

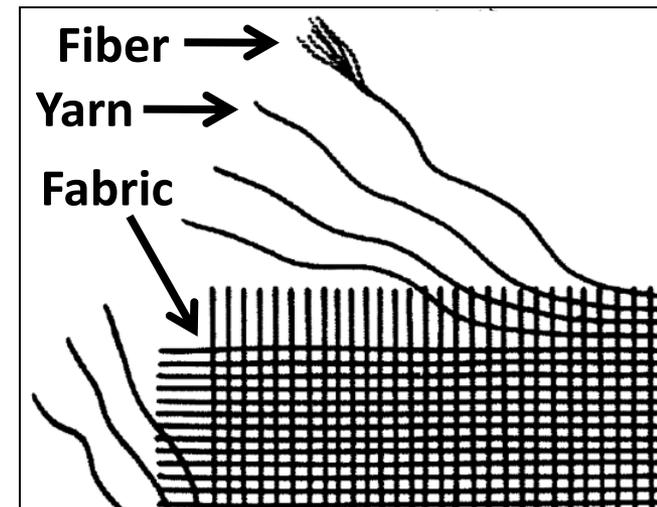
Fabric Construction

Yarn Twists, Weaving, Pile Weaves, Knits, and Non-Wovens



Fiber → Yarn → Fabric

1. All fabric is made from **fiber**, either natural or synthetic.
2. The fiber is processed and twisted into **yarn**.
3. The yarn is then woven or knit into **fabric**.



How It's Made!

Watch the short video from
“How It's Made” on the fiber to
fabric process.





Yarn Twist

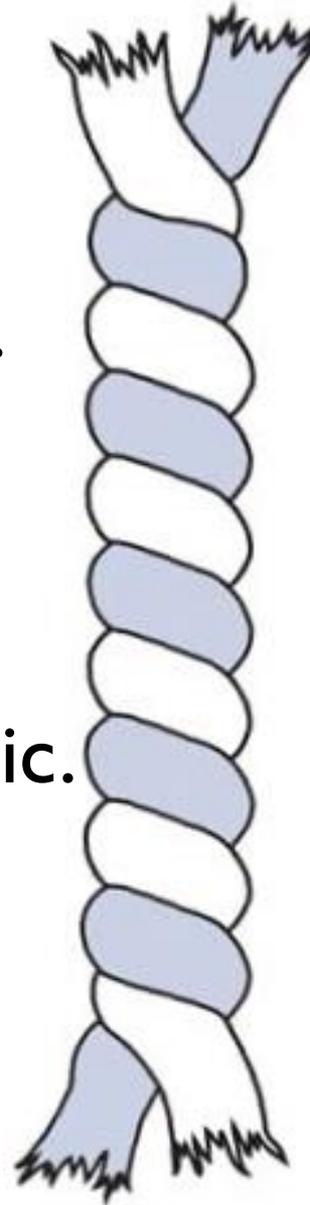
1. Twist affects the **COLOR** of fabric.
2. Twist affects the **TEXTURE** of fabric.

Silk (Loose)=Smooth

vs.

Wool (Tight) = Coarse

3. Twist affects the **STRENGTH** of fabric.
 - Tightly Twisted = Strong Fabric/Fibers
 - Loosely Twisted = Weak Fabric/Fabrics



Yarn Twist, cont.

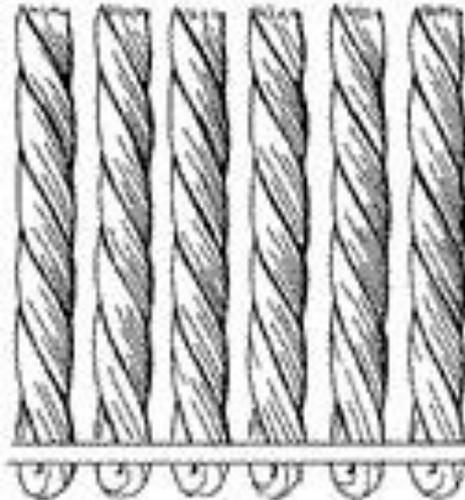
4. Twist affects the **DIAMETER** of fabric.

Several fibers twisted together will add to the diameter, or thickness, of finished fabrics.

