

Illustration on cotton


Characteristics

C. I.	Direct Brown 116
CAS No.	-
Chemical class	Azodye

Properties

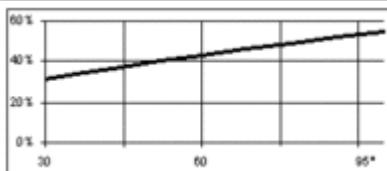
Solubility (g/l at 90°C)	35
Dischargeability neutral/alkaline	3-4/2
Coverage dead cotton	+
Coverage strippy viscose	-
Dyeing at 120°C (30/60 min)	+/+

Fastness

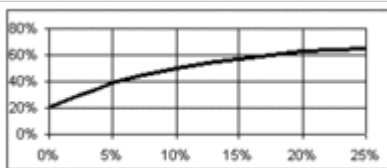
Fastness	cotton					viscose						
standard depth	1/12	1/6	1/3	1/1	2/1	1/12	1/6	1/3	1/1	2/1		
Daylight	-	3-4	4	4-5	-	-	-	-	-	-		
Light-Xenotest	-	4	4	4-5	-	-	5	5-6	6	6-7		
standard depth 1/1	aftertreated		untreated			aftertreated		untreated				
Water	4-5	4-5	4-5	4-5	1	2	4-5	4-5	4-5	4-5	2	2-3
Washing 40°C	4-5	3-4	4-5	3-4	3-4	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Washing 60°C	4	1-2	4	3-4	1	3-4	4	3	4	3-4	1-2	3-4
Domestic laundering A1S	4	4	4-5	4	1-2	4	4-5	4-5	4	4	3-4	4
Perspiration acid	4-5	4-5	4-5	4	1	2-3	4-5	4-5	4	4	2-3	3-4
Perspiration alkaline	4-5	4-5	4-5	4	1	2-3	4-5	4-5	4	4	2-3	3-4

