

**SPECIAL-NEEDLE LR SAN® 12**  
PERFECT TWIN DECORATIVE SEAMS  
WITH SLANTED STITCH FORMATION.



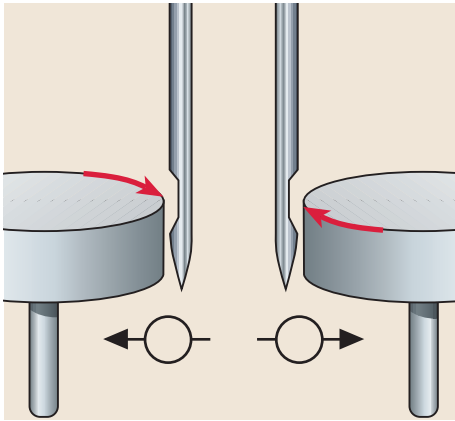
Twin lockstitch is used in the fields of automotive engineering, upholstered furniture and accessories. To achieve top quality results, the aim must be to produce seams with an even appearance that run completely parallel. It was to guarantee this high standard of seam quality that Groz-Beckert developed its cutting point needle LR SAN® 12.

**Another technical innovation from Groz-Beckert for stringent customer requirements and product quality.**

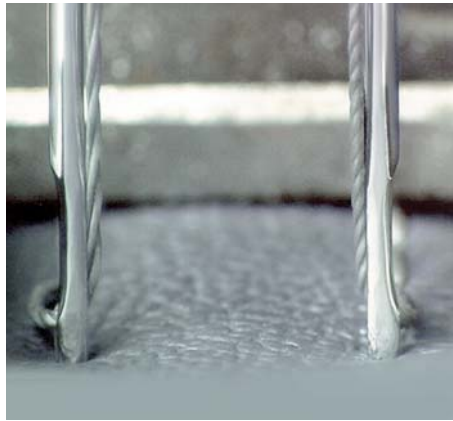
## THE PROBLEMS SURROUNDING TWIN LOCKSTITCH

Twin lockstitch machines produce two adjacent seams in a single work process. Ideally, the left and right-hand seam should have an identical seam appearance.

However, due to the different threading direction and loop pickup between the left and right-hand needle, when using Groz-Beckert LR cutting points which create a marked decor effect, a different seam appearance is created in the left and the right-hand seam.



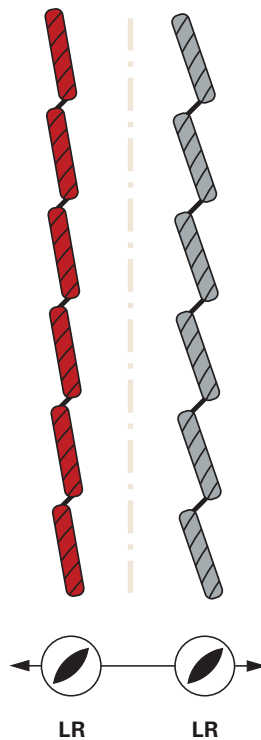
LOOP PICKUP



TWIST DISPLACEMENT

In most cases, the left seam appears slightly less decorative (slanted) than the right-hand seam.

**This results in an uneven seam appearance**



UNEVEN SEAMS PRODUCED BY THE LEFT AND RIGHT-HAND NEEDLE

## PROBLEM SOLUTION – DECORATIVE SEAMS WITH TWIN LOCKSTITCH



The development of the Groz-Beckert LR SAN® 12 cutting point needle has allowed an improved and more even appearance of the seams produced on twin lockstitch machines. This has been achieved by using a special cutting edge geometry on the SAN® 12 needles which forces the thread to the right-hand side into the required position during the thread pulling-in stage.

For this, a standard LR needle is used on the left-hand side and an LR SAN® 12 needle on the right.

To exclude the possibility of confusion between the standard LR needle and the LR SAN® 12, and to guarantee precise radial positioning when using SAN® 12 needles, a flat surface has been created on the scarf side.



EVEN SEAM APPEARANCE –  
THANKS TO THE LR SAN® 12 NEEDLE.



EVEN DECORATIVE SEAM APPEARANCE

