

MORE SPACE FOR MATERIAL



Maximum elasticity for perfect results

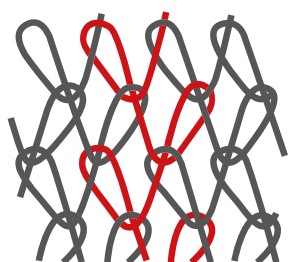
Apart from a high level of durability, clothing should offer one main thing today – maximum freedom of movement. Jersey is the magic word here. This extremely stretchable type of knitted fabric is finding use more and more frequently in the classic clothing industry.

Threads must be stronger

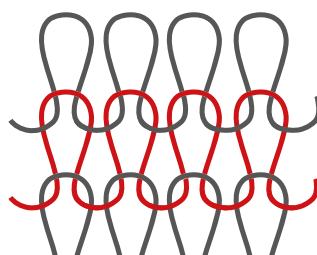
The correct technique for each material

There are various techniques in the industry especially for the manufacture of knitted fabrics, which differ between the so-called single thread and chain thread technologies. In the single thread technology, knitted or warp-knitted fabrics are created by manufacture in a transverse direction. Warp-knitted fabrics are produced only by means of chain thread technology. Threads are used

lengthwise here. This has the advantage of material ladder-proof. Single thread technology, however, can create unsightly faults in the material. The movement of the needle also plays a significant role in manufacture: thus in knitting, needles move independently, while in warp-knitting they work together.



Warp-knitted fabrics

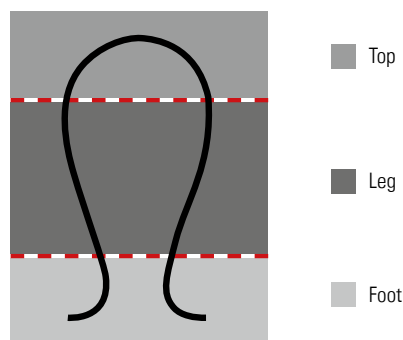


Knitted fabrics

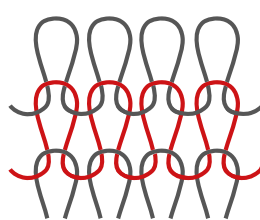
Elasticity does not just happen

The demand for stretch materials is steadily increasing in the clothing sector. Because of its enormous elasticity, knitted fabrics offer a high level of freedom of movement. These fabrics store air and transport moisture to the outside easily. The secret is the stable structure by means of single stitches,

which consist of a top, two legs and two feet. Depending on the intertwining, a purl or loop is created in manufacture, which lie together as a stitch row or above each other as stitch wales.



Knitted fabric has the smallest unit of shape stability.



Stitch row, shown in purl stitch.



Stitch wales, shown in loop stitch.

The correct finish does it

When knitted fabric is produced it is most important that seams are flexible and that loop and sewing damage is avoided. To make the seam stretchy, more thread reserve must be built into the seam. At the beginning the choice of stitch type is decisive. A double chain stitch seam is for instance significantly more stretchable than a double backstitch seam because of its construction. Furthermore, the thread reserve can be increased in the seam by

intensifying the stitch density and the strength of the presser foot. In addition, lower thread tension and experienced handling such as pulling and stretching of the textile during sewing processes ensures stretchable seams.

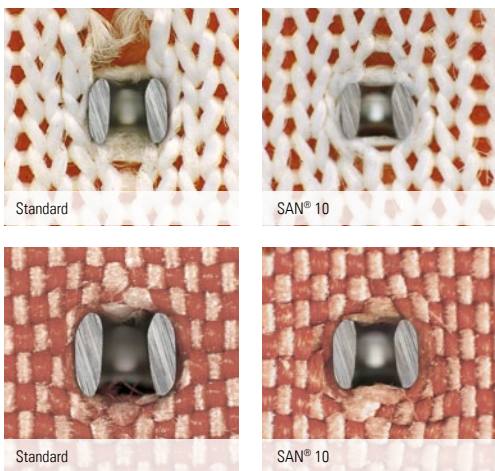
Tip: Read the professional seam sheets „Keeping sewing elastic“ on this subject, as well as „Flexible down to the last seam“.

The impact of the needle

To avoid loop and sewing damage the following influencing factors should be noted: above all it is important to choose the correct needle when sewing. Thickness and shape play a significant role. Loop and sewing damage may occur if the needle is too thick. Delicate and compact knitted fabrics are particularly sensitive. After all: the thicker the needle, the greater the stretch of the stitch. The shape of the point is also important to the quality of the seam. Ball-points reduce possible stitch damage, as they push the threads to one side because of their shape rather than cutting through it. The diameter of the stitch hole is also important. The

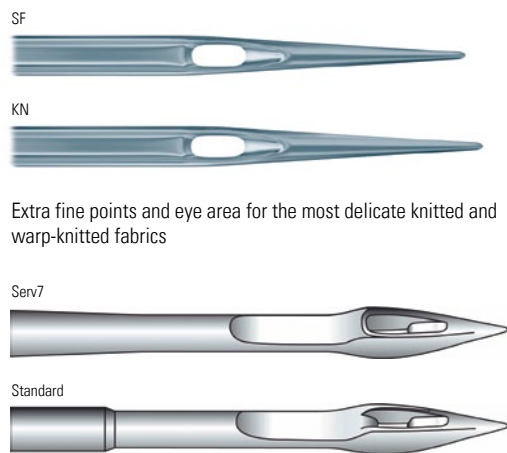
opening must be big enough for the needle to pass the thread through the hole without a problem. If the diameter of the stitch hole is too small, the stitches at the edge of the stitch hole will be "squashed" when the needle goes in. As a guide: the ratio of the thickness of the needle to the needle hole should be 1:1.5.

Needle specialists recommend the following needles for the manufacture of knitted fabrics:



The special geometry in the shaft, eye and hollow groove area makes the SAN® 10-Nadel so unique.

With kind permission of Groz Beckert KG



Extra fine points and eye area for the most delicate knitted and warp-knitted fabrics

Reliable seams with cusp fillet and increased needle stability with conical shaft elongation.

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Always smooth and even

Loop and sewing damage is also avoided when the speed of sewing is reduced. Tension may be reduced and the knitted fabric stretches at the required place. Another factor is the finishing of knitted fabric. If the fabric is not properly treated, it will become brittle and dry. The risk of loop and sewing damage increases as a consequence. The softer and more elastic the goods are, the more flexible they will be. The needle and thread will slide more easily. The choice of thread will also determine the level of risk for loop and sewing damage. The proper thread size or diameter should be chosen first, as threads that are too

thick can cause bunching and also loop damage. Threads that are too thick can cause bunching, but also loop damage. Very high smoothness and evenness of the thread ensure therefore sliding that is almost without friction.

Gütermann Micro Core Technology achieves this very effectively. The best combination for perfect processing is achieved when the factors above are observed and the Gütermann Mara range is used.

This is what you should look out for when processing knitted fabrics:

- ✦ Type of stitch, density of stitch, tension of thread and handling determine the elasticity of the seam
- ✦ Use thin needles with the appropriate ball-point - this lowers the risk of loop and sewing damage
- ✦ Decrease the speed of sewing as this will ensure greater reliability

The seam competence since 1864.



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