Exhaustion curves

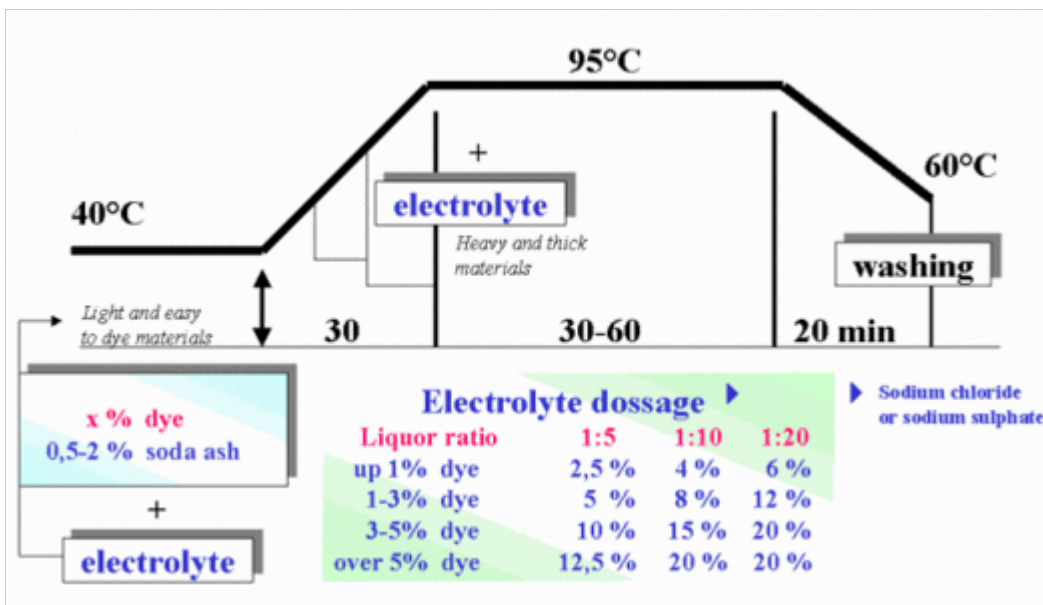
Temperature effect



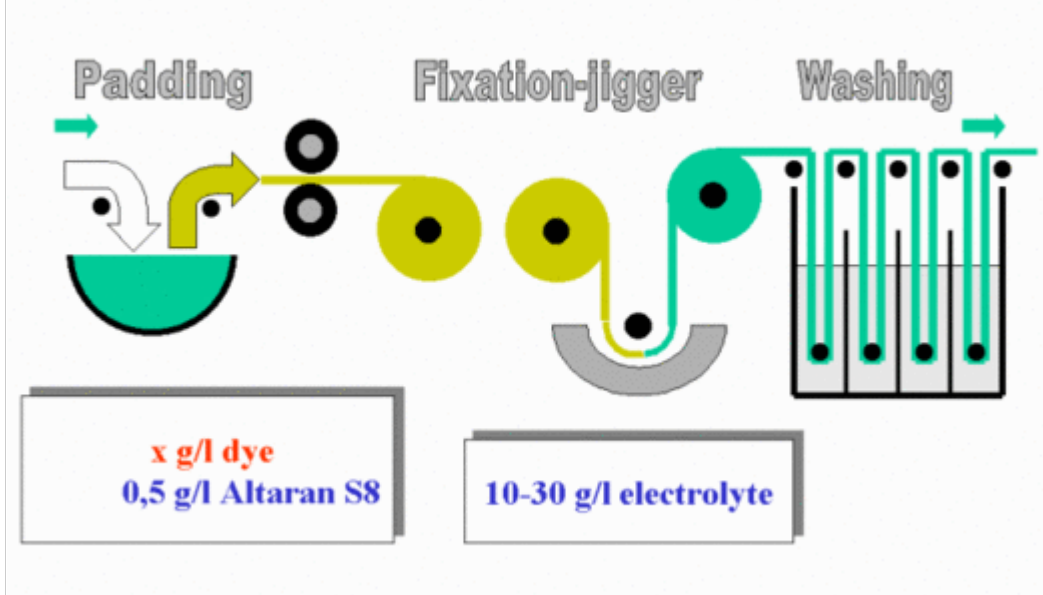
Influence of electrolyte


Application possibilities

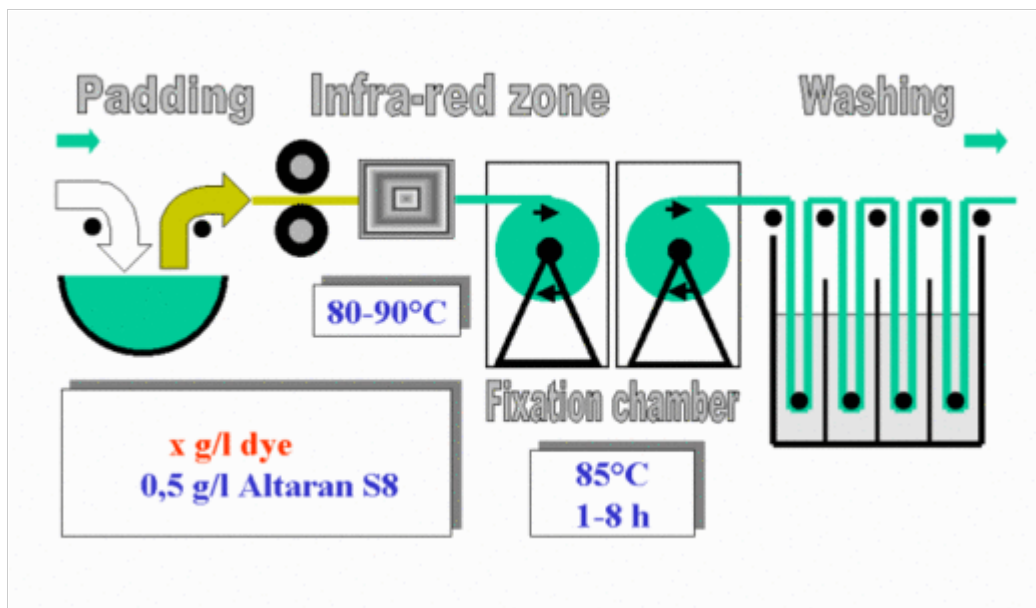
Exhaustion dyeing ●



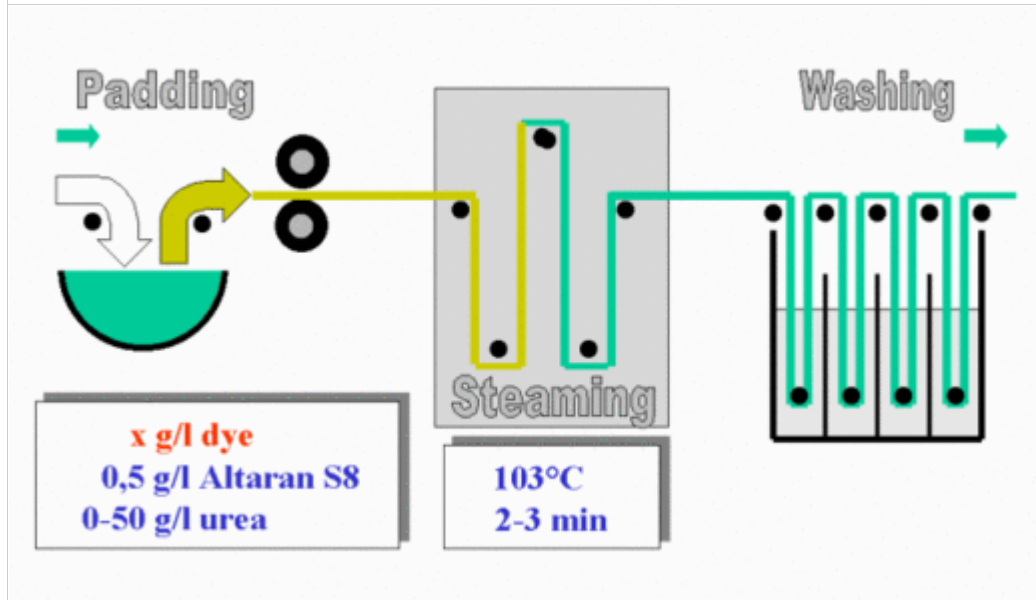
Pad - Jig ●



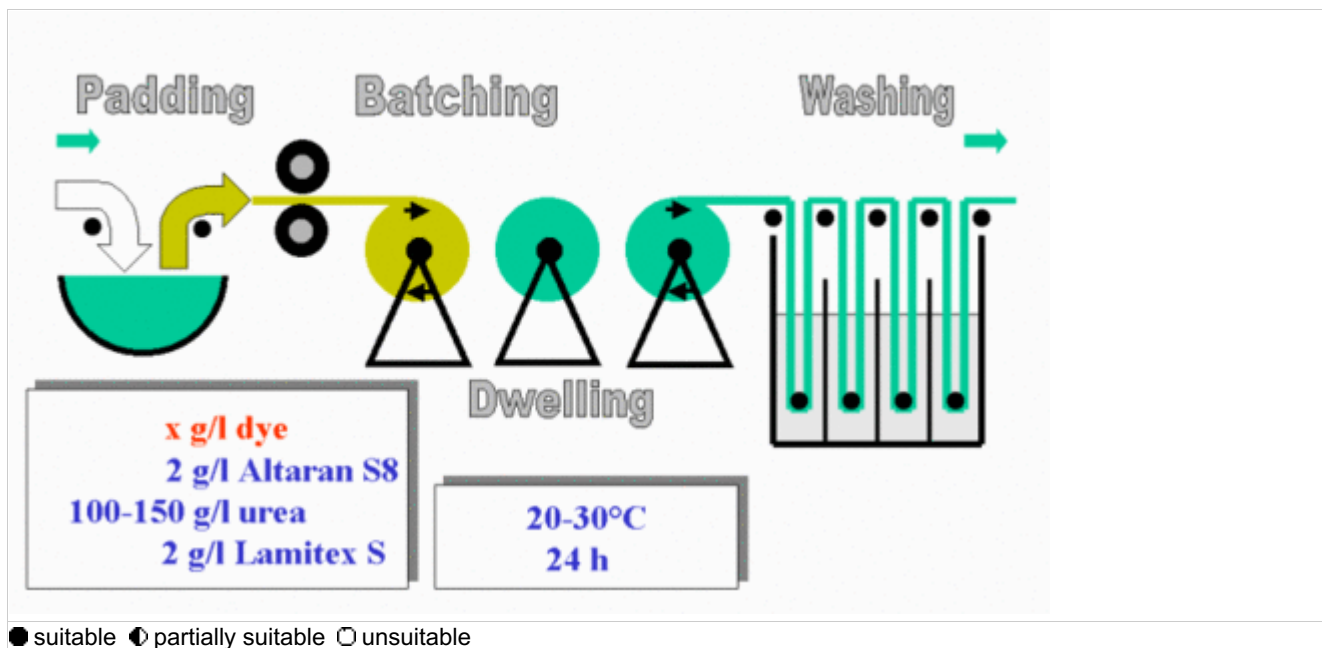
Pad - Roll ●



Pad - Steam ●



Pad - Batch ●



Testing methods

Solubility

ISO/CD 105 Z07-1993

The values express solubility in grams of dissolved dye in one litre of distilled water at 90°C.

Dischargeability

Dischargeability is expressed by the five-member scale where

- 5 means - the dye is very well dischargeable
- 4 means - the dye is well dischargeable
- 3 means - the dye is suitable for coloured discharge
- 2 means - the dye is poorly dischargeable
- 1 means - the dye is not dischargeable

