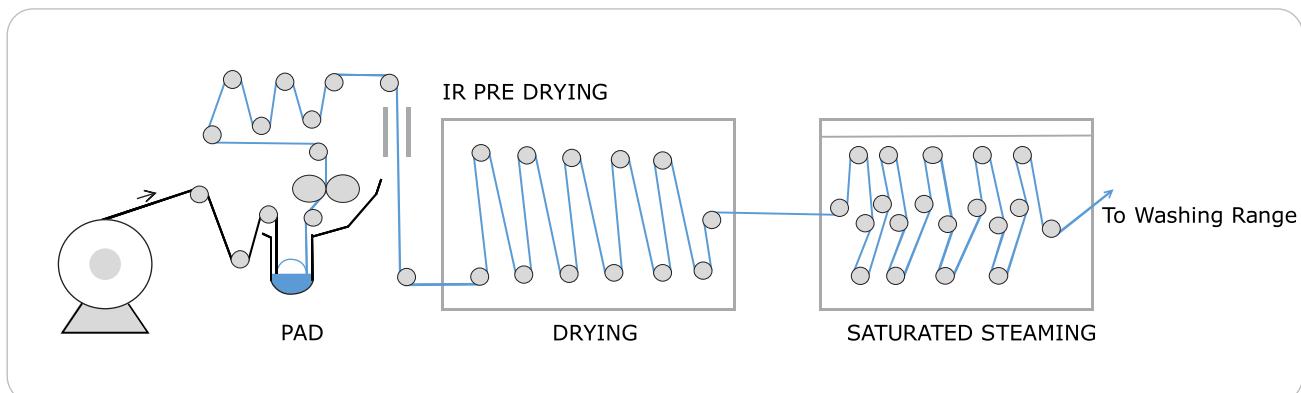
Dyestuff (g/l)	<20	20-40	>40
Soda Ash (g/l)	20	20	20
Caustic Soda 50% (ml/l)	3	4	6

### Process conditions

**Liquor Temperature:** 20-25°C, **Pick up:** 70-80%,

**Drying:** 80°-120°C, **Steaming (saturated Steam):** 60-90 sec

## PAD DRY STEAM DYEING



**Pad:** Dye - X g/l, OXXI.J AM 1000 - 10-15.0 g/l, OXXI.J CS 2000 - 1.0 g/l, OXXI.J DRS - 1.0 g/l,

Mild Oxidant - 5 - 10 g/l, Urea - 50-100 g/l, Alkali as per table

### Chemical Concentrations

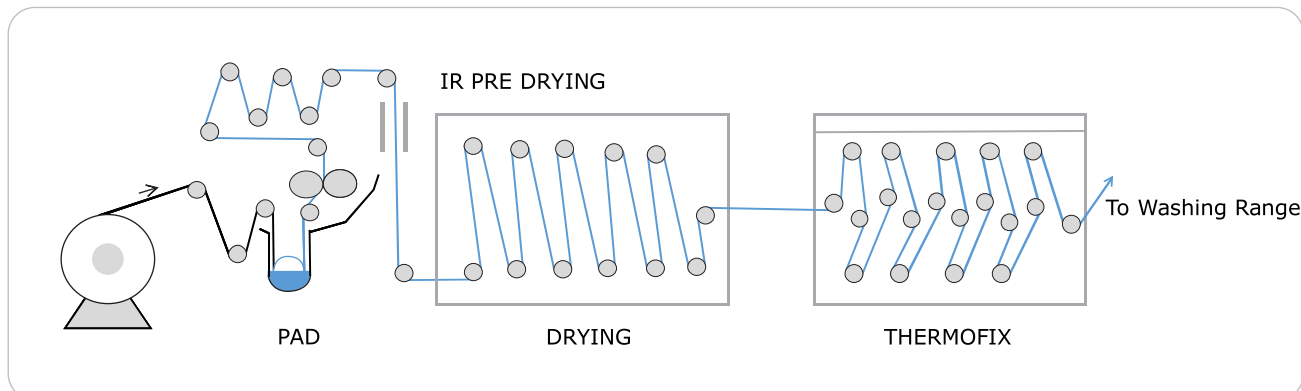
Dyestuff (g/l)	<20	20-40	>40
Soda Ash (g/l)	20	20	20

### Process conditions

**Liquor Temperature:** 20-25°C, **Pick up:** 70-80%,

**Drying:** 100°-120°C, **Steaming (saturated Steam):** 60-90 sec

## PAD DRY THERMOFIX DYEING



**Pad:** Dye - X g/l, OXXI.J DRS - 1.0 g/l, OXXI.J CS 2000 - 1.0 g/l, OXXI.J AM 1000 - 10-15 g/l, Mild Oxidant - 5-10 g/l, Urea and Alkali as per table.

