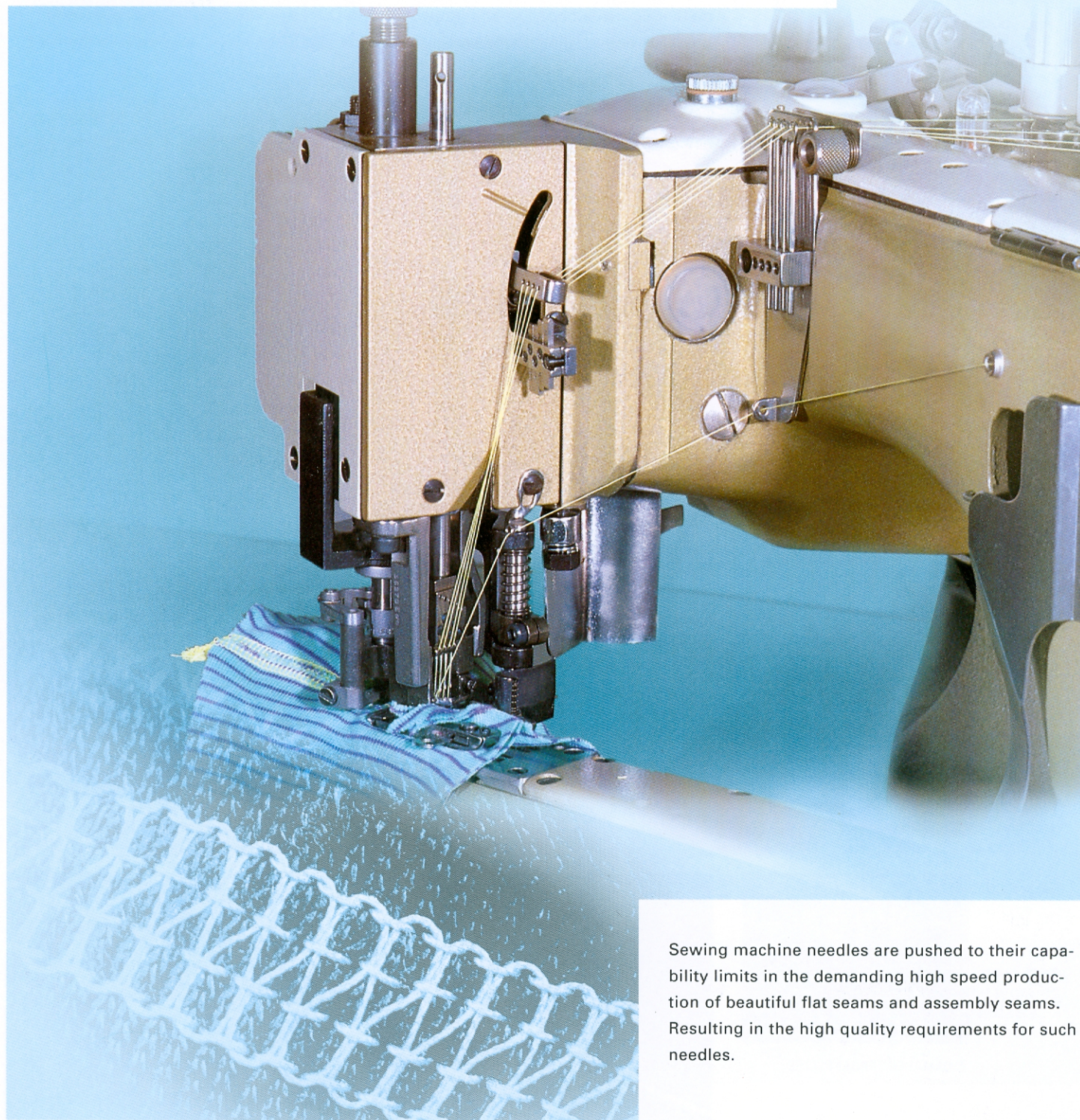


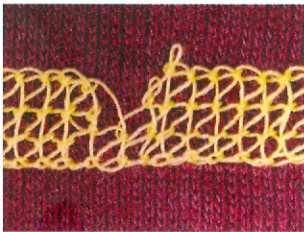
NEEDLE CLASS 118 BY GROZ-BECKERT FOR SPECIAL FLATSEAMERS



Sewing machine needles are pushed to their capability limits in the demanding high speed production of beautiful flat seams and assembly seams. Resulting in the high quality requirements for such needles.

