

GROZ-BECKERT®

INFO



SMN 10

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SPECIAL APPLICATION NEEDLE **SAN® 5**

Developed for the sewing process of technical textiles.

More and more often technical textiles require a varied combination of different materials (frequently coated or bonded with foam material).

The requirement for durable and accurate seams places high demands on the sewing machine needle.

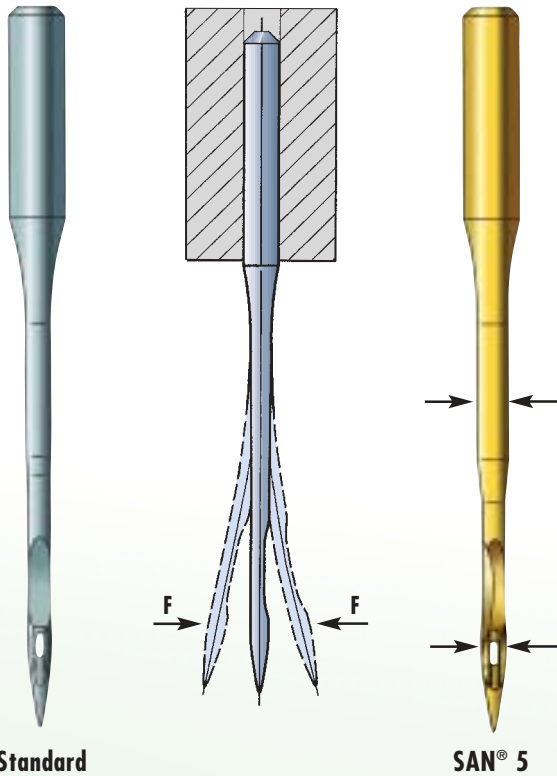
The SAN® 5 needle was developed to eliminate the known application problems related to the processing of such materials.

- Needle deflection
- Stitch hole sticking
- Irregular seam appearance.

GEBEDUR®

The titanium nitride coated needle of Groz-Beckert.

THE SAN® 5 GEBEDUR® NEEDLE AND ITS ADVANTAGES



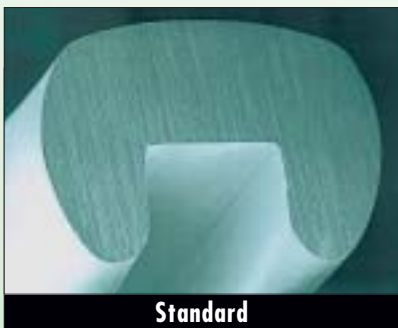
NEEDLE DEFLECTION

Very often technical textiles are constructed from very hard materials. High penetration forces are the rule which often leads to a strong needle deflection.

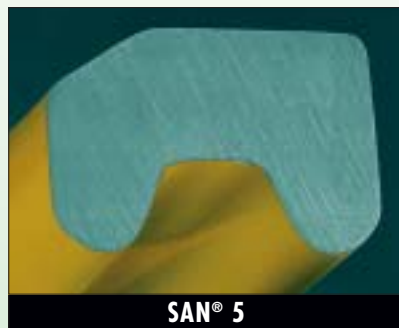
Results can be:

- Skipped stitches
- Point damage
- Material damage
- Thread splicing
- Thread breaking
- Needle breakage

To avoid these problems, a new blade design was developed for the SAN® 5. The stipulation was high needle stability in combination with an optimum of penetration work.



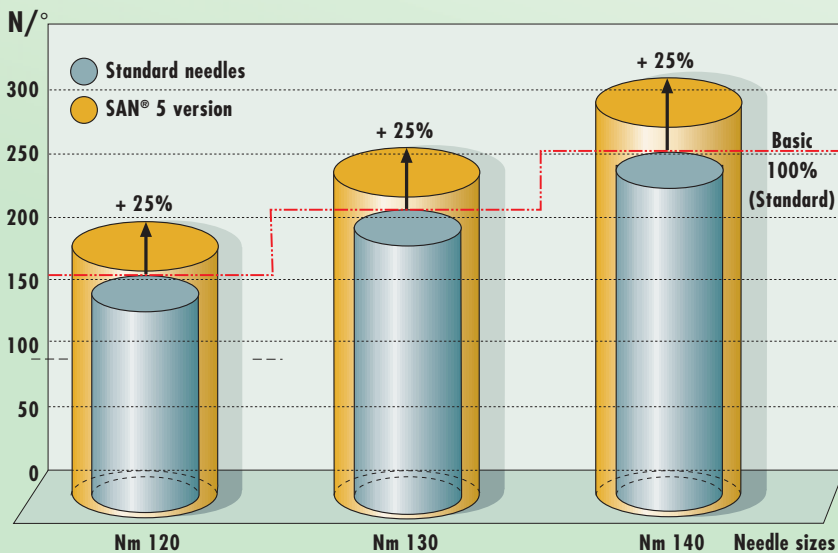
Standard



SAN® 5

CROSS SECTION OF THE SCARF

The higher stability of the SAN® 5 in the scarf area becomes visible in this cross section view of the scarf. The lateral scarf chamfer prevents damage to the hook point.



