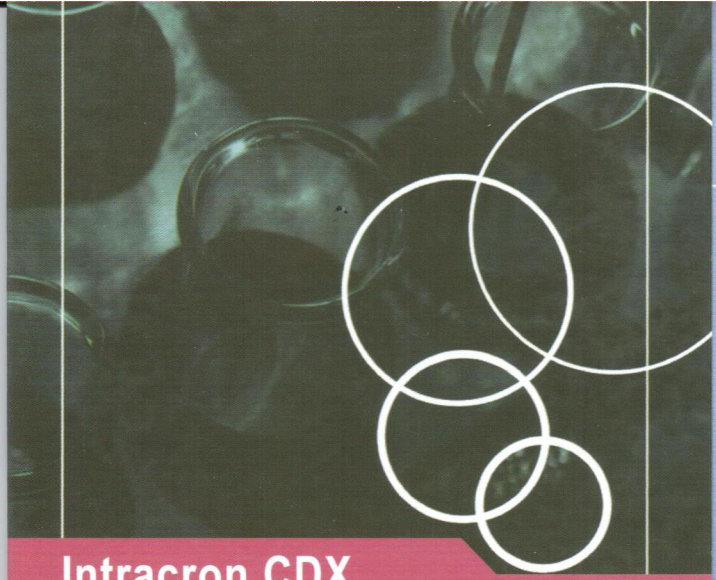

Intracron CDX

dyes for celluosic fibres

yorkshire

description

The Intracron CDX range is a comprehensive and balanced range of reactive dyes for the exhaust dyeing of cellulosic fibers.

The main benefits of the range are:

- Attractive full shade gamut to cover fashion demands
- Optimised compatibility and excellent level dyeing proterties
- Good robustness to process variables for enhanced reproducibility and right-first-time dyeing performance
- Simple highly productive dyeing method gives optimised use of equipment and personnel
- Rapid wash off properties
- Good all-round wet fastness
- High light fastness trichromy

super trichromie

INTRACRON CDX-ST 200% REACTIVE DYES

INTRACRON CDX-ST 200% REACTIVE DYES

With the push for better economy for reactive dyes especially for darker shades Yorkshire Asia Pacific Ltd has introduced a new Super Trichromie that not only meets this requirement but offers many other advantages.

- strong yielding
- all aspects of dyeing
- very high solubility
- high degree of compatibility
- same requirements for salt and alkali
- very high wet fastness

* New product not yet free for sale in the European Union

recommended combinations

Main trichromatic dye selection

	High Quality Leisure / Sports		Economical		
	Pale / Medium	Dark	Pale	Medium	Dark
Intracron					
G. Yellow CDX-ED	+	+	+	+	+
Red CDX-EP	+				
Red CDX-ED		+	+	+	+
Blue CDX-EP	+		+		
Blue CDX-ED		+		+	
Navy Blue CDX-MS					+

High light fast selection

Intracron
G. Yellow CDX-ED
Bordeaux CDX-LT
Blue CDX-LT

Bright shades

Intracron

Yellow CDX-4G	greenish yellow, green
Orange CDX-2R	orange, scarlet
Red CDX-3GN 140	pink

Deep shades

Intracron

Deep Red CDX-RB	rubine, bordeaux
Dark Blue CDX-3G	dark green
Deep Navy CDX-GR	dark navy

Supplementary dyes

Intracron

Blue V-RL	royal, bright mid-reddish blue
Turquoise Blue V-G 133	turquoise, greenish blue
Green V-6B	bright green

Note: Although the Intracron CDX range is optimised for exhaust application, selected dyes may be applied by cold pad batch subject to preliminary testing - preferably under local conditions.

stability to process variables

Salt Sensitivity

Glaubers Salt	40g/l	50g/l	60g/l
Mid Brown			
Charcoal			

Liquor Ratio Dependancy

L.R	8:1	10:1	12:1
Mid Brown			
Charcoal			

Time Sensitivity

Time (minutes)	45	60	75
Mid Brown			
Charcoal			

Temperature Sensitivity

Temperature (C)	50	60	70
Mid Brown			
Charcoal			

	Mid-Brown	Charcoal
Golden Yellow CDX-ED	0.85%	0.55%
Red CDX-ED	0.48%	0.29%
Blue CDX-ED	0.45%	0.90%

dyeing method

The preferred method is determined by a number of factors including dyeing machine type, degree of automation, availability of controlled dispensing, fibre quality and type, fabric and/or yarn constructon . Two popular methods are given below.