NEEDLE CLASS 118 – FOR REDUCING SOURCES OF DEFECTS
DURING THE SEWING PROCESS WITH SPECIAL FLATSEAMERS

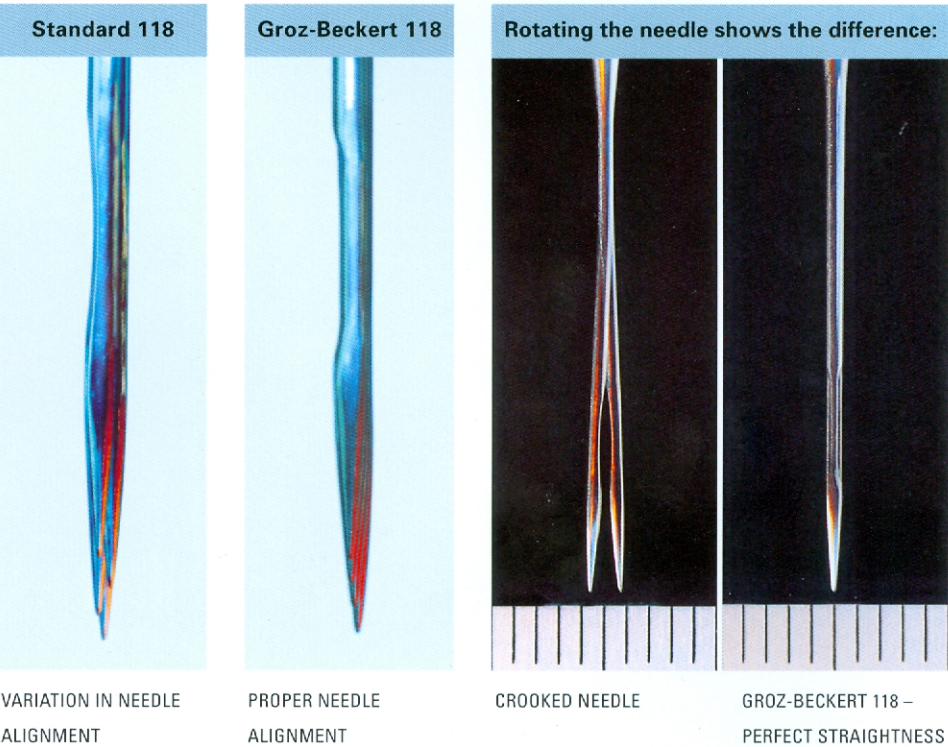
Feedback from industry prompted Groz-Beckert to enter into a comprehensive sewing technical investigation in the course of which following areas of breakdown evolved.



1. STITCH SKIPPING

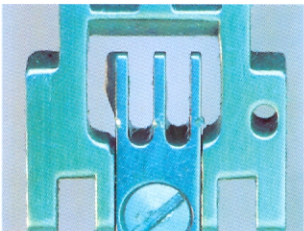
Stitch Skipping

Poor needle alignment and needles with an insufficient straightness are often the cause of skipping. They aggravate needle deflection and cause an irregular operational distance between needles and looper. Groz-Beckert needles are designed and tuned precisely in both their shank and in their blade geometry, towards a perfect alignment in the sewing machine.