BENDING RESISTANCE

The special design of the entire working area of the SAN® 5 needle results in a clearly higher bending resistance, in comparison to a standard needle.

The SAN® 5 needle's bending resistance in size range Nm 120 to Nm 140, is 25% higher than a standard needle per degree of deflection.



Standard



SAN® 5

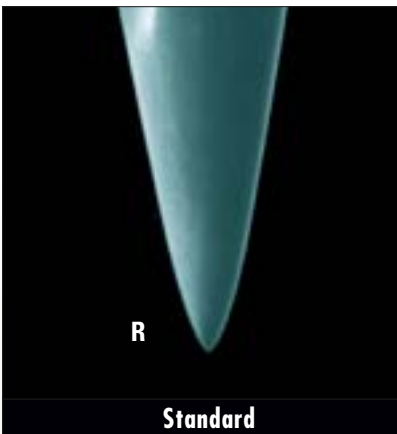
IMPROVED LOOP GUIDANCE

The SAN® 5 needle has a deep scarf and a special eye design. Even with a poorly formed loop, these features guarantee a greater space between the thread and the needle, ensuring loop pick up by the hook.

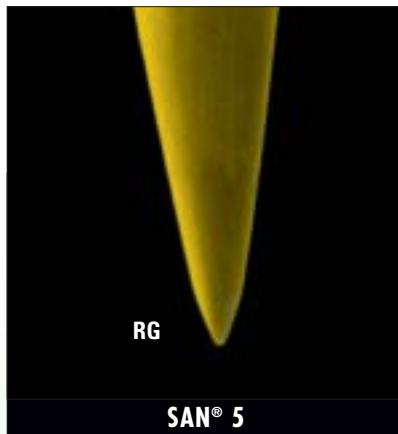
This leads to a higher security during the loop pick up.

Results:

- Less skip stitches
- Less thread breakage



Standard



SAN® 5

IDEAL SHAPE OF NEEDLE POINT

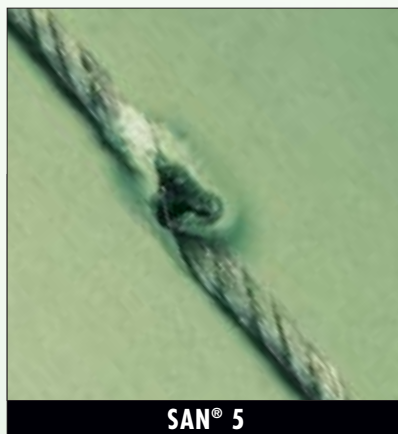
The standard point of the SAN® 5 needle is the RG point. This point has proven itself in many applications. Due to its special shape, it wears less and protects the sewing material.

Results:

- Less material damage
- High process security



Standard



SAN® 5

ADAPTED STITCH HOLE OPENING

Certain synthetic materials tend to melt and stick to the needle during the sewing process. The melted particles are pulled through the stitch hole by the needle, and remain on the surface of the stitch hole, and on the thread. The consequence is a less attractive seam. The specially adapted blade geometry of the SAN® 5 needle greatly reduces this problem.

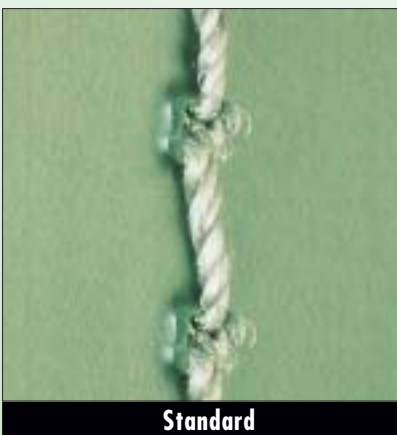
This means:

- Visually improved seam quality

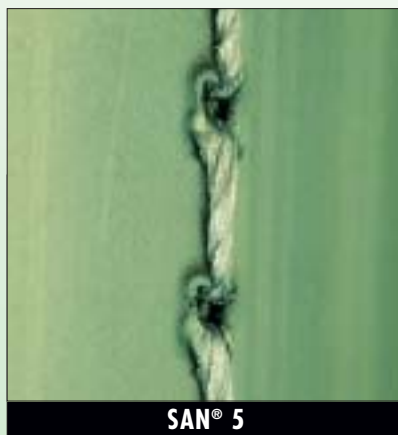
The specially adapted shape of the SAN® 5 needle blade creates the perfect stitch hole openings in fabric,

guaranteeing:

- Well balanced pulling-in of the thread
- Regular stitch pattern
- Improved seam durability



Standard



SAN® 5



Thread Loading



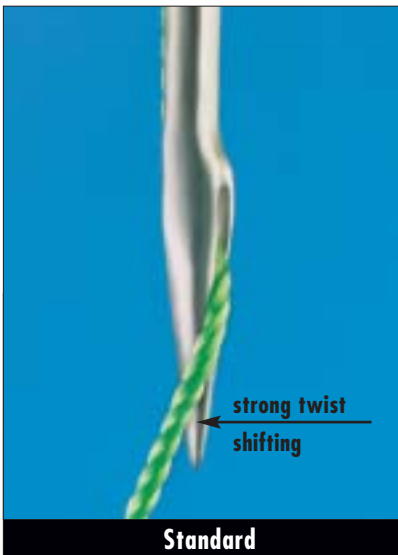
SAN® 5 eye area

THREAD LOADING

Today almost exclusively Z-twisted (left twist) sewing threads are used. When sewing backwards the thread lies over the right edge of the needle eye.

The edge of the eye and the thread twisting run parallel at this time, during the needle downstroke the thread is pushed together by the edge of the eye.

A "twist shifting" in the thread arises.



Standard



SAN® 5

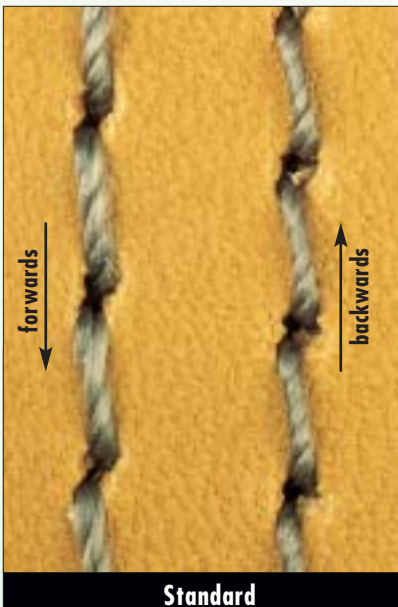
THREAD TWIST SHIFTING

The SAN® 5 needle has a specially designed upper point groove. The edges of the eye lie deeper into the direction of the point. All thread-sliding areas are very well-rounded and polished.

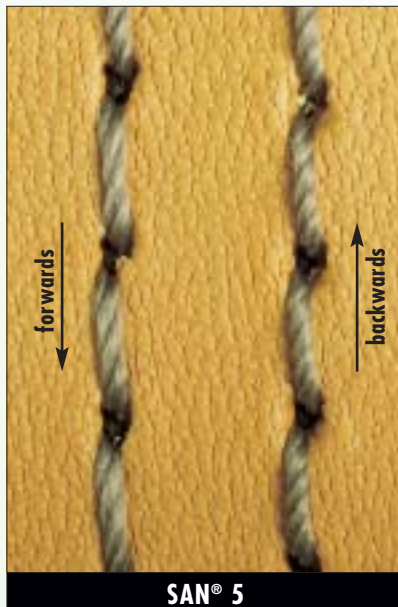
The needle thread slides protected over this specially shaped area.

- The "twist shifting" in the thread is clearly reduced when compared to a standard needle.

