



TRINITY COLLEGE FOR WOMEN NAMAKKAL

DEPARTMENT OF COSTUME DESIGN & FASHION

**WET PROCESSING
EVEN SEMESTER**

Presented by

Ms.K.P.THEEPIKA

ASSISTANT PROFESSOR

DEPARTMENT OF CDF

<http://www.trinitycollegenkl.edu.in/>

DYEING OF COTTON

- **Direct dye:**
- The dye bath is set with required volume of the stock solution of dye, **0.5 to 1% soda ash** and water to make the desired **M:L ratio**.
- Then the processed material is entered in the dye bath at 40°C and dyeing is carried out for **15 to 20 minutes**.
- The required amount of common salt is added in even number of installments at intervals of **10 to 15 minutes**.
- The **salt** varies between **5 to 20%** on weight of material for **light to heavy shade**.
- The temperature of dye bath is slowly raised to **boil** and is continued as this temperature for the period of **45 to 60 min** and then it is **cool** for **15 to 20 minutes** for better exhaustion.
- The goods are then removed from dye solution, squeezed and dried and after treatment in the solution of dye fixing agent after precise drying stage.

Reactive dyes

• What is dyeing procedure for cold brand reactive dyes?

1) Preparation of cotton for dyeing:

- **Bleach material** prepared for dyeing must be **free from alkali** this prevents pre mature localized fixation and improves levelling of the dyes.

2) Preparation of dye solution:

- The M brand (cold brand) dye powder is putted with **cold water** dissolved by **adding water at 50°**.

3) DYEING:

- Adjust the **dye bath ph to 6.5 – 7** with **acetic acid** on wing. Suitable liquor ratio for **10 minutes at room temperature**. After 15 minutes **add** pre dissolved common salt or glaubers salt and dye for another **30 minutes**. Add pre **dissolved alkali** (soda ash) and continue dyeing for **30 min** and then **drain the dye bath** . The salt and the alkali may be added in **two portions**. Wash the material efficiently after dyeing in cold running water for **10 minutes**.

Hot brand reactive brands:-

- The application of H brand (hot brand) reactive dyes cotton material is similar to M brand dyeing.
- 1) **Exhaustion Step:** The transfer as much of dye onto the fiber as possible.
 - 2) **Fixation step:** Dye reacts with the fiber forming chemical (covalent) bond in the presence of an alkaline fixing agent like soda ash or mixture of soda ash and caustic soda.
 - 3) **After treatment** of dyed material i.e. soaping and washing.

What is dyeing procedure for hot brand reactive dyes?

- Preparation of goods of dyeing is same as cold brand.
- Preparation of dye solution:
- Paste the dye powder with cold water and dissolved it by adding water at the temperature of 80°C.

Dyeing Cycle:

- Set the dye bath at **50°C** and ensure the **PH** is just **below 7**. Enter the material and run it in the bath for **5 minutes**. Now add pre dissolved dyes and continue dyeing for **10 minutes**. Add the **salt** during **three portion** during the period of raising the temperature to **80 to 85 degrees** in **30 minutes**. Dye for **20 minutes at 85°C** after the last salt addition. Add the **alkali** for more than **10 minutes**. Dye for further **30 to 60 minutes** at **85°C** depending on the depth of the shade.

VAT DYE

- Vatting
- Dyeing
- Reoxidation of vat
- After treatment

RECIPE

- Vat dye 1%
- Wetting agent 1.5 g/L
- Sequestering agent 0.75 g/L
- Caustic 4%
- Hydrose 3%
- Salt 20 g/L
- M:L 1:10
- Temp 60-100C

SULPHUE DYE

- **Typical Recipe:**

The Typical recipe of sulphur dyes for dyeing with cotton is as below:-

- Sulphur Dye :10% (On the weight of the fabric)
- Na₂S (Reducing Agent) : 1.5% (on the weight of the Dye)
- Salt : 8 gm/litre (NaCl)
- Soda Ash (NaCO₃) : 7 gm/litre
- Temperature : 100°C
- Time : 90 minutes
- Material: Liquor : 1:20