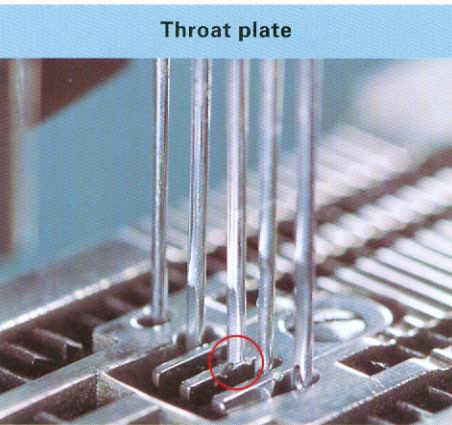


Damaged throat plate

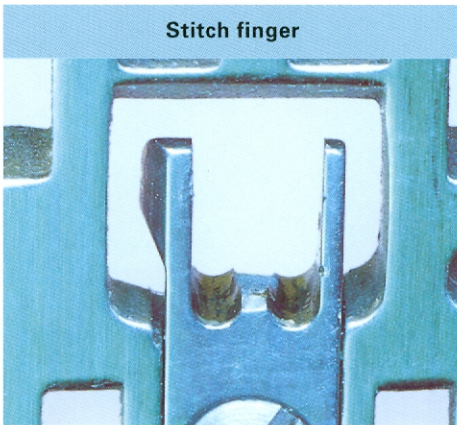
This expensive machine damage basically has the same cause as skipping. Insufficiently straight or deflected needles strike upon the fingers of the throat plate. The consequences such as damaged needle points, needle breakage and impaired throat plates are inevitable.



2. DAMAGED THROAT PLATES



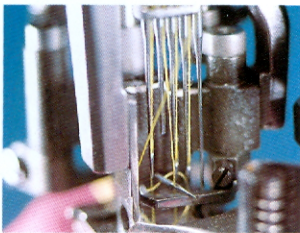
A BROKEN NEEDLE CRASHES UPON A STITCH FINGER



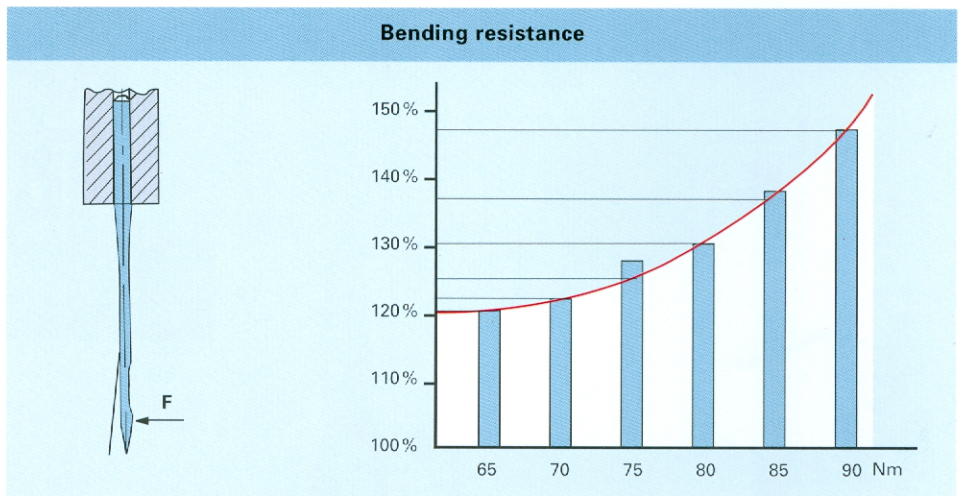
BROKEN STITCH FINGER

Needle Breakage

Special methods of heat treatment as well as a careful adaptation of the needle design to the specific machine function shows the following result: The Groz-Beckert needles have an increased resistance against bending between 20% and 47% over the regular standard. Needle deflection is drastically reduced due to these measures.