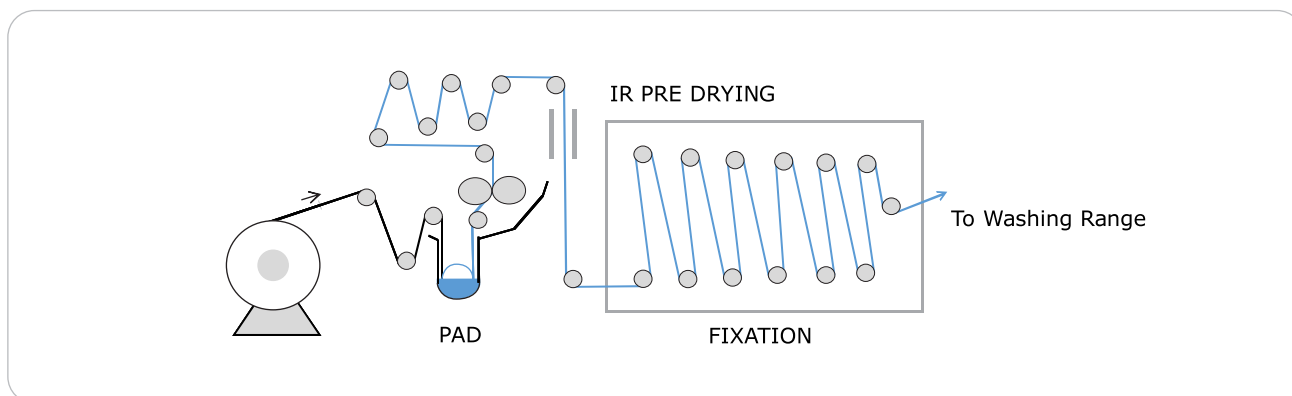
### Chemical Concentrations

Dyestuff (g/l)	<10	10	50
Soda Ash (g/l)	10-50	20	100
Urea (g/l)	>50	20	150

### Process conditions

**Liquor Temperature:** 20-25°C, **Pick up:** 70-80%,  
**Drying:** 100°-130°C, **Thermofix:** 60 sec at 140°C

## PAD - HUMIDIFICATION - FIX PROCESS



**Pad:** Dye X g/l, OXXI.J DRS - 1.0 g/l, OXXI.J CS 2000 - 1.0 g/l, OXXI.J AM 1000 - 10-15 g/l, Mild Oxidant - 5-10 g/l, Alkali as per table.

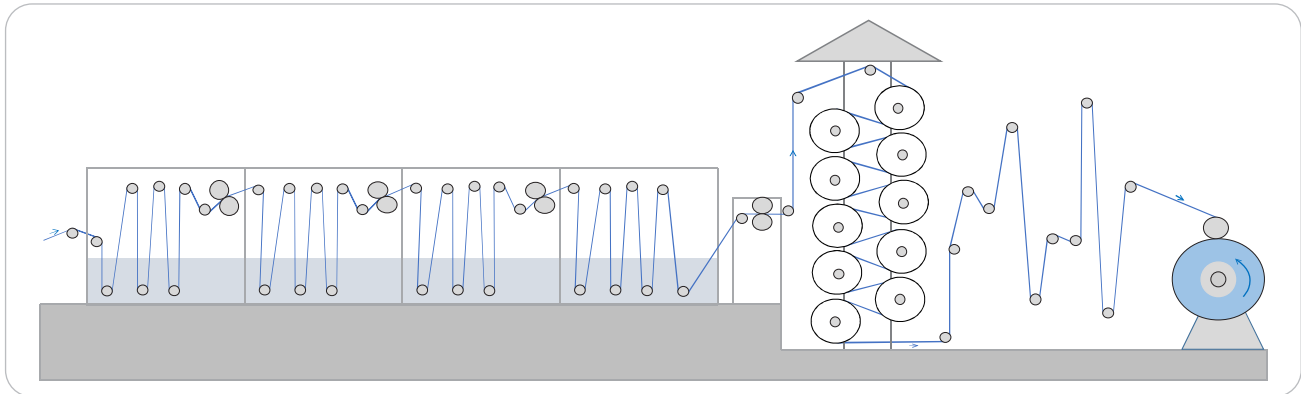
### Alkali Table

Dyestuff (g/l)	<20	20-40	40-60	>60
Soda Ash (g/l)	20	20	20	20
Caustic Soda (g/l)	5	9	12	14