AZOIC DYES

Dyeing process of azoic dyes includes three main stages. They are-

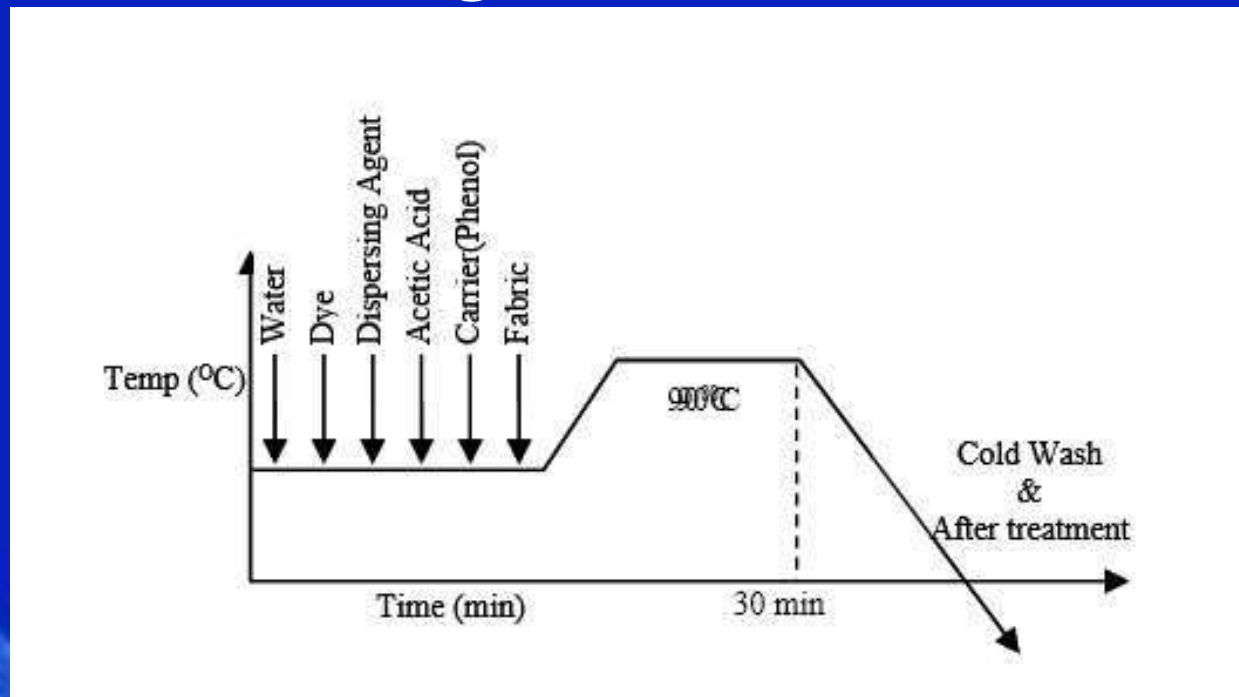
- Naphtholation
- Diazotisation
- Coupling

RECIPE

<i>FOR NAPHTOLATION:</i>			<i>FOR BASE SOLUTION:</i>	
Naphthol	5% owf		Base	5% owf
Glycerine	2% "		HCl	3% "
Caustic soda	6% "		NaNO ₂	2% "
Common salt	15% "		CH ₃ COONa	15% "
Temperature	Room temp.		Acetic acid	0.5% "
Time	20-30 min		Temperature	0-5 ^o C
M:L	1:20		Time	20 min
			M:L	1:20

DYEING OF POLYESTER

- Dye = 2% on the weight of fabric
- Dispersing agent = 2 g/L
- Carrier (Phenol) = 3 g/L
- Acetic acid = 1 g/L



DYEING OF SILK

- ACID DYES

- 1) M:L- 1:30

- 2) Dye- X% on the weight of the material

- 3) Glauber Salt- 10% on the weight of the material.

- 4) Acetic Acid- 4-6% (40% strength)

- 5) Temperature: 85-90 deg C, pH-4-6, Time- 15 minutes

NATURAL DYES

- In a saucepan, combine 3 cups water and 1 tablespoon turmeric.
- Bring to a boil and then reduce heat and simmer for about 5 minutes.
- Add your wet silk to the pan and simmer for about 15 minutes.
- Remove the silk and rinse under hot water several times.

THANK YOU