Isothermal Salt at Start

For dyeing machines with progressive dosing,facility,especially cotton knitgoods on jet dyeing machines or cotton yarn packages in circulating liquor machines

- Set bath at 60℃
- Add 1g/l **Serilube LCP** (lubricant)
  0.5 - 1.0 g/l **Seriquest AP-SN** (sequestrant)
  x g/l Glaubers salt or common salt
- Run 5 minutes and check pH 6.0 - 7.0
- Add pre-dissolved Intracron dyes over 15 minutes
- Run 30 minutes (migration phase)
- Progressive additions of alkali over 30 minutes
- Run 30 minutes pale
  45 minutes medium
  60 minutes deep
- Drain and start rinse / soap cycle

Standard Method

For dyeing machines without progressive dosing facility

- Set bath at 20-25℃
- Add 1g/l **Serilube LCP** (lubricant)
  0.5 - 1.0 g/l **Seriquest AP-SN** (sequestrant)
  x g/l Glaubers salt or common salt
  1/3 of soda ash
- Run 10 minutes
- Add pre-dissolved intraction dyes over 15 minutes.
- Raise to 60℃ at 1℃/min and hold at 60℃
- Run 15 minutes
- Add 1/3 of soda ash over 15 minutes
- Run 15 minutes
- Add remaining soda ash over 15 minutes
- Run 30 minutes pale
  45 minutes medium
  60 minutes deep
- Drain and start rinse / soap cycle

process modifications

For difficult machine / substrate combinations, the dyeing method can be modified in one or more ways to optimise level dyeing performance . Typical examples are modification of the Isothermal Salt at Start method as follows:

Migration Method

Migration at 80℃ for 30 minutes before cooling bath to 60℃ for addition of alkali gives more opportunity for dye levelling prior to fixation.

Portionwise Salt Addition

Portionwise addition of salt after dye stuff results results in more controlled initial exhaustion of dyestuff and enhances penetration into dense materials.

The migration method and portionwise salt addition are often combined for substrates with high dye affinity such as lyocell, viscose rayon, mercerised cotton and for dense yarn packages, especially in pale shades

Washing Off Process

Intracron CDX dyes have reduced affinity in the hydrolysed from resulting in excellent clearing properties. The efficiency of the washing off process can be influenced by machine factors and the presence of alkali earth metal ions. In such cases, a high liquor interchange and efficient machine draining coupled with the use of **Seriquest AP-SN** is recommended.

Optimised washing off will involve the following satges:

- Warm rinsing / neutralisation to eliminate electrolyte and alkali
- Hot rinsing to remove majority of the hydrolysed dye present in the bath
- Soaping at 90-95℃ for diffusion of the hydrolysed dye out of the fibre (as with all reactive dyes, the efficiency of the soaping propcess is optimised if the concentration of the electrolyte in the soaping bath has been reduced to below 2g/l)
- Warm / cold rinsing to clear the bath

standard recommendation for salt and alkali requirements

Unmercerised cotton fixed at 60℃

Depth of shade	Glaubers/Common Salt g/l		Soda Ash g/l	Soda Ash g/l/ Caustic Soda 38° Be ml/l
	L.R 5:1	L.R 10:1		
<0.2%	7.5	10	7.5	5 + 0.25
0.2-0.5%	15	20	10	5 + 0.5
0.5-1.0%	20	30	10	5 + 1
1.0-2.0%	30	40	15	5 + 1
2.0-4.0%	40	50	20	5 + 1.5
4.0-6.0%	50	60	20	5 + 2
>6.0%	60	80	20	5 + 2.5

