

### Advantages

#### Kirazol KR Dyes

- Modified bifunctional dyes
- Very good levelling & compatibility
- Suitable for light to medium depths

#### Kirazol KX Dyes

- Modified bifunctional dyes
- Suitable for medium to deep shades
- Good build up properties
- Resistant to oxidative bleach damage

### Product placement

#### Kirazol KX Dyes

Medium shades - Golden Yellow KX  
Red KX  
Blue KX

Deep Shades - Golden Yellow KX  
Deep Red KX  
Navy KX

Very Heavy shades - Yellow KX Conc.  
Red KX Conc.  
Navy KX

### Abbreviations

- Bl - Bluer
- Br - Brighter
- Dl - Duller
- Dk - Darker
- G - Greener
- R - Redder
- Y - Yellower
- S - Suitable
- NS - Not suitable

### Dischargeability

- D - Dischargeable
- F - Fair (Partial dischargeable)
- P - Poor (Non dischargeable)

**Kiri Industries Limited**  
*From Fall of Color to Spring*

Disclaimer: The information given in this shade card is indicative and its not a part of legal document.

**Kiri Industries Limited**  
*From Fall of Color to Spring*

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**Kirazol KR/KX Dyes**

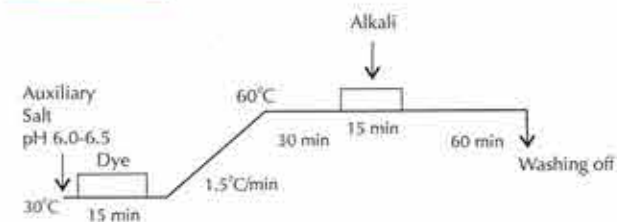
### Product Placement Chart

| Products         | Placement                                | Warm exhaust | Hot exhaust | Cold pad batch | Pad dry chemical pad steam | Printing |
|------------------|--|--------------|-------------|----------------|----------------------------|----------|
| Kirazol KR       | Difficult shades                         | S            |             | S              | S                          |          |
| Kirazol KX Conc. | High performance dyeing (deep shades)    | S            |             | S              | S                          |          |
| Kirazol KX       | High performance dyeing (Md - Dp shades) | S            |             | S              | S                          |          |
| Kiractive P      | High performance printing                |              |             |                |                            | S        |
| Kiractive KF     | Better reproducibility                   | S            |             | S              |                            |          |
| Kirazol KV       | High strength shades                     | S            |             | S              | S                          |          |
| Kiractive HE     | Economical high temperature dyeing       |              | S           |                |                            |          |
| Kiractive ME     | Economical warm exhaust dyeing           | S            |             | S              |                            |          |
| Kirazol VS       | Commodity multi-use: vinyl sulphone      | S            |             | S              | S                          | S        |