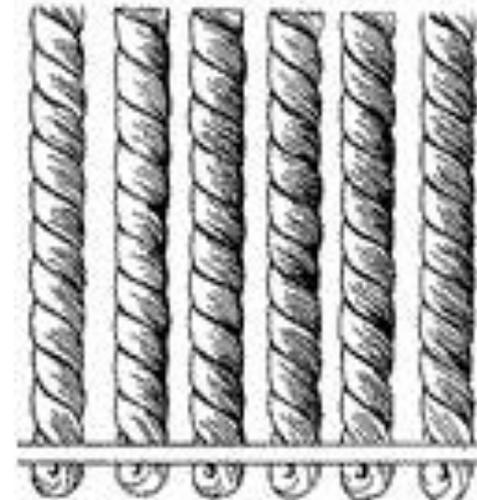
5. Twist affects the **FLEXIBILITY** of the fabric.

- Tightly Twisted = Less Flexible Fabric/Fibers
- Loosely Twisted = More Flexible Fabric/Fabrics

Loose Twist



Tight Twist



Fiber Blends

1. Fibers are often blended together to increase strength, durability, absorption, and other characteristics.
2. The most common fiber blend is:
Cotton & Polyester

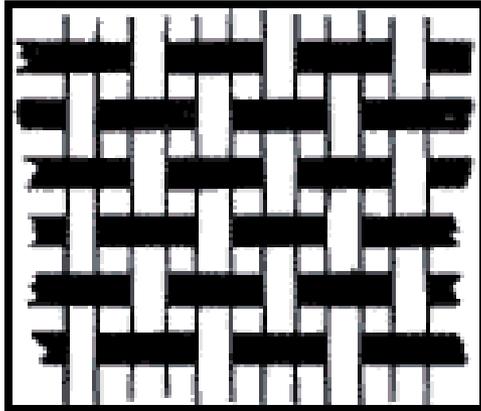
Others Include:
Wool & Nylon
Raime & Cotton



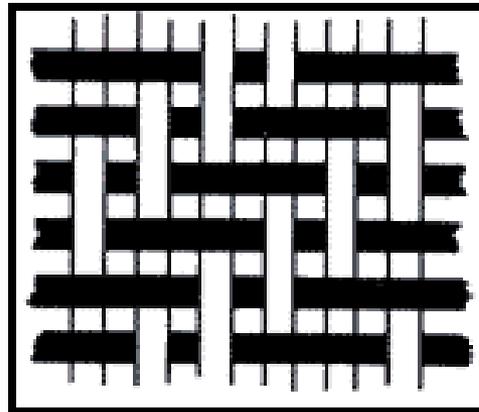
WOVEN FABRICS

1. Woven fabrics are created by the interlocking of two separate yarns.
2. The three main types of woven fabric are:

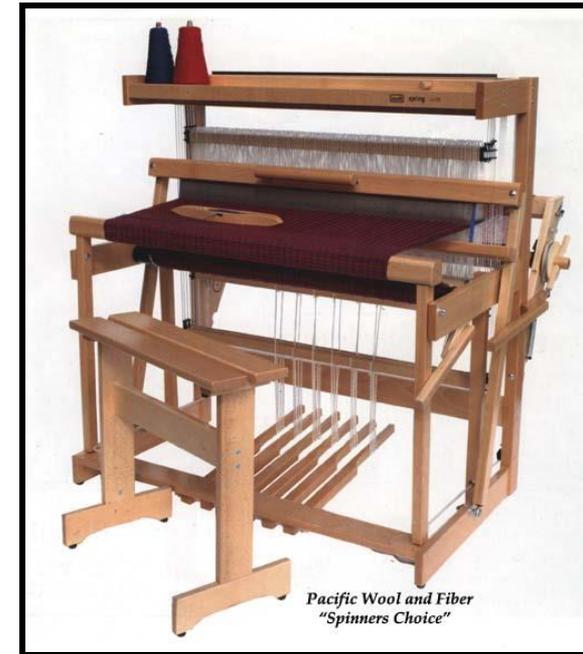
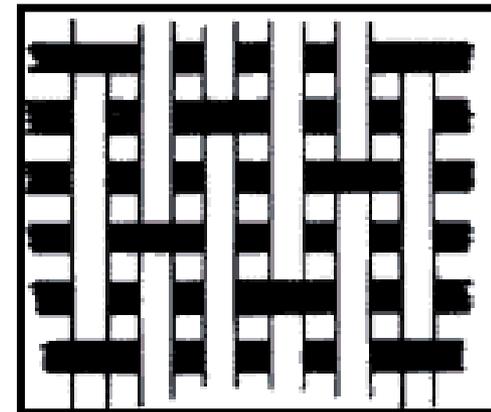
Plain Weave



