

TECHNICAL TUESDAYS

TOPIC: Jigger Dyeing Machine

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Jigger Dyeing Machine:

Jigger dyeing machine is one of the oldest dyeing machines used for Textile cloth dyeing operations.

Jigger machine is suitable for dyeing of woven fabrics, up to boiling temperature without any creasing. Jigs exert considerable lengthwise tension on the fabric and are more suitable for the dyeing of woven than knitted fabrics.

Some woven are conveniently dyed on jigger are

- Plain woven
- Satins
- Poplins
- Suiting and Shirting material.
- Sheeting etc.

Machine Description:

The jigger machines have two main rollers which revolve on smooth bearings and are attached to with a suitable driving mechanism, which can be reversed when required.

The fabric is wound on one of the main rollers and fed from the other. The fabric move from one roller to the other through the dye liquor trough located at the lower part of the machine.

There are various arrangement of guide rollers at the bottom of liquor trough, and during each passage the cloth passes around these guide rollers.

The concentrated dye liquor is usually introduced directly into the dye bath in two equal portions, which are added just before commencing the first and second ends. The liquor is agitated by the movement of the fabric through the dye bath. Several horizontal spray pipes are fitted across the full width of the trough in order to expedite fabric rinsing.

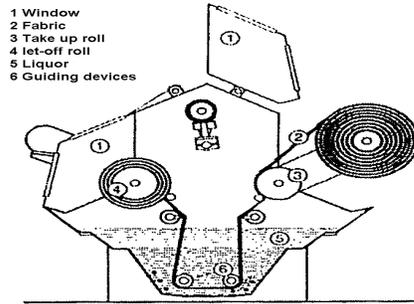


Fig: Jigger Dyeing Machine

Development in Modern Jigger:

Modern machines such as automatic and jumbo jiggers have full automation in drive , tension regulation and control , fabric speed and metering, smooth and jerk less stop and start , counters for number of turns , gradual and noiseless reversal, automatic temperature regulation and control etc.

Advantage of using Modern Jigger over Conventional jigger:

We can avoid side-to-center color variations in fabric called listing and lengthways color variations called ending.

We can control Temperature from side-to-side and end-to-end of the roll.

We can control the Tension from end-to-end.

We can maintain Constant speed from end-to-end.

Limitations of Jigger Dyeing:

Jigs exert considerable lengthwise tension on the fabric and are more suitable for the dyeing of woven than knitted fabrics.

There is little mechanical action in a jigger machine and it is less suitable where vigorous scouring is required before dyeing.

Water marks may arise on some acetate and nylon fabrics because of pressure flattening the structure of the rolled fabric.

Wishing you a great week ahead!

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