| Kirazol<br>KR/KX Dyes |    | Product Name        | Processes      |                       |                   |                  | Solubility g/l |                      | Light Fastness |              |             |             | Washing          |                | Water            |                | Perspiration E04 |                | Rubbing     |             | M&S C10A                                      |                          |
|-----------------------|----|---------------------|----------------|-----------------------|-------------------|------------------|----------------|----------------------|----------------|--------------|-------------|-------------|------------------|----------------|------------------|----------------|------------------|----------------|-------------|-------------|---|--------------------------|
|                       |    |                     | Exhaust Dyeing | Semicontinuous Dyeing | Continuous Dyeing | Dischargeability | Water - 30°C   | Salt (90 g/l) - 50°C | CO3            |              |             |             | E01              |                | Acidic           |                | Alkaline         |                | Dry Rubbing | Wet Rubbing | Change in colour (Damage to Oxidative Bleach) | Chlorinated Water 20mg/l |
|                       |    |                     |                |                       |                   |                  |                |                      | ATTC 16E 1/1   | ATTC 16E 1/3 | ISO BO2 1/1 | ISO BO2 1/3 | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) |             |             |   |                          |
| 1%                    | 3% | Yellow KR           | S              | S                     | S                 | D                | 100            | <20                  | 4              | 4            | 4-5         | 4           | 4-5              | 4-5            | 4                | 4-5            | 4-5              | 4              | 5           | 4           | 4-5   | 3<br>G,DI                |
|                       |    | Orange KR           | S              | NS                    | NS                | P                | 200            | 50                   | 4              | 3-4          | 3-4         | 3           | 4-5              | 3-4            | 4-5              | 4              | 4-5              | 4-5            | 4-5         | 4           | 4-5   | 3-4                      |
|                       |    | Red KR              | S              | S                     | S                 | P                | 200            | 120                  | 3-4            | 3-4          | 3-4         | 3           | 4-5              | 4-5            | 4-5              | 4              | 4-5              | 4-5            | 4-5         | 4-5         | 3-4   | 4-5<br>DI                |
|                       |    | Blue KR             | S              | S                     | S                 | F                | 200            | 200                  | 3-4            | 3            | 3-4         | 3           | 5                | 4-5            | 5                | 4-5            | 4-5              | 4-5            | 4-5         | 5           | 3-4   | 4-5<br>DI                |
| 1%                    | 4% | Golden Yellow KX    | S              | S                     | S                 | F                | 200            | 200                  | 4-5            | 4            | 4-5         | 4           | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5         | 4           | 4-5   | 3-4<br>G, DI             |
|                       |    | Orange KX           | S              | S                     | S                 | F                | 150            | 120                  | 4-5            | 4            | 4           | 3-4         | 4-5              | 3-4            | 4-5              | 4-5            | 4-5              | 4-5            | 4           | 4-5         | 4   | 3                        |
|                       |    | Red KX              | S              | S                     | S                 | P                | 200            | 50                   | 4              | 3-4          | 4           | 3-4         | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4           | 4-5         | 4   | 4-5<br>DI                |
|                       |    | Deep Red KX         | S              | S                     | S                 | P                | 200            | 200                  | 3-4            | 3-4          | 3-4         | 3           | 4-5              | 4              | 4-5              | 4-5            | 4-5              | 4-5            | 4-5         | 4-5         | 4   | 4-5<br>DI                |
|                       |    | Blue KX             | S              | S                     | S                 | F                | 200            | 200                  | 3-4            | 3            | 3-4         | 3           | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5         | 4-5         | 3-4   | 4<br>DI                  |
|                       |    | Navy Blue KX        | S              | S                     | S                 | D                | 200            | 200                  | 3-4            | 2-3          | 3-4         | 2-3         | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5         | 4-5         | 4   | 4<br>G                   |
|                       |    | Yellow KX Conc.     | S              | S                     | S                 | P                | 200            | 200                  | 4-5            | 4            | 4           | 4           | 4-5              | 4              | 4-5              | 4              | 4-5              | 4              | 4-5         | 4           | 4-5   | 3-4<br>G                 |
|                       |    | Red KX Conc.        | S              | S                     | S                 | P                | 200            | 200                  | 4              | 3-4          | 4           | 3-4         | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4           | 4-5         | 3-4   | 4-5<br>DI                |
|                       |    | Cherry Red KX Conc. | S              | S                     | S                 | F                | 200            | 200                  | 4              | 4            | 4           | 3-4         | 4-5              | 4              | 4-5              | 4-5            | 4-5              | 4-5            | 4-5         | 4-5         | 3-4   | 4-5                      |

