

PRINTING – PART XIV

REF: TT/ AUGUST 2021/ WK 2

Printing Machinery

Based on printing techniques different types of printing machineries are used in the printing industry. Commonly used printing machines in today's time are mainly the following.

- a) Rotary Printing Machine
- b) Flat-bed Printing Machine
- c) Digital Printing Machine
- d) Transfer Printing Machine

a) Rotary Printing Machine

In Rotary Printing, printing paste is pressed onto the fabric through mesh on a cylindrical screen onto fabric. The screen is engraved for each color, and loaded onto the rotary printer.

In this type of printing, the screen is wrapped on a metal cylinder. The solution of the color is inserted from one end of the cylinder. The roller rotates by mechanical method.

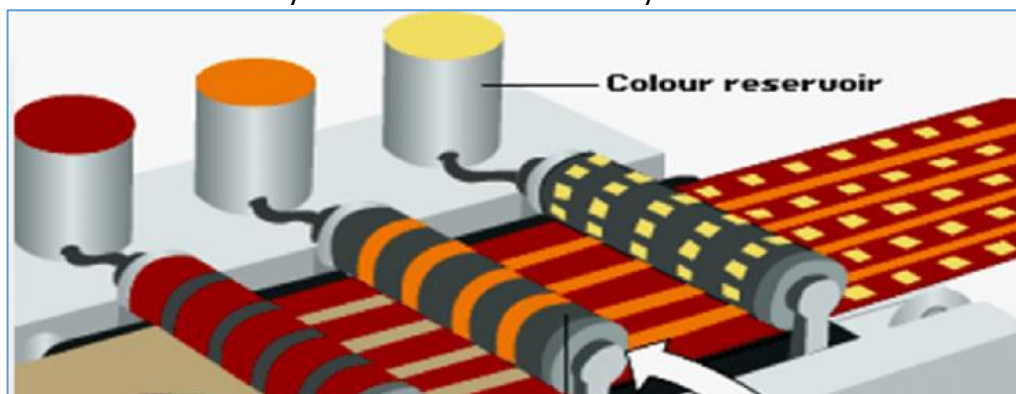


Fig 1.1 Rotary Printing Machine

Ref: researchgate.net

The advantage with Rotary printing is its efficiency and high productivity. Some of the faults like joint marks, smudging effects which are common in flat-bed and hand printing or roller printing machines can be avoided in rotary printing. Vertical lines can be produced very successfully by this method. The prints produced are free from the smudging effect which is severe in roller printing.

The disadvantages of printing using this printing machine are – The method is not economical for short runs of the fabric because the cost of engraving of the screens is very high and the size of repeat of the design is less than that of a flat-bed screen.



Main parts of a Rotary Printing Machine are -

- **Feed Device** - It is meant to feed fabric into the printer.
- **Vacuum Cleaner** - Removes any loose lint or fluff from the surface of the fabric.
- **Gluing Device** - Used for fixing the fabric. Standard two-roller gluing device and a glue holding trough are used for fixing the cloth. However, now-a-days, coating of synthetic adhesive is introduced and gluing trough is not required. CMC and PVA are most widely used adhesives for fixing the cloth on blanket.
- **Printing Bed** - Printing is carried out by circular nickel perforated screen.
- **Feeding Pumps** – Colors are fed through this into the screen, by non- reversible type pumps made of stainless steel.
- **Drier** - Printed fabric is fed by means of a systematic conveyer belt to the hot air drier which consists of an insulated hot air chamber, a radial fan and an exhaust fan.
- **Squeeze System:** The important part of the machine is a squeeze system that feeds the color of the fabric. There are mainly two systems. One is pneumatic squeeze system working with a doctor blade and the other one is magnetic rod system working under the influence of the magnetic field.

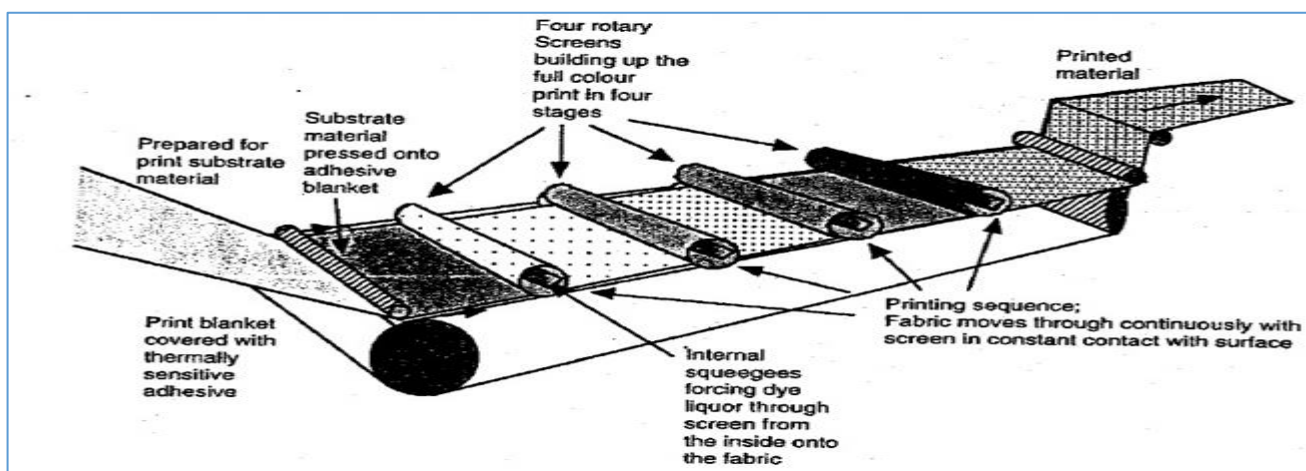


Fig 1.2 Working of Rotary Printing Machine

Ref: textilechemroseblogspot.com

References:

1. <https://apparelresources.com/>
2. <https://www.textiletrick.com/>
3. <https://textilechemrose.blogspot.com/>
4. <http://www.cottonworks.com./>

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

UNSCRAMBLE THE JUMBLE WORDS
MUDSGING
NGEEDFI
QUESEEZ
PSUMP

Last week`s Answers: 1) GLITTER 2) ENSURE 3) FLOCK 4) ELECTROSTATIC

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