Viscose/mercerised cotton fixed at 60℃

Depth of shade	Glaubers/Common Salt g/l		Soda Ash g/l	Soda Ash g/l/ Caustic Soda 38° Be ml/l
	L.R 5:1	L.R 10:1		
<0.2%	5	5	7.5	5 + 0.25
0.2-0.5%	7.5	10	10	5 + 0.5
0.5-1.0%	15	20	10	5 + 1
1.0-2.0%	22	30	15	5 + 1
2.0-4.0%	30	40	20	5 + 1.5
4.0-6.0%	40	50	20	5 + 2
>6.0%	50	60	20	5 + 2.5

Note:

1. Salt concentrations at L.R 10:1 are generally used for jet and package dyeing.
2. Salt concentrations at L.R 5:1 are generally used for jig dyeing.
3. For L.R less than 5:1 in jig dyeing,where applicable in crease the concentration of Caustic Soda by 25%.
4. The above figures are application also in migration meth ods, provided fixation takes place at 60℃

		Yellow CDX-ST 200%	Red CDX-ST 200%	Dark Blue CDX-ST 200%	Yellow CDX-4G	G. Yellow CDX-ED
Standard Depth %		3.0	3.0	3.0	2.3	2.3
Solubility in g/l	25℃	>100	>100	>100	>100	>100
Solubility in g/l with 50g/l Glaubers Salt	25℃	>20	>20	>20	>20	>20
Lightfastness (Xenotest)	1/12	4	3	3	4	5
	1/3	4-5	3-4	3-4	4-5	5-6
	1/1	5	4	4	5	6
Washing @60℃	SCo	4-5	4-5	4-5	4-5	5
	SPA	4-5	4-5	4-5	4-5	5
	CS	5	5	4-5	5	5
Cold Water	SCo	4-5	4-5	5	4-5	5
	SPA	4-5	4-5	4-5	4-5	5
	CS	5	5	4-5	5	5
Acid Perspiration	SCo	4-5	4-5	4-5	4-5	4-5
	SPA	4-5	4-5	4-5	4-5	4-5
	CS	4-5	4-5	4-5	5	5
Alkali Perspiration	SCo	4-5	4-5	4-5	4-5	4-5
	SPA	4-5	4-5	4-5	4-5	4-5
	CS	4-5	4-5	4-5	4-5	5
Chlorinated Water 20mg	CS	3-4	3-4	3-4	3-4	3-4
Repeat Oxidative washing 60℃	CS	2-3	2-3	2	2-5	4-5
Dischargeability	N	A	D	A	A	B
	ALK	A	D	A	A	B
Fibre Stain (multifibre in dyebath)	PA	3-4	4	4	3-4	3-4
	Wo	3	2	2	3	2
Effect of Metals (20ppm in dyebath)	Cu++	3	3	4	3	3
	Fe+++	3-4	4-5	5	3-4	3-4
D65 → Tungsten	CS	R	Y	R	R	Y

The dyeings used for fastness testing were produced on bleached unmercerised cotton knit at 1/1 standard depth for all colours with the exception of the following which were tested at NB/DK:
Intracron Navy Blue CDX-MS Intraction Deep Navy CDX-GR

