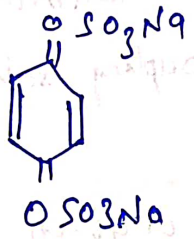
IV - UNIT.

Solubilitzed vat dyes:

Properties:

* Solubilised vat dye is the watersolubilised from of vat dye.
* It is the sodium salt of sulphuric ester of Leuco vat dye.



* Soluble in water
* Has low affinity then Leuco vat dye
* Mainly used for light shade.
* Applied on cotton and viscose.
* Very few dyes are available.
* costlier than vat dye.
* Stability of this dye is good, when stored in a dark room.
* True colour is obtained Only in the developing bath.
* Developed in acidic medium, so can be applied for p/w blend dyeing.
* Good fastness properties are obtained.
* Solubilised vat dyes available in trade names like indigosol, sandozol.

Advantages and dis advantages over vat dyes:

Advantages:

Advantages of solubilised vat dyes when compared with vat dyes are,

* Application of so.vat dye is easy, when compared with vat dyes are,
* Can be applied to cotton, viscose, wool, silk
* Blend like p/c, p/w can be dyed in single stage.
* Vatting process is not needed so, caustic and Hydros in the effluent is reduced.

Disadvantage:

Dis advantages of solubilised vat dyes when compared with vat dyes are,

* Costlier than vat dye.
* Very few shade are available,
* Has low affinity to textile.
* Dye solution should be stored in a dark place.
* Mainly applied for light shades.
* Oxidising process is difficult.

Application of sol.vat on cotton:

Steps involved in dyeing of cotton with sol.vat dyes are.

1. Dissolution of dyes
2. Dyeing.
3. Developing.
4. After treatment.

Dissolution of Dye:

0.5 gm of solubilised vat dyestaff is weighed accurately and a small pinch of soda ash is added. It is pasted with cold water The paste is made up to 50 ml useing hot water Then the prepared dye solution is filtered using the Nylon mesh.

Recipe:

Dyeing:

% of shade - A%.

M:L : 1:30

Na_2SO_4 : 5 gpl

Na_2CO_3 : 4 gpl

Temp : 60°C

Time : 45-60 mins

pH : 9.5-11.0

Developing:

H_2SO_4 : 20 Ml/L

$NaNO_2$: 1-2 gpl

M:L : 1:30

Temp : 60-70°C

Time : 30 mins.

Dyeing:

Dye bath is set up with the required amount of water dye solution.

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wattered out cotton hank is introduced in to the dyeing bath at room temperature.

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Na_2SO_4 and Na_2CO_3 is added in two portions and bath temperature is gradually raised to 60°c

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Dyeing is continued for 45-60 mins at room temperature.

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Hank is taken out and squeezed evenly.

Developing:

Developing bath is set up with the required qualitity of water H_2SO_4 and $NaNO_2$

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Dya hank is introduced into the develpping bath at room temperature.

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Bath temperature is raised to 60°c and the process continued for 10-15 mins.

After treatment:

Cold wash

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Neutralized With soda ash

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Soaping with 0.5 - 1 gpl of non-ionic soap

boil for 10 mins.

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Hot wash

↓

Cold wash

↓

Dried.