

## PRINTING – PART XX

REF: TT/ SEPT 2021/ WK 3

### Discharge Printing

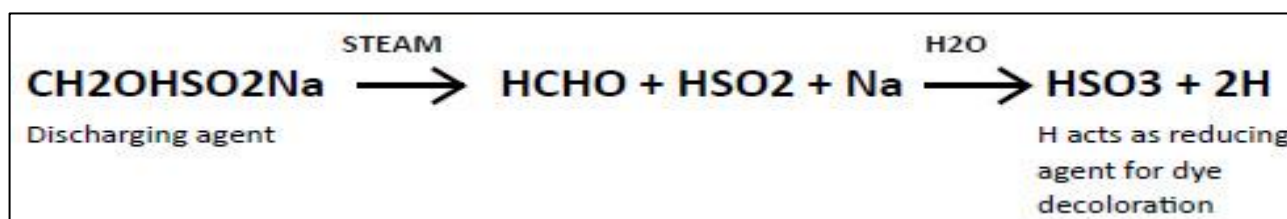
Discharge printing is one of the three main styles (Direct, Discharge and Resist) of printing methods. This printing style involves removing of dyes from specific areas of an already dyed fabric by a color destroying agent. The discharging of color from the dyed ground is carried out by a discharging agent which is a reducing agent capable of destroying color by reduction. The most common discharging agent used in discharge style of printing is Rongalite C or Sodium formaldehyde Sulfoxylate. It is a powerful reducing agent.

In discharge printing, the fabric is pre-dyed with the background color of the print. Hence, it is must that the background color is dyed using dyestuffs that can be discharged by chemical reduction in order for the pattern to be printed. The chemical reduction leaves a white image on the colored background. The background color can be applied by any dyeing method that is either by exhaust dyeing or by continuous dyeing. A print paste that, instead of containing dye, contains a reducing agent is then applied to the local areas of the fabric required by the design.

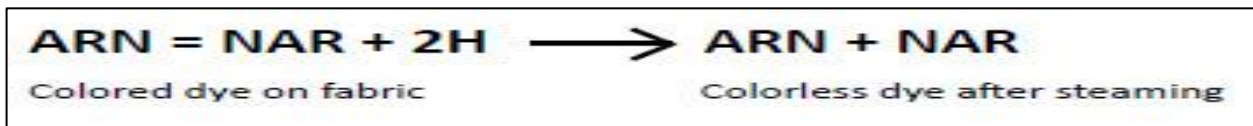
The dischargeable dye which can be schematically represented as **ARN=NAR** the chemical reaction takes place at N=N group or azo group. This group is sensitive to reducing agent.

During steaming the reducing agent undergoes decomposition with the liberation of Hydrogen which acts as reducing agent for discoloration of dye.

The reactions are shown as:

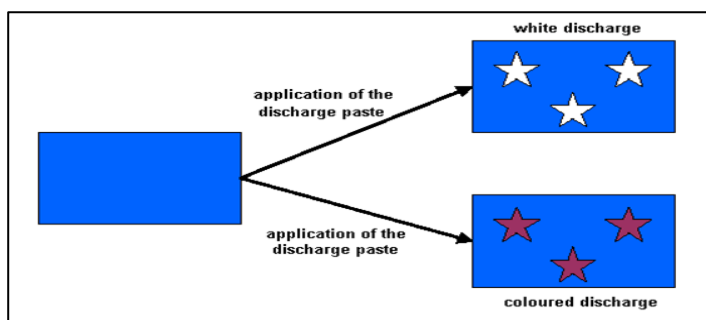


The liberated H obtained by the decomposition of discharging agent during steaming causes the decomposition of dischargeable dye into colorless water-soluble products. They are removed during washing and produces white print effect on dyed fabric.



It is important that the printed fabric is not stored for long time before steaming else the reducing agent undergoes self-decomposition in presence of atmospheric moisture and air. Then the desired discharge effect is not obtained during steaming.

The printing can produce a white or colored effect onto the substrate. In color-discharge printing, a dye is added to the discharging paste, producing a colored design instead of white on the dyed ground. Colored discharge is produced by incorporating a dye into the discharging paste. The dye or pigment in the paste must be resistant to the discharge chemical present, so that it remains on the fabric when the dye containing discharge paste is printed. This paste destroys the background color of the print, but the color remains in the printed area.



**IDENTIFYING DISCHARGE PRINTED FABRIC**

If a fabric is same on face and back of the fabric, it is said to be of discharge printed.

**Fig 1.1 Discharge Printing**

Ref: garmentspedia..blogspot.com

Vat dye meets this requirement. Therefore, vat dyes are commonly used for getting color discharge effects. However, selected dyes belonging to other dye classes which are stable to reducing conditions can also be used provided the selected dyes have affinity to the fabric to be printed. Pigments stable to discharging agent can also be used in discharge paste along with binder to get color discharge effect.

References:

1. <http://www.handprintingguiderajasthan.in/>
2. <https://www.britannica.com/>
3. <https://sewguide.com/>
4. <https://textilelearner.net/>

.....To be continued.....

UNSCRAMBLE THE JUMBLE WORDS
GARONLTEI
CKABGRDUON
ISDCAHREG
MILACEHC

Last week`s Answers: 1) COMPUTER 2) RASTER 3) CALENDAR 4) PRESSURE

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