3. NEEDLE BREAKAGE AND
NEEDLE POINT DAMAGE



COMPARISON OF BENDING RESISTANCE. THE COMMON STANDARD = 100%

Less Penetration Resistance

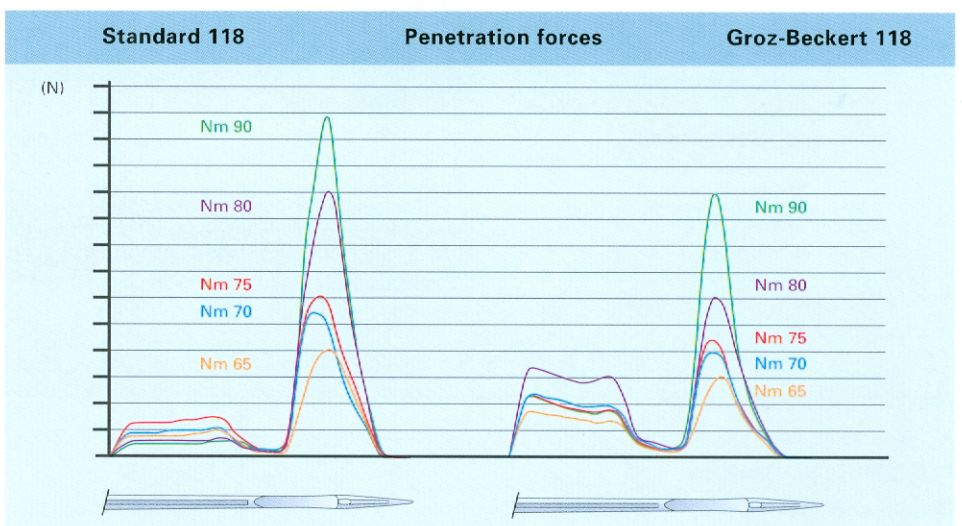
Low penetration resistance also reflects the outstanding functional quality of the Groz-Beckert needles. They require on average 28% lower forces (measured at 4000 St./min.) to impel the resistance of the fabric during penetration.

Positive consequences:

- The danger of fabric damage is minimised
- Reduced frictional needle heat
- Less needle deflection
- Increased needle life
- Lower machine strain



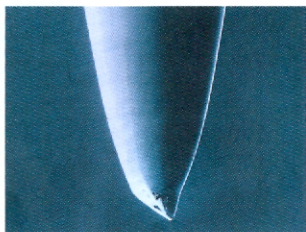
4. FABRIC DAMAGE



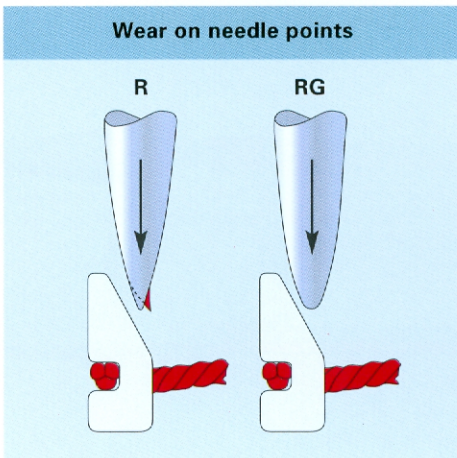
DISTRIBUTION OF PENETRATION FORCES – THE USUAL STANDARD COMPARED TO GROZ-BECKERT (SYSTEM 118)

Needle Point Damage

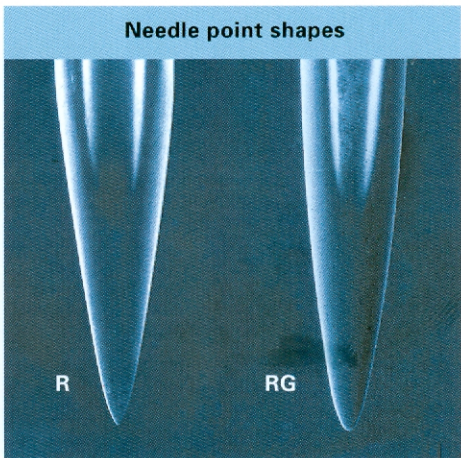
A sharp needle point will be damaged rather quickly through the unavoidable dynamic impact with the looper back. Needle class 118 of Groz-Beckert in its standard execution is therefore equipped with an RG point. The specific shape of this point style helps to avoid such early damage. Needle deflection and the possibility of fabric damage are further reduced. The functional needle life is increased.



5. DAMAGED R POINT



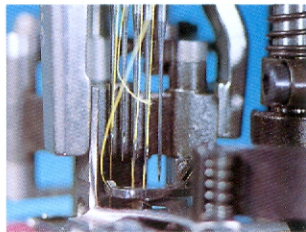
POINT DAMAGE CAUSED BY MACHINE LOOPER



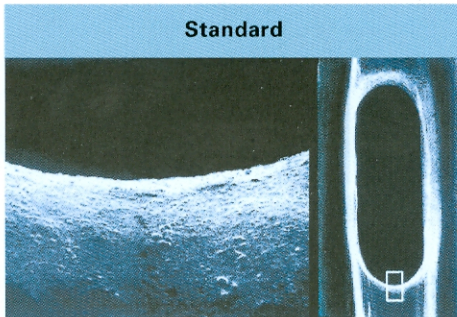
COMPARISON NEEDLE POINT STYLES R - RG

Thread Breakage

The fibres of the sewing thread will be damaged if the surface of the needle eye is not perfectly smooth. After a short period of sewing, knots will appear followed by thread breakage. The manufacturing process optimized by Groz-Beckert guarantees an excellent eye surface.