| Kirazol<br>KR/KX Dyes |    | Product Name        | Processes      |                       |                   |                  | Solubility g/l |                      | Light Fastness   |                | Washing          |                | Water            |                | Perspiration E04 |                | Rubbing          |                | M&S C10A         |                |     |   |                          |
|-----------------------|----|---------------------|----------------|-----------------------|-------------------|------------------|----------------|----------------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|-----|---|--------------------------|
|                       |    |                     | Exhaust Dyeing | Semicontinuous Dyeing | Continuous Dyeing | Dischargeability | Water - 30°C   | Salt (90 g/l) - 50°C | ATTC 16E         |                | ISO BO2          |                | CO3              |                | E01              |                | Acidic           |                | Alkaline         |                | X12 | Change in colour (Damage to Oxidative Bleach) | Chlorinated Water 20mg/l |
|                       |    |                     |                |                       |                   |                  |                |                      | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) | Change in colour | Stain (cotton) |     |   |                          |
| 3%                    | 6% | Deep Black KX       | S              | S                     | S                 | D                | 200            | 200                  | 4                | 4              | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 3              | 4-5 | 3<br>R,DI                                     |                          |
|                       |    | Deep Black KX Conc. | S              | S                     | S                 | D                | 200            | 200                  | 4                | 3-4            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 4-5            | 4-5              | 3              | 3-4 | 3<br>R,DI                                     |                          |

### Exhaust Dyeing



### Single Alkali Method

Salt and Alkali Requirements

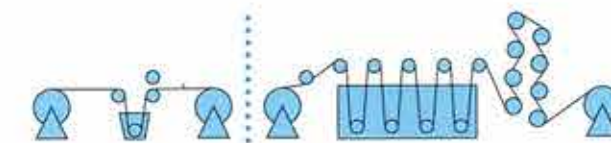
| % Dye     | Common Salt (g/l) | Soda Ash (g/l) |
|-----------|-------------------|----------------|
| < 0.1     | 20                | 5              |
| 0.1 - 0.5 | 20 - 25           | 5 - 7          |
| 0.5 - 1.0 | 25 - 40           | 7 - 10         |
| 1.0 - 2.0 | 40 - 50           | 10 - 13        |
| 2.0 - 3.0 | 50 - 60           | 13 - 15        |
| 3.0 - 5.0 | 60 - 80           | 15 - 20        |
| 5.0 - 7.0 | 80 - 90           | 20             |
| > 7.0     | 100               | 20             |

### Mixed Alkali Method

Salt and Alkali Requirements

| % Dye     | Common Salt (g/l) | Soda Ash (g/l) | Caustic Flakes (g/l) |
|-----------|-------------------|----------------|----------------------|
| < 0.1     | 20                | 5              | 0                    |
| 0.1 - 0.5 | 20 - 25           | 5              | 0.3 - 0.38           |
| 0.5 - 1.0 | 25 - 40           | 5              | 0.38 - 0.45          |
| 1.0 - 2.0 | 40 - 50           | 5              | 0.45 - 0.6           |
| 2.0 - 3.0 | 50 - 60           | 5              | 0.6 - 0.75           |
| 3.0 - 5.0 | 60 - 80           | 5              | 0.75 - 1.0           |
| 5.0 - 7.0 | 80 - 90           | 5              | 1.0                  |
| > 7.0     | 100               | 5              | 1.0                  |

### Cold Pad Batch Dyeing



Mixing pump required  
Add 10 - 100 g/l urea to dye liquor (as necessary for solubility)

### Silicate Method

| Dye (g/l) | Sodium Silicate (38° Be) | Caustic Flakes (g/l) |
|-----------|--------------------------|----------------------|
| < 5       | 100 ml/l                 | 2                    |
| 10 - 20   | 100 ml/l                 | 3.0 - 3.5            |
| 20 - 30   | 100 ml/l                 | 3.5 - 4.0            |
| 30 - 40   | 100 ml/l                 | 4.0 - 4.5            |
| 40 - 60   | 100 ml/l                 | 4.5 - 5.0            |
| 60 - 80   | 100 ml/l                 | 5.0 - 5.5            |
| 80 - 100  | 100 ml/l                 | 5.5 - 7.0            |

Batch 16 hrs at 25°C

### Silicate Free Method

| Dye (g/l) | Soda ash (g/l) | Caustic Flakes (g/l) |
|-----------|----------------|----------------------|
| 20        | 30             | 2                    |
| 40        | 30             | 3                    |
| 60        | 30             | 4                    |
| 80        | 30             | 5                    |
| 100       | 30             | 6                    |
| > 100     | 30             | 7                    |

Batch 24 hrs at 25°C