### Process conditions

**Liquor Temperature:** 20-25°C, **Pick up:** 70-80%,  
**fixation temperature:** 120-130°C, **Volume humidity:** 25-30%, **Time:** 2-4 min

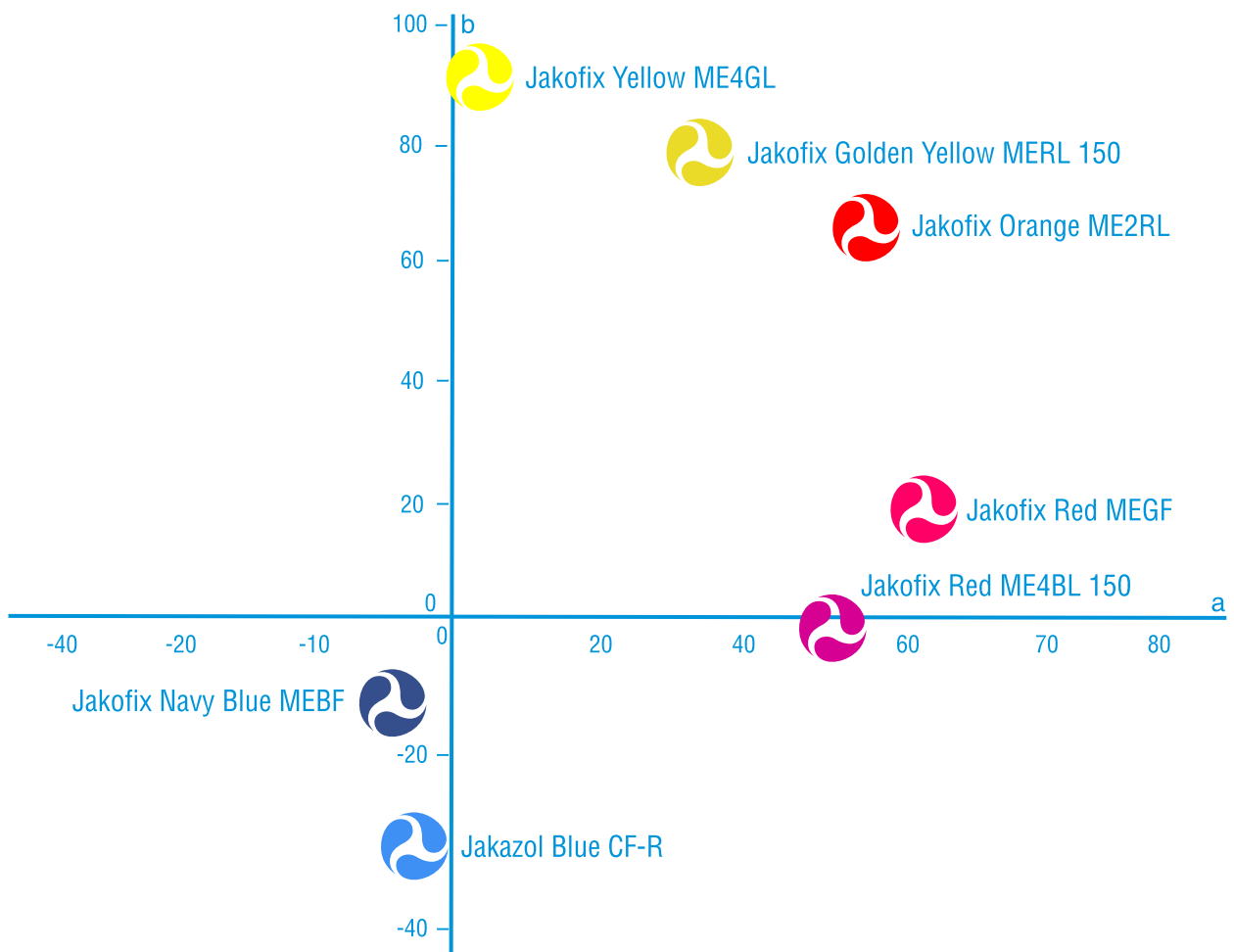
## WASHING - OFF PROCESS



Bath	Conditions
1	50-60°C water*
2	80°C water* (pH 5-6 with Acetic Acid)
3	95°C water* + OXXI.J WO 800 1-2 ml/l
4	95°C water* + OXXI.J WO 800 1-2 ml/l
5	95°C water*
6	80°C water* (pH 5-6 with Acetic Acid)
7	Room temperature water*