fastness properties

Orange CDX-2R	Red CDX-3GN 140	Red CDX-EP	Red CDX-ED	Deep Red CDX-RB	Bordeaux CDX-LT	Blue CDX-LT	Blue CDX-EP	Blue CDX-ED	Dark Blue CDX-3G		Navy Blue CDX-MS	Deep Navy CDX-GR	Black CDX-DB	Black CDX-GRN 150 %	Black CDX-DGR 133%		TEST METHOD
2.0	3.0	2.0	2.0	1.6	2.0	2.5	2.5	2.0	1.5		4.0	3.6	6.0	8.0	8.0		Standard Depth %
>100	60	>100	>100	>100	80	>100	>100	>100	>100		>100	>100	>100	>100	>100		Solubility in g/l
>20	15	>20	>20	>20	>20	>20	>20	>20	>20		>20	>20	>20	>20	>20		Solubility in g/l with 50g/l Glaubers Salt
3	3-4	4	3-4	3	5-6	5	4-5	3-4	3-4		3	3	-	-	-	1/12	BS EN ISO 105 - B02
3-4	4	4-5	4-5	3-4	6-7	6	5	4-5	4		4	3-4	-	-	-	1/3	
4	4-5	5	4-5	4	7	6-7	5-6	5	4-5		4-5	4	5	4-5	4-5	1/1	
4-5	5	4	5	4-5	5	4-5	4	5	4-5		5	5	4-5	4-5	4-5	SCo	BS EN ISO 105 - C03
4-5	5	4-5	5	4-5	5	4-5	5	5	5		5	5	4-5	4-5	4	SPA	
4-5	4-5	4-5	4-5	5	5	4-5	5	5	5		5	5	5	4-5	4-5	CS	
4	5	4-5	5	4-5	4-5	4	4-5	4-5	4-5		4-5	5	4-5	4-5	4-5	SCo	BS EN ISO 105 - E01
4	5	4	5	4-5	5	4	3-4	4	4-5		3-4	4-5	4-5	4-5	4-5	SPA	
5	5	5	5	5	5	4-5	4-5	4-5	5		5	5	5	5	5	CS	
4	4-5	4	4-5	4	4-5	4	4	4-5	4		4	5	4-5	4-5	4-5	SCo	BS EN ISO 105 - E04
4	4-5	3-4	4-5	4	5	4-5	3-4	4	4-5		3-4	4-5	4-5	4-5	4-5	SPA	
4-5	4-5	4-5	4-5	4	5	4-5	4-5	4-5	4		4-5	4-5	5	4-5	4-5	CS	
4	4-5	4-5	4-5	4	4-5	4	4	4-5	4		4	5	4-5	4-5	4-5	SCo	BS EN ISO 105 - E04
4	4-5	4	4-5	4	5	4-5	4-5	4-5	4-5		5	5	4-5	4-5	4-5	SPA	
4-5	4-5	4-5	4-5	4-5	5	4-5	4-5	4-5	4		4-5	4-5	4-5	4-5	4-5	CS	
3	3-4	4	4	3-4	5	3	4	4-5	3-4		4-5	4	4	2-3	4	CS	BS EN ISO 105 - E03
4(R)	4(B)	3	5	2-3	4-5	4-5	4-5	4	5		4-5	4-5	4	2-3	4	CS	BS EN ISO 105 - C08
D	A	D	D	D	C	C	D	D	B		B	B	A	D	A	N	Dischargeability
C	A	D	D	D	B	B	C	C	A		B	A	A	D	A	ALK	
4-5	3-4	3	4-5	4	1-2	2	1	1	3		2-3	2-3	2	3-4	4	PA	Fibre Stain
2	2	2	2	2	1	1	1	1	2		2-3	2-3	2	2	2	Wo	(multifibre in dyebath)
3	1	4-5	1	3	4-5	3-4	4(R)	2(R)	2-3		2	1	3R	3R	3R	Cu++	BS EN ISO 105 - Z02
4-5	4	4-5	4	4-5	4-5	4	4-5	4-5	4-5		4-5	4(G)	5	5	5	Fe+++	(20ppm in dyebath)
Y	Y	Y	Y	Y	Y	G	G	G	G		G	G	R/Y	G	R	CS	D65 → Tungsten

SCo – Staining on cotton
SPA – Staining on polyamide
CS – Change in shade
N – Neutral

ALK – Alkali
PA – Polyamide
WO – Wool

Dischargeability:
A. Dischargeable
B. Near white dischargeable
C. In case of a lower demand still sufficiently dischargeable
D. Not dischargeable