

The Place of Cotton Fiber In the Textile Production Process

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Key words: process, machine, uniformly, mass.

Ключевые слова: процесс, машина, равномерно, масса.

Spinning is the process of producing a long thread (yarn) from individual short fibers by twisting them. The fibers arrive at spinning mills in the form of compressed bales. On special machines they go through several stages of processing: 1) after loosening, uniformly mixing the fibers and removing impurities from them, canvas is obtained; 2) the canvas is combed and the fibrous mass is pulled into a ribbon; 3) the fibrous mass is pulled out even more, twisted and the finished yarn (threads) are wound onto bobbins. The main profession of the spinning industry is a spinner. It can serve a large number of spindles simultaneously. During the work process, the spinner deftly and quickly eliminates broken yarn, changes reels and bobbins, and takes care of the equipment. Weaving is the process of producing fabric from yarn. The finished yarn enters the workshop, where it is made into fabric on weaving machines.

Strong and smooth grain threads (warp) are stretched along the loom. Less strong and fluffy transverse threads (weft) are wound on the shuttle. The weft threads intertwine the warp threads in the transverse direction. When the weaving machine is operating, the warp threads are moved apart using a special device. A hole is formed between them, through which the weaving shuttle inserts the weft thread. When the shuttle comes back, the thread does not break. A selvage is formed along the edges of the finished fabric. Intertwined with each other, the warp and weft threads form a weaving pattern. The most common weavings are plain, twill, satin and satin. By carefully examining weaving patterns, you can find a pattern that is repeated in all directions. A repeating weave pattern is called rapport.

The weaving pattern of different fabrics has its own characteristics. With twill weave, each successive laying of the weft thread moves one thread to the side. This creates the appearance of oblique stripes on the fabric, more noticeable on the front side. Twill weave fabrics are slippery to the touch.

The weaving pattern of satin and satin weave is shifted by two threads in each row. The front side of these fabrics is smooth, shiny and differs sharply from the back side.

Cutting and sewing of these fabrics is hampered by their high slippage, leading to distortions and severe fraying.

The main profession of weaving is weaver. It services 48 to 64 automatic looms simultaneously. When the machine stops, the weaver eliminates thread breaks and monitors the quality of the fabric.

Fabric finishing - giving fabric a certain appearance and properties.

Fabric removed from the loom is called gray. It is ugly, hard, and does not absorb water well. Subsequently, it goes through a series of finishing processes. Here are just a few of them.

Bleaching - making fabric white. Fabric that has been bleached is called bleached.

Dyeing is the dyeing of fabric in any color using dyes. Fabric that has undergone the dyeing process is called plain dyed.

Printing is the application of a design to bleached or plain-dyed fabric. This fabric is called printed.

It depends on the type of production, the type of fabric produced, the type of yarn consumed, the type of weaving equipment. For example, when producing fabrics based on twisted cotton yarn, the sizing process is sometimes replaced by the process of distilling the warps from warping rollers to the weaving beam. The production of twisted threads from single-strand yarns is often carried out within the weaving mill. In this case, the process of preparing yarn includes the operations of caning (connecting several threads) and twisting. When producing fabrics from multi-colored warp and weft threads, the process of preparing yarn for weaving includes yarn dyeing and a number of additional operations. Sometimes the technological process of weaving proceeds according to a scheme slightly different from that in Fig. 1. It depends on the type of production, the type of fabric produced, the type of yarn consumed, the type of weaving equipment. For example, when producing fabrics based on twisted cotton yarn, the sizing process is sometimes replaced by the process of distilling the warps from warping rollers to the weaving beam. The production of twisted threads from single-strand yarns is often carried out within the weaving mill. In this case, the process of preparing yarn includes the operations of caning (connecting several threads) and twisting. When producing fabrics from multi-colored warp and weft threads, the process of preparing yarn for weaving includes yarn dyeing and a number of additional operations.

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