

COMPUTERISED SPREADING/LAYING

→ Spreading (or) laying is a process

- a piece of fabric
- carried from 1 end of table
- to specified length.

→ End of the fabric aligned [ordered]

- placed at one end of table
- remaining pushed through other end..

Purpose of spreading

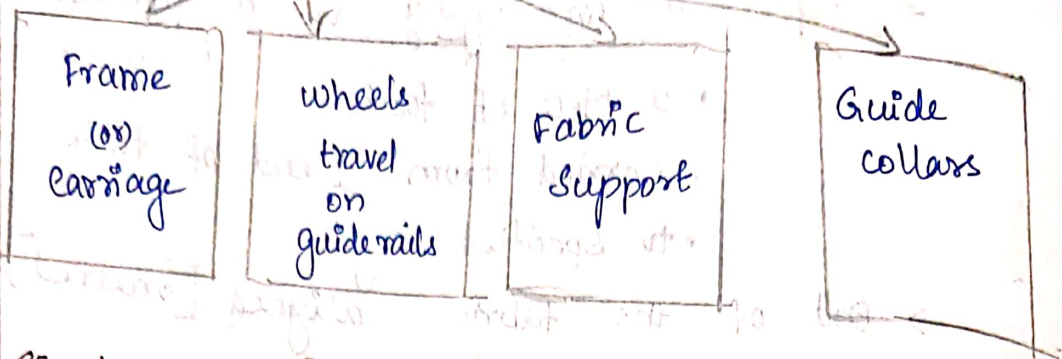
- Superimpose layers of fabric
- ∴ Superimpose — Placed (or) layered one over another but each layers are clearly visible.
- Smooth, tension free
- Accurate, efficient cutting

Types of spreading machines → manual
→ Automatic

ManualAutomatic

1) Speed depends on operator.	can spread 100-150 yards/minute
2) <u>used by</u> : • small firms [company] • Big firms for small orders	Preferred by all firms which can afford it.
3) Low productivity	High productivity
4) Slower spreading	Faster spreading.

Elements of Spreading machine



Simple Spreading Machine:

- operator clamps the fabric end with table end.
- Pushes spreader to other end.
- cuts off ply [layered fabric] in line
- It clamps the beginning of next ply.
- Pushes the spreader to other end.

Advanced Spreading machines:

- Include a motor to drive.
- The carriage [load tray / carrier]
- A platform on which operator rides.
- A ply cutting device with automatic catcher
- Automatic catcher holds the ply end in place.
- A turntable.

Specifications of Auto Spreading Machine:

- Maximum fabric width can handle is 2 meter.
- Some machines can hold upto 3 meters.
- Maximum cloth weight is 120 kg for carrying.
- maximum spreading speed - 100m/min.
- maximum height of spread cloth - 28 cm.

→ Dead heading:

③

→ Spreading machine dispenses fabric

• from 1st end to last end.

→ It returns to the 1st end without spreading.

→ This makes for the next ply spread from 1st end to last end.

→ This return pass is called "dead heading."

Microprocessor control:

→ Enables more automatic functions.

→ Spreader:

→ can be preset to required no. of plies.

→ It emits audible signal.

→ If the given number of plies are laid.

→ It also signals when the fabric ends.

→ Automatic turntable:

→ gives automatic spreading

→ Even corduroys [cotton with velvet] fabric can be spreaded.

→ It repeats the process until it

• achieves required no. of plies.

→ Cutting process:

→ ^{faults} Flaw moves across the sensor.

→ Spreader will halt [stop].

→ Ply cutter cut across the ply [fabric layers].

→ The spreader moves back to nearest splice mark

→ It continues to run to end of the ply.

Pin table:

④

- Matching of checks & stripes can be achieved.
- Each needle bar has pins in table top slots.
- Needle bars can be moved freely in table length.
- Height of pins can be adjusted.
- It avoids tension in the lay package.
- Fabric savings between 3% & 8% can be achieved.

Vacuum table:

- Fabric cutted with automatic cutting systems.
 - fabric held down by using vacuum.
- It helps accurate handling of the material
- It ensures easy knife penetration.
- It enables smooth cutting.

Parts and function:

Frame/carriage: carries fabric roll to & fro on spread table.

Wheels: Frame move across the table on wheels.

Guide rails: carriage wheels travel on guide rails.

Guide collars: aids correct unrolling of fabric.

Ply counter: no. of plies laid, counted automatically.

Motor: drives carriage on rails.