Twill Weave

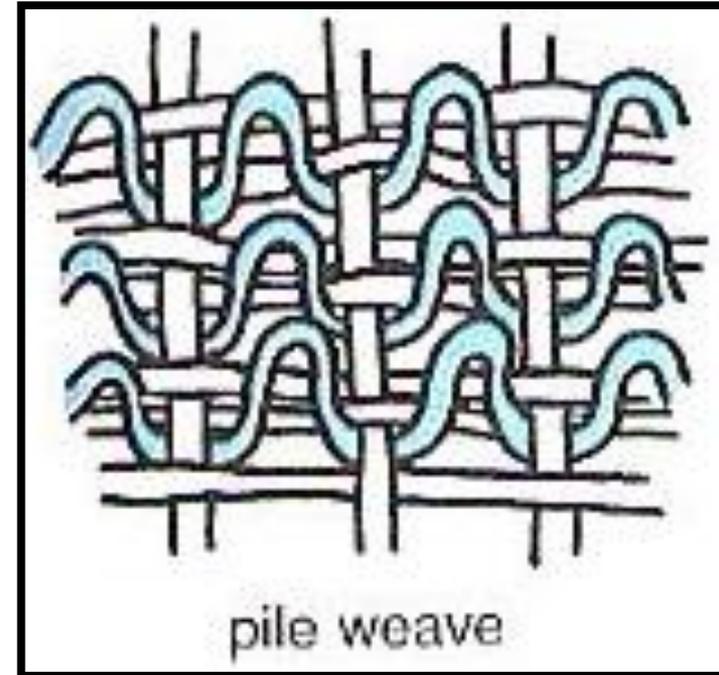
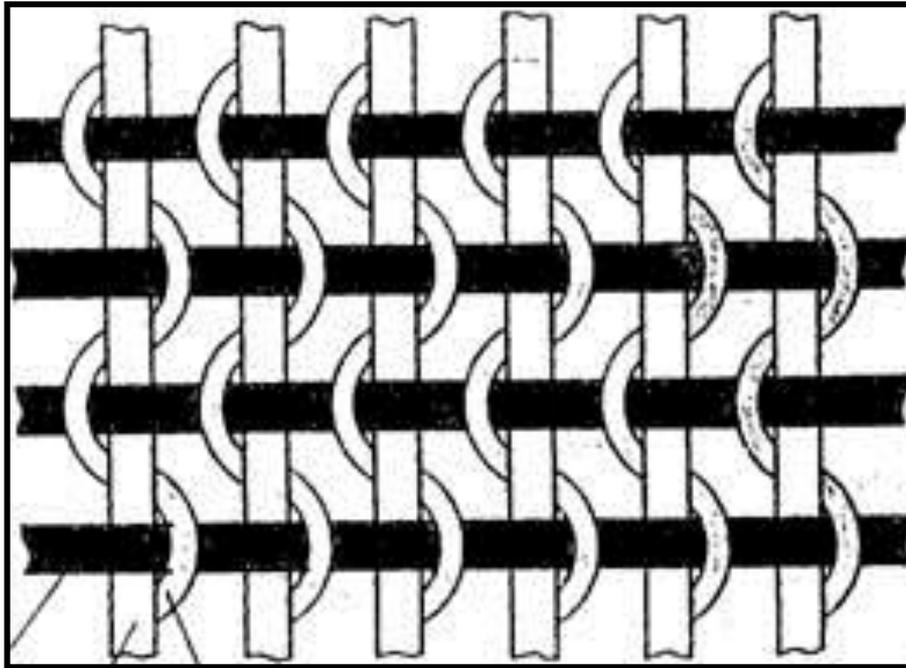


Satin Weave



Pile Weaves

1. Pile weaves are woven with **three** sets of yarns instead of two.
2. The extra yarn gives the final fabric more **texture**.



Pile Weaves, cont.

4. Examples of Pile Fabrics:

- a. **Corduroy**
- b. **Terry Cloth**
- c. **Polar Fleece**
- d. **Velveteen**
- e. **Velvet**

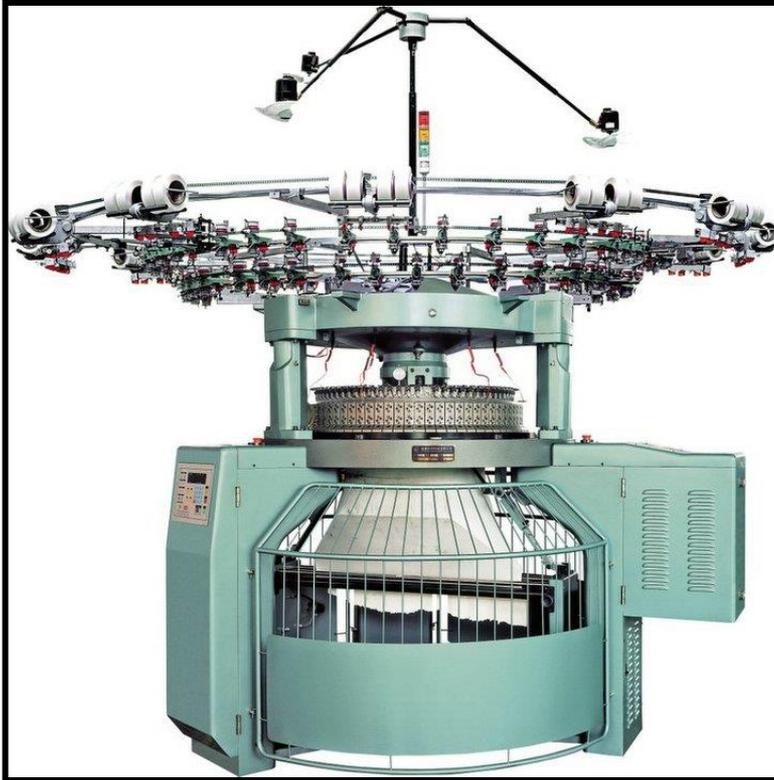


KNIT FABRICS

I. Knits are popular because:

a. They are easy to **care** for.

b. They are **inexpensive** to produce.



Knits, cont.

2. If the fabric has a **LOOSE KNIT**, it will =

- a. Stretch
- b. Sag
- c. Get baggy
- d. Have less recovery from stretching

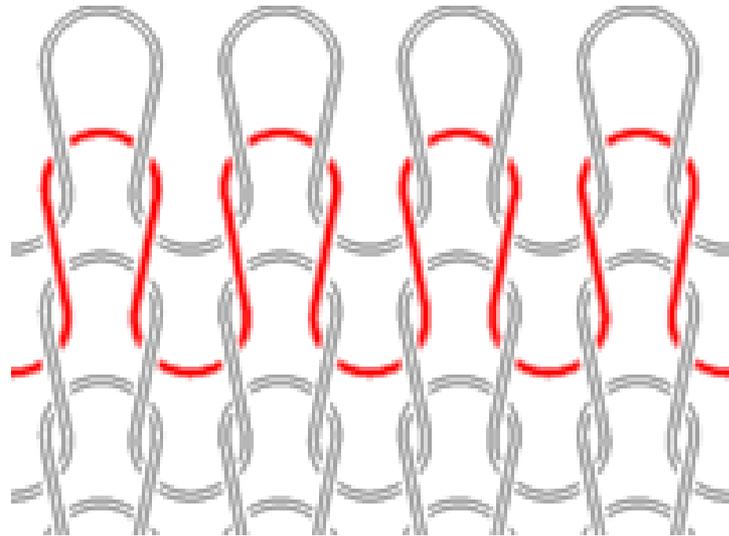
3. If the fabric has a **TIGHT KNIT**, it will have =

- a. More stability,
- b. Less shrinkage,
- c. Better recovery from stretching (shape recovery)



Knits, cont.

4. Diagram of knits



5. Examples of Knit Fabrics:

- a. Jersey Knit
- b. Rib Knit
- c. Single Knit
- d. Interlock Knit
- e. Tricot Knit



NON-WOVEN FABRICS

1. Making fabric without knitting or weaving

2. The Felting Process:

a. A mass of fibers interlock and shrink with heat and moisture

b. The best fibers used for felting are:

- **Wool**
- **Rayon mixed with hair or fur fibers**

Why?



Felt

1. **Felt** comes in a variety of thicknesses, are easy to shape, will not unravel, and has shock and sound absorbency.
2. Felt will not recover from **stretching**, and holes in it cannot be mended satisfactorily.



Interfacing

1. Interfacing is a non-woven fabric used to **strengthen and stabilize other fabrics.**
2. Interfacing comes in a variety of weights, thicknesses and colors.
3. Most modern interfacings have **heat-activated adhesive** on one side. These are called **“fusible”** interfacings.

