



# FIBER TYPES QUICK REFERENCE

TYPE	SOURCE	PROS	CONS
<b>ANIMAL FIBERS</b>			
<b>Alpaca</b>	Huacaya or Suri	Strong, soft, durable, luxurious feel, "warm" fiber, water repellent, fire resistant, 2 dozen natural colors, does not pill or felt (like wool does), hypallergenic	Slow supply chain = grown in South America, processed in China or Europe
<b>Angora</b>	Angora rabbit	Soft, thin, silky fiber, fluffy, warmer & lighter than wool, several natural colors	Expensive, sheds, animal welfare concerns
<b>Cashmere</b>	Cashmere goat	Soft, "warm" fiber, moisture wicking, fire resistant, hypallergenic	Fragile fiber, environmentally demanding
<b>Silk</b>	Silk worm cocoon	Strong, lightweight, lustrous, "warm" fiber	Expensive, degrades over time
<b>Wool</b>	Sheep	"Warm fiber", insulating, holds moisture without wet feel	Itchy, prone to shrinkage
<b>PLANT FIBERS</b>			
<b>Acetate</b>	Cellulose from wood pulp & acetic acids	Silk like look, luxurious feel	Not color fast, heat sensitive, weak fiber
<b>Bamboo</b>	Bamboo reeds	Soft, drapy hand, absorbant, naturally anti-microbial, low maintenance growth (less water & pesticides)	Less durable than cotton, long drying time, more processing (mechanical or chemical) than cotton
<b>Cotton</b>	Cotton bushes	Breathable, absorbant, inexpensive, resists static, withstands high heat	Prone to shrinkage, dries slowly, wrinkles. High water & pesticide use to grow
<b>Linen</b>	Flax	"Cooling" fiber, extremely durable	Expensive, wrinkles, coarse
<b>Hemp</b>	Cannabis Sativa stalks	Durable, strong, "warm" fiber, eco-friendly (low water, no pesticide, high yield), hypoallergenic, resists mildew	Wrinkles, difficult to dye, not color fast, coarse fiber
<b>Lyocell</b>	Cellulose from wood pulp	Soft, light, breathable, "cool" fiber, drapy hand, durable, absorbant, flexible. Eco-friendly closed loop processing	More expensive and more difficult to dye than cotton,
<b>Modal</b>	Beech tree pulp	Soft, "cool" fiber, smooth sheen, absorbant, wrinkle resistant, drapy hand, easily dyed. Less water & higher yield than cotton	Not hypoallergenic, prone to pilling and stretching, ellows with heat, chemically processed.
<b>Ramie</b>	Cellulose from grasses	Strong, durable, absorbant, linen like, stronger when wet, resists shrinkage, blends well, mildew resistant, easily dyed,	Stiff, non-elastic, low abrasion resistance, wrinkles easily
<b>Rayon</b>	Cellulose from wood pulp	Inexpensive, more absorbent than cotton, drapes well, withstands high temperatures	Wrinkles, prone to shrinking, color fades in sun exposure, chemically processed, not eco-friendly
<b>SYNTHETIC FIBERS</b>			
<b>Acrylic</b>	Vinyl acetate or methyl acrylate polymers (plastics)	Retains color, wool like texture, resists wrinkles	Poor insulator, unstable & melts at high temperatures
<b>Nylon</b>	Synthetic polymers (thermoplastic)	Strong, highly elastic, resists wear, withstands extreme temperatures	Not absorbant, prone to pilling
<b>Polyester</b>	Synthetic polymers (thermoplastic)	Inexpensive, no shrinkage, resists staining, resists wrinkles, durable, color fast	Difficult to dye, not absorbant, not stain resistant
<b>Spandex</b>	Synthetic polymer (polyurethane)	Extremely elastic, excellent recovery, strong fiber, lightweight, smooth, soft. Small % can enhance other fibers	Additives required to help with low resistance to heat, sun, chlorine

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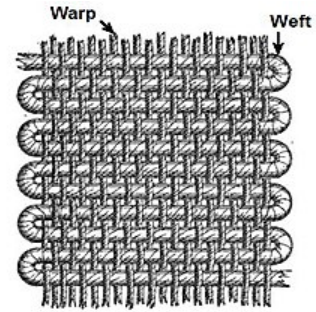
# FABRIC TYPES QUICK REFERENCE

## WOVEN FABRICS

Woven fabrics are created on looms with warp and weft yarns interlaced at right angles. Strong warp yarns are strung to the loom, while weft yarns are shuttled back & forth to "fill" in the fabric. Most wovens do not stretch much (unless woven with spandex).

### Example Woven Fabrics:

Denim	Sheeting	Muslin
Satin	Corduroy	Poplin
Chiffon	Canvas	Velvet
Ripstop	Broadcloth	Twill

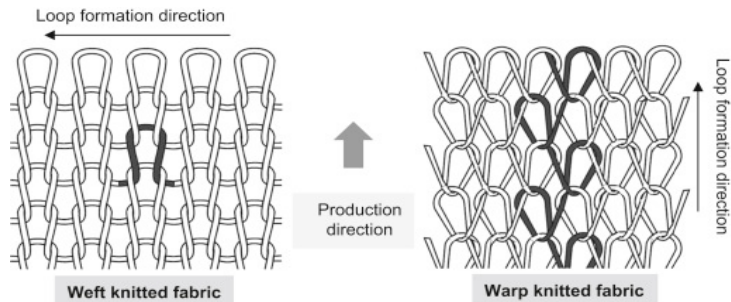


## KNIT FABRICS

Knit fabrics are produced with a series of interlocking loops using one or more yarns. Knits can usually be stretched more wovens. There are two types - Warp and Weft

### Warp Knits:      Weft Knits:

Tricot	Jersey
Raschel	Rib
Milanese	Purl

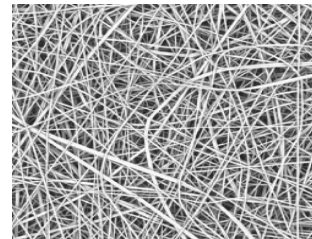


## NON-WOVEN FABRICS

Non-woven fabrics have web-like structures bonded together by entangling fibers mechanically, thermally, or chemically. Non-wovens are usually porous.

### Example Non-Woven Fabrics:

- Felt
- Interfacing
- Batting



## FABRIC TREATMENTS

### Example Treatments:

Laundering	Dyeing	Anti- bacterial
Softening	Brushing/Flannel	Anti - static
Enzyme	Coating	DWR - Durable Water Repellent
Sand Washing	Mercerizing	Lamination

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