Seam direction



Standard



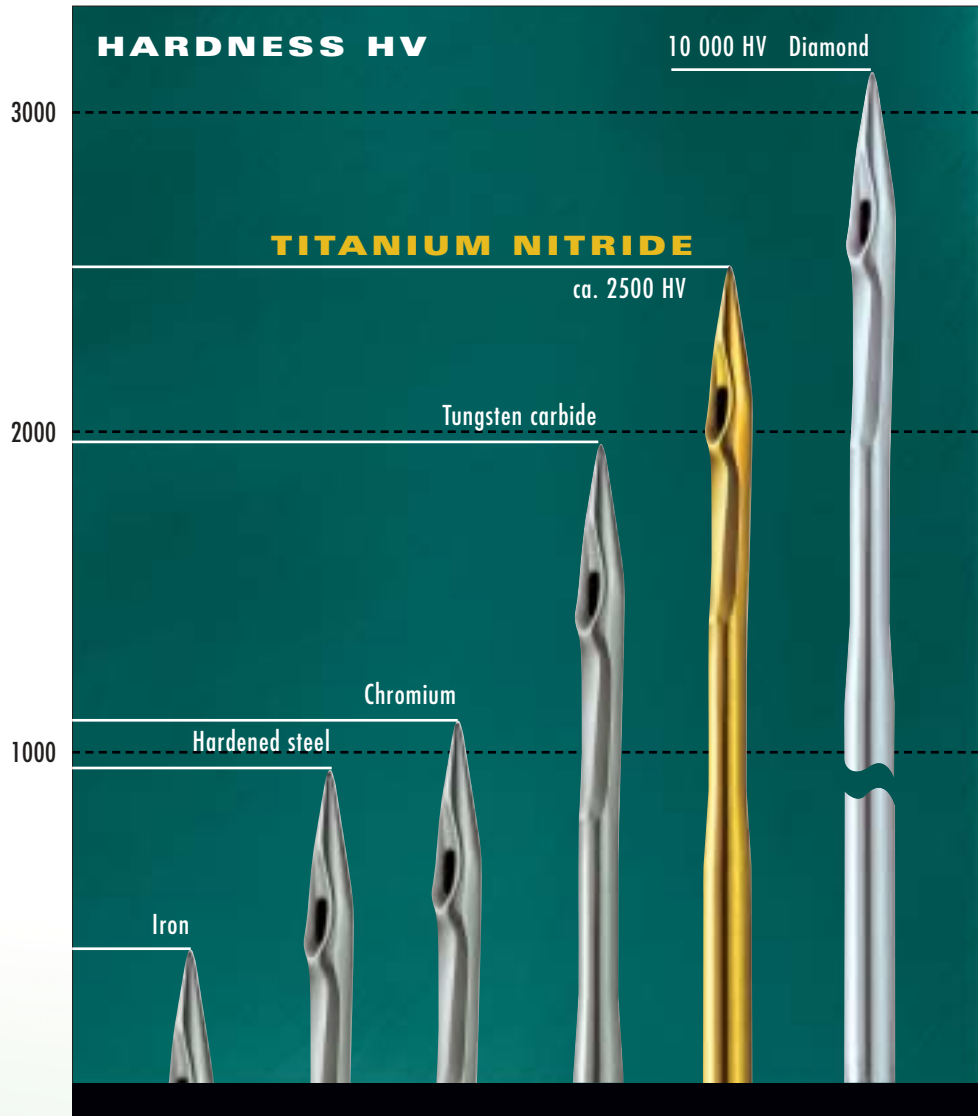
SAN® 5

RESULT:

The SAN® 5 needle produces a visibly more constant seam appearance in comparison to a standard needle.

COMPARISON OF THE GEBEDUR®-COATING IN HARDNESS

The titanium nitride coating provides the SAN® 5 needle with high protection from wear and tear, as well as damage.



Feedback from industry confirms the progress of the SAN® 5 GEBEDUR®. Especially when sewing car seats or technical textiles, the SAN® 5 GEBEDUR® achieves a longer working time.

The results are:

- High seam quality
- High productivity

GROZ-BECKERT
– that subtle difference.

THE RESULTS OF THE SAN® 5 DEVELOPMENT

THE ADVANTAGES

- High productivity due to less machine downtime.
- Reduced production costs.
- More security against skipped stitches.
- High protection of the sewing fabric.
- Extremely tight adjustment of the looper to the needle is possible.
- Low needle consumption.
- High protection against needle wear by GEBEDUR®.
- Optimum protection of the hook point.

PROGRAM: (will be increased on demand)

Systems	Sizes Nm →	120	130	140	160
134 SAN® 5	GEBEDUR®	●	●	●	●
134 SAN® 5 LL	GEBEDUR®	●	●	●	○
134 SAN® 5 SD	GEBEDUR®	●	●	●	○
134-35 SAN® 5	GEBEDUR®	●	●	●	●
134-35 SAN® 5 LL	GEBEDUR®	●	●	●	○
134-35 SAN® 5 SD	GEBEDUR®	●	●	●	○
135x17 SAN® 5	GEBEDUR®	●	●	●	●
135x17 SAN® 5 LL	GEBEDUR®	●	●	●	○
135x17 SAN® 5 SD	GEBEDUR®	●	●	●	○

● Standard

○ Option

You can get our needles from: