

## THE PATH FROM PURELY NATURAL TO PERFECTLY BEAUTIFUL.

Sheep have always been some of the most efficient of all the domestic animals. They thrive in the highest reaches of mountain climates and graze on noxious weeds that other herbivores will not consider. Sheep take otherwise useless resources and in return create wool—providing us with one of the most useful, sustainable and beautiful natural resources the earth has to offer.

01

### **SHEARING & MEASURING**

The first step in processing wool is collecting it from the animal, both for the welfare of the sheep and to gather the wool for use. A skillful shearer uses electric clippers, taking long, smooth strokes close to the skin in order to preserve the length of the fiber. Next, samples are taken in order to measure the wool fiber in length and diameter. Fine wools usually make lightweight clothing fabrics, such as t-shirts or other next-to-skin apparel, medium wools make sweaters and socks, and coarser fibers are used for upholstery and carpets.

02

### **WASHING (SCOURING)**

The next step in the process is washing (scouring) the raw wool in order to remove impurities. Sets of rakes move the fleece through a series of scouring tubs with mild detergents. Lanolin, the grease found in wool, is also separated from the wash water and can be purified for use in creams, soaps and cosmetics.

03

### **BLENDING & DYEING**

Wools from several different lots are mixed mechanically, based on length and diameter, into the best combination for the intended end use. These wool fibers are ready to be dyed and take on color. Wool can be dyed at the scoured, yarn or fabric stage. Designers love working with wool because the fiber absorbs dyes deeply, creating vibrant and luxurious colors.

## *Takeaways*

01 Step one: shear & measure  
 02 Step two: wash  
 03 Step three: blend & dye  
 04 Step four: card & spin

05 Step five: weave & knit  
 06 Step six: quality control  
 07 Step seven: finish  
 08 Step eight: special finish



04

WOOL PROCESSING



04

### CARDING & SPINNING

The carding process passes the wool through a system of wire rollers to straighten the fibers into continuous ropes called “slivers.” Spinning then takes the slivers and processes it by twisting and extending the fibers, giving strength to yarn that is ready for weaving or knitting. Spinning machines can create a wide variety of yarns designed for apparel, carpets or upholstery.

05

### WEAVING & KNITTING

Weaving produces cloth by interlacing two sets of yarn at right angles to each other. This sequence, repeated endlessly, forms woven fabrics of almost infinite variety. Knitting machines are just as versatile. Their mechanical needles are just as accurate and many times faster than hand knitting. Knitted fabrics are produced by interlocking loops of yarn.

06

### QUALITY CONTROL

Quality control inspection is a part of the final step in fabric manufacturing. A thorough examination of the cloth identifies imperfections such as broken threads, variations in color and other undesired effects. These are removed and the area is rewoven by hand if necessary.

07

### FINISHING

Once the fabric passes inspection, it undergoes wet-finishing, which often involves a controlled shrinkage process called fulling. Moisture, heat and friction are applied, causing the fabric to shrink a controlled amount in both length and width. This tightens the weave and improves the texture of the fabric. Woolens are often brushed to raise the ends of the wool fibers above the surface of the cloth in a soft, fluffy nap. Naps range from the lightly brushed surfaces of flannel to the deep pile effect of fleecy coatings. After wet finishing and drying, the fabric is cropped to remove unwanted surface pieces and then steam pressed before making it into the final product.

08

### SPECIAL FINISHES

Throughout the processing chain, several finishes may be applied to wool, depending on their end use. For washable wools, the finish reduces friction and fiber entanglement and eliminates felting shrinkage that usually occurs when wool garments are machine-washed and dried. Wool can also be treated to make it highly resistant to moths, stains, moisture and fire.



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