6. THREAD BREAKAGE



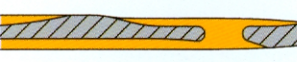














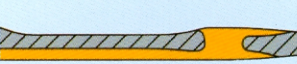

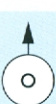


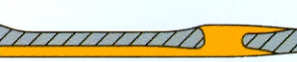






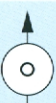












THE USUAL STANDARD



THE OPTIMIZED EYE IN GROZ-BECKERT NEEDLES

PROGRAM – GROZ-BECKERT NEEDLE SYSTEM

Variation	Blade/Grooves	Looper-contact area	Point	Application
118 GAS*	 <ul style="list-style-type: none">• double groove• no scarf 	 <ul style="list-style-type: none">• close looper adjustment not possible	  RG	For fine and medium knitted fabrics and for woven cloth. For uncritical sewing threads with low elasticity.
118 GAS FFG	 <ul style="list-style-type: none">• like GAS, but with ball point 	 <ul style="list-style-type: none">• like GAS	  FFG	For coarser knitted structures and for superelastic fabrics.
118 GKS*	 <ul style="list-style-type: none">• double groove• with scarf 	 <ul style="list-style-type: none">• for closest looper adjustment• safe loop pick-up• avoidance of skipping	  RG	Universal application for fine and medium knitted fabrics. For texturised sewing threads.
118 SAN® 10	 <ul style="list-style-type: none">• double groove• tapered blade• scarf providing hook protection 	 <ul style="list-style-type: none">• like GKS• high stability• fabric protection	  RG	For fine and critical to sew knitted fabrics and for woven cloth.
118 GKS FFG	 <ul style="list-style-type: none">• like GKS, but with ball point 	 <ul style="list-style-type: none">• like GKS	  FFG	For fine and medium knitted fabrics and for woven cloth.
118 GBS*	 <ul style="list-style-type: none">• one groove only• with scarf 	 <ul style="list-style-type: none">• sturdier needle, but higher thread tension required	  RG	For fine and medium knitted and woven fabrics. Reduced deflection on cross-seams.
118 GHS*	 <ul style="list-style-type: none">• like GBS, but with ball point 	 <ul style="list-style-type: none">• like GBS	  FFG	For coarser knitted structures and for high elastic fabrics. Reduced deflection on cross-seams.
36211	 <ul style="list-style-type: none">• without eye 	 <ul style="list-style-type: none">• blind needle	  RG	Holds the bobbin thread during stitch forming and prevents lateral forces to the needle.

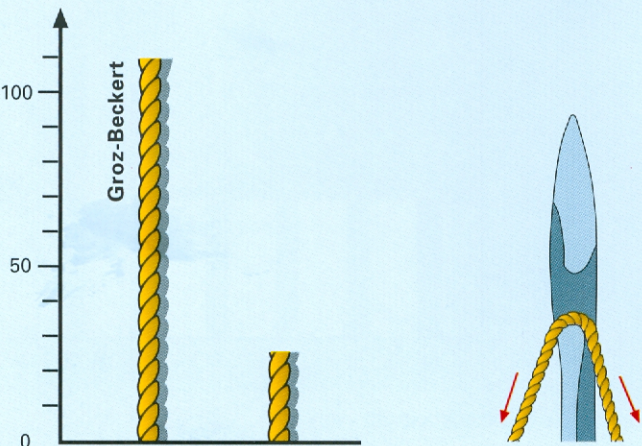
* also available in GEBEDUR®-Version
please inquire needle thickness

GROZ-BECKERT – THAT SUBTLE DIFFERENCE.

Summary

The Groz-Beckert investigation culminated in a general improvement of the functional quality with needle class 118 in all variants.

Please utilize these advantages for your own production by choosing the appropriate Groz-Beckert needle.



On average four times better thread protection.
Simplified needle threading.