The neutral and alkaline dischargeability of individual brands is assessed so that the dyed fabric is printed with discharge paste, then dried and steamed in a high-speed steamer for 7 min. at 100°C.

Dead and unripe cotton covering

The brands suitable for dead cotton covering are marked +. The coverage can be improved by the material pre-treatment by means of causticizing or dyeing at temperatures above 100°C.

Stripy viscose covering

The differences in stripy viscose rayon can be best covered with brands which are marked +.

Dyeing at temperatures above 100°C.

The dyes suitable for high temperature dyeing are marked +.

Fastness standards

Daylight	ISO 105-B01-1994
Light Xenotest	ISO 105-B02-1994
Water	ISO 105-E01-1994
Washing	ISO 105-C01-1989
Perspiration	ISO 105-E04-1994

The fastness figures in the tables mean:
 fastness to light other fastness properties

1 - very poor	1 - poor
2 - poor	2 - moderate
3 - moderate	3 - fairly good
4 - fairly good	4 - good

5 - good 5 - very good
 6 - very good
 7 - excellent
 8 - unsurpassed

The letters indicate the following changes in shade:

R - redder D - duller
 Bl - bluer Br - brighter
 Y - yellower S - stronger
 G - greener W - weaker

The numbers at individual dye fastness data mean:

First number - change in shade

Second number - staining on the undyed adjacent fabric which is of the same material as the tested sample

Third number - staining on the undyed adjacent fabric

Affinity dependance on the temperature

The curve shows the dye quantity which exhausts from the bath onto the fibre after 60 min. of isothermal dyeing with addition 1% soda ash and 20% sodium sulphate calc. at the temperature shown on the horizontal axis.

Electrolyte influence

The curve shows the electrolyte concentration influence on dye exhaustion from the liquor. The values were obtained in the course of 60 min. of dyeing in a bath containing 1% soda ash and sodium sulphate calc., its quantity is given on the horizontal axis.