\* Soft water should be used or add OXXI.J SD-H 1 ml/l

## JAKOFIX® ME - COLOUR GAMUT



# JAKOFIX<sup>®</sup> Yellow ME4GL

## PRODUCT DESCRIPTION

Lemon yellow to match green shades

Exhaust



1/1 SD 2.8% 1/2 SD 1.3% 1/3 SD 0.8%

## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	NS	NS	NS

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	200 g/l	
	50°C 90 g/l Salt	150 g/l	
COVERAGE OF DEAD COTTON	Good		
CHANGE OF SHADE (versus daylight)	Tungsten	G/BI/DI	
	TL 84	G/Y/Br	
EFFECT OF METALS	Copper	4 DI	
	Iron	3-4 R	
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	B	
	Alkaline (1/1 SD)	A	
Stripping	Method I 46.0%	Method II 96.0%	Method III 97.0%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	NA	NA	NA	NA	NA	NA
Silicate Free Method	NA	NA	NA	NA	NA	NA
Tropical Method	NA	NA	NA	NA	NA	NA

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	4	3.5	3
ISO 105 B02 (Grade 6)	5-6	4-5	4

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	4	3-4	3

### PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	4	3.5	3
ISO 105 B07 (ACID) Grade 4	4	3-4	3
ISO 105 B07 (ALKALINE) Grade 4	3-4	3	2-3

### WASHING FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4-5	4-5	4-5
ISO 105 C10 D(4) - 95°C	4-5	4	4-5
ISO 105 C06/C2S - 60°C	4 R	4-5	4-5
ISO 105 C06/E2S - 95°C	4 R	4	4-5 (viscose)
M&S C4A - 60°C	4-5 R	4	4-5
M&S C10 - 50°C	4-5	-	-
M&S C10A - 60°C	4 R	-	-
AATCC 61 2A - 49°C	4.5	4.5	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

### WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4-5	4-5
Water - AATCC 107	4.5	4.5	4.5
Acid Perspiration - M&S C7	4 R	4-5	4-5
Alkaline Perspiration - M&S C7	4-5	4-5	4-5
Perspiration - AATCC 15	4.5	4.5	4.5
Acid Perspiration - ISO 105 E04	4	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4-5	4-5

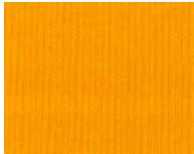



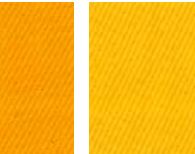





### OTHER FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4 R	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	3-4 R	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4	4	4-5 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4-5	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	4-5	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk	4	-
Acid Spotting - ISO 105 E05	4-5	-	-
Alkali Spotting - ISO 105 E06	4 Bl	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	4	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4-5	-
BPO (10% Benzoyl Peroxide)	8 hrs 4-5	24 hrs 4-5	72 hrs 4-5
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4

# JAKOFIX<sup>®</sup> Golden Yellow MERL 150

## PRODUCT DESCRIPTION

Trichromatic yellow to match pale to medium shades

Exhaust						Cold Pad Batch					
											
1/1 SD	3.1%	1/2 SD	1.5%	1/3 SD	1.03%	1/1 SD	30 gpl	1/2 SD	12 gpl	1/3 SD	8 gpl

## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	S	NS	S

## GENERAL PROPERTIES

SOLUBILITY	30°C Water		200 g/l			
	50°C 90 g/l Salt		200 g/l			
COVERAGE OF DEAD COTTON						Moderate
CHANGE OF SHADE (versus daylight)	Tungsten		G/BI/DI			
	TL 84		G/Y/Br			
EFFECT OF METALS	Copper		3-4 DI			
	Iron		4			
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)		C			
	Alkaline (1/1 SD)		B			
Stripping	Method I	28.0%	Method II	86.0%	Method III	89.0%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	20	20	20	16	16	16
Silicate Free Method	20	20	20	16	16	16
Tropical Method	30	30	30	16	16	16

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	4.5	4.5	4
ISO 105 B02 (Grade 6)	6	5-6	5

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	4+	4+	4

**PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing**

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	4.5	4	3.5
ISO 105 B07 (ACID) Grade 4	4+	4	3-4
ISO 105 B07 (ALKALINE) Grade 4	4+	4	3-4

**WASHING FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) 60°C	4-5	4	4-5
ISO 105 C10 D(4) - 95°C	4-5	3-4	4-5
ISO 105 C06/C2S - 60°C	4-5	4	4-5
ISO 105 C06/E2S - 95°C	4-5	3-4	4-5 (viscose)
M&S C4A - 60°C	4-5	4	4-5
M&S C10 - 50°C	4-5	-	-
M&S C10A - 60°C	4-5	-	-
AATCC 61 2A - 49°C	4.5	4	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

**WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4-5	4-5
Water - AATCC 107	4.5	4	4.5
Acid Perspiration - M&S C7	4-5	4-5	4-5
Alkaline Perspiration - M&S C7	4-5	4-5	4-5
Perspiration - AATCC 15	4.5	4.5	4.5
Acid Perspiration - ISO 105 E04	4-5	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4-5	4-5

**OTHER FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	4	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4-5	3-4	4 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4-5	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	4-5	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk	4	-
Acid Spotting - ISO 105 E05	3-4 R/BI	-	-
Alkali Spotting - ISO 105 E06	4	-	-
Hot Pressing - ISO X11 Dry / Effect Immediately	4-5	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4	-
BPO (10% Benzoyl Peroxide)	8 hrs 4-5	24 hrs 4-5	72 hrs 4-5
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4



# JAKOFIX<sup>®</sup> Orange ME2RL

## PRODUCT DESCRIPTION

Tinctorial strong bright orange with excellent chlorine fastness

Exhaust



1/1 SD      2.0%      1/2 SD      1.0 %      1/3 SD      0.6%

## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	NS	NS	NS

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	40 g/l				
	50°C 90 g/l Salt	<5 g/l				
COVERAGE OF DEAD COTTON	Moderate					
CHANGE OF SHADE (versus daylight)	Tungsten	G/Y				
	TL 84	G/Y/Br				
EFFECT OF METALS	Copper	3-4 DI				
	Iron	4				
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	C				
	Alkaline (1/1 SD)	C				
Stripping	Method I	44.0%	Method II	32.0%	Method III	58.0%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	NA	NA	NA	NA	NA	NA
Silicate Free Method	NA	NA	NA	NA	NA	NA
Tropical Method	NA	NA	NA	NA	NA	NA

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	3.5	3	2.5
ISO 105 B02 (Grade 6)	4	3-4	3

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	3-4	3-4	3

**PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing**

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	3.5	3	2.5
ISO 105 B07 (ACID) Grade 4	4	3-4	3
ISO 105 B07 (ALKALINE) Grade 4	3-4	3	2-3

**WASHING FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4	3-4	4-5
ISO 105 C10 D(4) - 95°C	4	3	4-5
ISO 105 C06/C2S - 60°C	4-5	3-4	4-5
ISO 105 C06/E2S - 95°C	4-5	3-4	4 (viscose)
M&S C4A - 60°C	4-5	3-4	4-5
M&S C10 - 50°C	4-5	–	–
M&S C10A - 60°C	4 DI	–	–
AATCC 61 2A - 49°C	4.5	4	4.5
AATCC 61 3A - 71°C	4.5	3.5	4.5

**WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4	4-5
Water - AATCC 107	4.5	4	4.5
Acid Perspiration - M&S C7	4-5	4-5	4-5
Alkaline Perspiration - M&S C7	4-5	4-5	4-5
Perspiration - AATCC 15	4.5	4.5	4.5
Acid Perspiration - ISO 105 E04	4-5	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4-5	4-5

**OTHER FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4-5	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	4	-	-
Bleaching Hypochlorite - ISO 105 N01	3-4	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4-5	3	4 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4	–	–
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	3-4	–	–
Mercerizing (Caustic Soda) - ISO 105 X04	4	4	-
Acid Spotting - ISO 105 E05	4 BI	-	-
Alkali Spotting - ISO 105 E06	4	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	3 R/BI	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	–	4-5	-
BPO (10% Benzoyl Peroxide)	8 hrs 4-5	24 hrs 4-5	72 hrs 4-5
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4

# JAKOFIX<sup>®</sup> Red MEGF

## PRODUCT DESCRIPTION

Support red element for light to dark shades

Exhaust						Cold Pad Batch					
1/1 SD	3.9%	1/2 SD	2.0%	1/3 SD	1.15%	1/1 SD	30 gpl	1/2 SD	15 gpl	1/3 SD	10 gpl

## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	S	NS	NS

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	200 g/l				
	50°C 90 g/l Salt	<5 g/l				
COVERAGE OF DEAD COTTON	Moderate					
CHANGE OF SHADE (versus daylight)	Tungsten	R/Y/Br				
	TL 84	R/Y/Br				
EFFECT OF METALS	Copper	3 Bl/Dl				
	Iron	3-4 Bl				
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	A				
	Alkaline (1/1 SD)	A				
Stripping	Method I	88.0%	Method II	84.0%	Method III	96.0%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	20	10	–	16	16	–
Silicate Free Method	30	15	–	16	16	–
Tropical Method	30	20	–	16	16	–

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	3.5	3.5	3.5
ISO 105 B02 (Grade 6)	4-5	4	3-4

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	3-4	3-4	3-4

**PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing**

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	3	3	2.5
ISO 105 B07 (ACID) Grade 4	3	3	3
ISO 105 B07 (ALKALINE) Grade 4	3	2-3	2

**WASHING FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4-5	3-4	4-5
ISO 105 C10 D(4) - 95°C	4-5	3	4-5
ISO 105 C06/C2S - 60°C	4-5	4	4-5
ISO 105 C06/E2S - 95°C	4-5	4	4 (viscose)
M&S C4A - 60°C	4-5	4	4-5
M&S C10 - 50°C	4-5	-	-
M&S C10A - 60°C	4-5 Bl	-	-
AATCC 61 2A - 49°C	4.5	4	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

**WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4	4-5
Water - AATCC 107	4.5	4	4.5
Acid Perspiration - M&S C7	4-5	4-5	4-5
Alkaline Perspiration - M&S C7	4-5 Bl	4	4-5
Perspiration - AATCC 15	4.5	4	4.5
Acid Perspiration - ISO 105 E04	4-5	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4-5	4-5

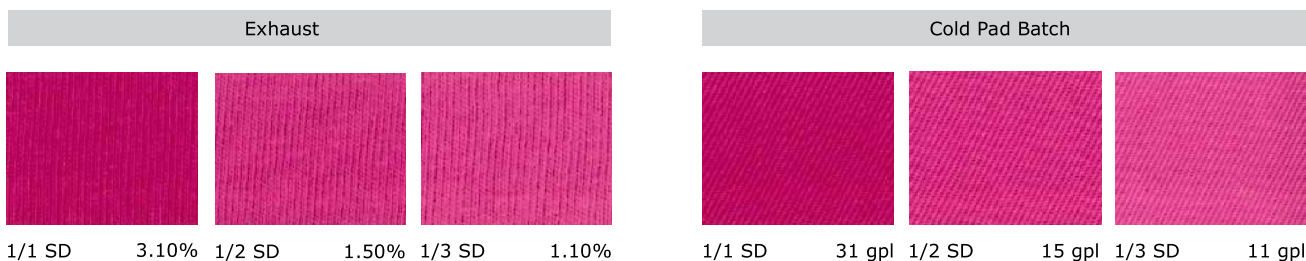
**OTHER FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4-5 Bl	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	4 Bl	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4-5 Bl	3-4	4-5 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4-5	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	4	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk	4	-
Acid Spotting - ISO 105 E05	3 Bl	-	-
Alkali Spotting - ISO 105 E06	3 Bl	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	2-3	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4	-
BPO (10% Benzoyl Peroxide)	8 hrs 4-5	24 hrs 4-5	72 hrs 4-5
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4

# JAKOFIX<sup>®</sup> Red ME4BL 150

## PRODUCT DESCRIPTION

Trichromatic red for light to dark shades



## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	S	NS	S

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	200 g/l				
	50°C 90 g/l Salt	100 g/l				
COVERAGE OF DEAD COTTON	Moderate					
CHANGE OF SHADE (versus daylight)	Tungsten	G/Y/DI				
	TL 84	R/Y/Br				
EFFECT OF METALS	Copper	3-4 Bl/DI				
	Iron	4				
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	C				
	Alkaline (1/1 SD)	C				
Stripping	Method I	94%	Method II	34%	Method III	94%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	30	20	–	16	16	–
Silicate Free Method	30	20	–	16	16	–
Tropical Method	30	20	–	16	16	–

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	4	3.5	3
ISO 105 B02 (Grade 6)	4-5	4	3-4

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	4	3-4	3-4

### PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	3.5	3	3
ISO 105 B07 (ACID) Grade 4	4	4	3-4
ISO 105 B07 (ALKALINE) Grade 4	3	3	2-3

### WASHING FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4-5	4	4-5
ISO 105 C10 D(4) - 95°C	4-5	3-4	4-5 (viscose)
ISO 105 C06/C2S - 60°C	4-5	4-5	4-5
ISO 105 C06/E2S - 95°C	4-5	4	4 (viscose)
M&S C4A - 60°C	4-5	4-5	4-5
M&S C10 - 50°C	4-5	-	-
M&S C10A - 60°C	4	-	-
AATCC 61 2A - 49°C	4.5	4.5	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

### WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4-5	4-5
Water - AATCC 107	4	4	4.5
Acid Perspiration - M&S C7	4-5	4	4-5
Alkaline Perspiration - M&S C7	4-5	4	4-5
Perspiration - AATCC 15	4.5	4.5	4.5
Acid Perspiration - ISO 105 E04	4-5	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4	4-5

### OTHER FASTNESS - 1/1 SD - Exhaust Dyeing

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4-5 Br	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	4	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4 Bl	4	4-5 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4-5	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	4-5	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk/Bl	3-4	-
Acid Spotting - ISO 105 E05	4 Y	-	-
Alkali Spotting - ISO 105 E06	3-4 Bl	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	1-2	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4	-
BPO (10% Benzoyl Peroxide)	8 hrs 4-5	24 hrs 4-5	72 hrs 4-5
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4

# JAKOFIX<sup>®</sup> Navy Blue MEBF

## PRODUCT DESCRIPTION

Blue trichromatic element for medium to dark shades

Exhaust



1/1 SD    3.15%    1/2 SD    1.58%    1/3 SD    1.05%

## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	NS	NS	S

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	200 g/l				
	50°C 90 g/l Salt	120 g/l				
COVERAGE OF DEAD COTTON	Good					
CHANGE OF SHADE (versus daylight)	Tungsten	R/Bl/Br				
	TL 84	R/Bl/Br				
EFFECT OF METALS	Copper	3-4 DI				
	Iron	4				
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	B				
	Alkaline (1/1 SD)	B				
Stripping	Method I	74%	Method II	45%	Method III	89%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	NA	NA	NA	NA	NA	NA
Silicate Free Method	NA	NA	NA	NA	NA	NA
Tropical Method	NA	NA	NA	NA	NA	NA

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	3.5	3	2.5
ISO 105 B02 (Grade 6)	3-4	3-4	3

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	3-4	3	3

**PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing**

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	3	2.5	2.5
ISO 105 B07 (ACID) Grade 4	3-4	3	2-3
ISO 105 B07 (ALKALINE) Grade 4	3	2-3	2

**WASHING FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4-5	4	4-5
ISO 105 C10 D(4) - 95°C	4-5	3-4	4-5 (viscose)
ISO 105 C06/C2S - 60°C	4-5	4	4-5
ISO 105 C06/E2S - 95°C	4-5	3-4	4-5 (viscose)
M&S C4A - 60°C	4-5	4	4-5
M&S C10 - 50°C	4	-	-
M&S C10A - 60°C	4	-	-
AATCC 61 2A - 49°C	4.5	4	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

**WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4-5	4-5
Water - AATCC 107	4.5	4	4.5
Acid Perspiration - M&S C7	4-5	4	4-5
Alkaline Perspiration - M&S C7	4-5	4	4-5
Perspiration - AATCC 15	4.5	4	4.5
Acid Perspiration - ISO 105 E04	4-5	4	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4	4-5

**OTHER FASTNESS - 1/1 SD - Exhaust Dyeing**

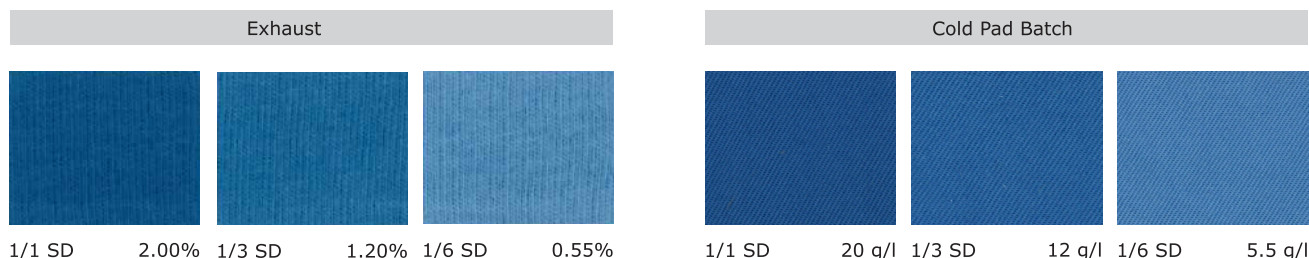
	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	3-4	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	3	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4	4	4-5 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	4	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk	4	-
Acid Spotting - ISO 105 E05	4-5	-	-
Alkali Spotting - ISO 105 E06	4	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	4	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4-5	-
BPO (10% Benzoyl Peroxide)	8 hrs 4	24 hrs 4	72 hrs 4
Rubbing - ISO 105 X12		Dry 4-5	Wet 3



# JAKAZOL<sup>®</sup> Blue CF-R

## PRODUCT DESCRIPTION

For pale to Medium Shades as red & blue Component



## PROCESS SUITABILITY

Exhaust Dyeing	Cold Pad Batch	Pad Dry Pad Steam	Pad Dry Thermofix
S	S	NS	NS

## GENERAL PROPERTIES

SOLUBILITY	30°C Water	200 g/l				
	50°C 90 g/l Salt	<5 g/l				
COVERAGE OF DEAD COTTON	Moderate					
CHANGE OF SHADE (versus daylight)	Tungsten	R/Bl/Br				
	TL 84	G/Dl				
EFFECT OF METALS	Copper	3-4				
	Iron	4				
DISCHARGEABILITY (Cotton)	Neutral (1/1 SD)	C				
	Alkaline (1/1 SD)	B				
Stripping	Method I	71%	Method II	92%	Method III	94%

## RELEVANT INFORMATION COLD PAD BATCH

	Liquor Stability (min)			Fixation Time (h)		
	25°C	30°C	35°C	25°C	30°C	35°C
Cold Silicate Method	-	30	-	-	16	-
Silicate Free Method	-	30	-	-	16	-
Tropical Method	-	60	-	-	16	-

## LIGHT FASTNESS - Exhaust Dyeing

	1/1 SD	1/3 SD	1/6 SD
AATCC 16.3 (20AFU)	4	4	4
ISO 105 B02 (Grade 6)	6	5-6	4-5

## FASTNESS TO WEATHERING

	1/1 SD	1/3 SD	1/6 SD
ISO 105 B04 (Grade 4)	4+	4+	4

**PERSPIRATION LIGHT FASTNESS - Exhaust Dyeing**

	1/1 SD	1/3 SD	1/6 SD
AATCC 125 (ACIDIC)	3.5	3.5	3
ISO 105 B07 (ACID) Grade 4	4+	4	4
ISO 105 B07 (ALKALINE) Grade 4	3-4	3	3

**WASHING FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
ISO 105 C10 C(3) - 60°C	4-5	3-4	4-5
ISO 105 C10 D(4) - 95°C	4	3	4-5 (viscose)
ISO 105 C06/C2S - 60°C	4-5	4	4-5
ISO 105 C06/E2S - 95°C	4	3	4-5 (viscose)
M&S C4A - 60°C	4-5	4	4-5
M&S C10 - 50°C	4-5	-	-
M&S C10A - 60°C	4	-	-
AATCC 61 2A - 49°C	4.5	4	4.5
AATCC 61 3A - 71°C	4.5	4	4.5

**WET CONTACT FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Water - ISO 105 E01	4-5	4-5	4-5
Water - AATCC 107	4.5	4.5	4.5
Acid Perspiration - M&S C7	4-5 G	4-5	4-5
Alkaline Perspiration - M&S C7	4 G	4-5	4-5
Perspiration - AATCC 15	4.5	4.5	4.5
Acid Perspiration - ISO 105 E04	4-5	4-5	4-5
Alkaline Perspiration - ISO 105 E04	4-5	4-5	4-5

**OTHER FASTNESS - 1/1 SD - Exhaust Dyeing**

	Shade Change	Cotton Staining	Nylon Staining
Chlorinated Water - JIS L-0884 (10 ppm)	4-5	-	-
Chlorinated Water - JIS L-0884 (20 ppm)	4	-	-
Bleaching Hypochlorite - ISO 105 N01	3	-	-
Bleaching Hydrogen Peroxide - ISO 105 N02	4-5	3-4	4-5 (viscose)
Burnt Gas Fumes - ISO 105 G02 (Cycle 1)	4	-	-
Burnt Gas Fumes - ISO 105 G02 (Cycle 3)	3-4	-	-
Mercerizing (Caustic Soda) - ISO 105 X04	4 Dk	3-4	-
Acid Spotting - ISO 105 E05	3-4	-	-
Alkali Spotting - ISO 105 E06	4	-	-
Hot Pressing - ISO X11 Dry / Effect immediately	4-5	-	-
Hot Pressing - ISO X11 Dry / Effect after 4 hours	4-5	-	-
Hot Pressing - ISO X11 Wet	-	4-5	-
BPO (10% Benzoyl Peroxide)	8 hrs 1-2	24 hrs 1	72 hrs 1
Rubbing - ISO 105 X12		Dry 4-5	Wet 3-4



## Jay Chemical Industries Private Limited

Jay House, Panchvati Circle, Ambawadi, Ahmedabad 380 006, Gujarat, India  
T: +91 79 26423363 | E: info@jaychemical.com



[www.jaychemical.com](http://www.jaychemical.com)

CIN : U24119GJ2000PLC037683



ISO 9001  
ISO 14001  
ISO 45001



GOTS  
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