

ASTRIMA®

Sewing Technics since 1991



All
sewing
needles



SCHMETZ

NEEDLES SINCE 1851

Do you want to know more about industrial machine needles?

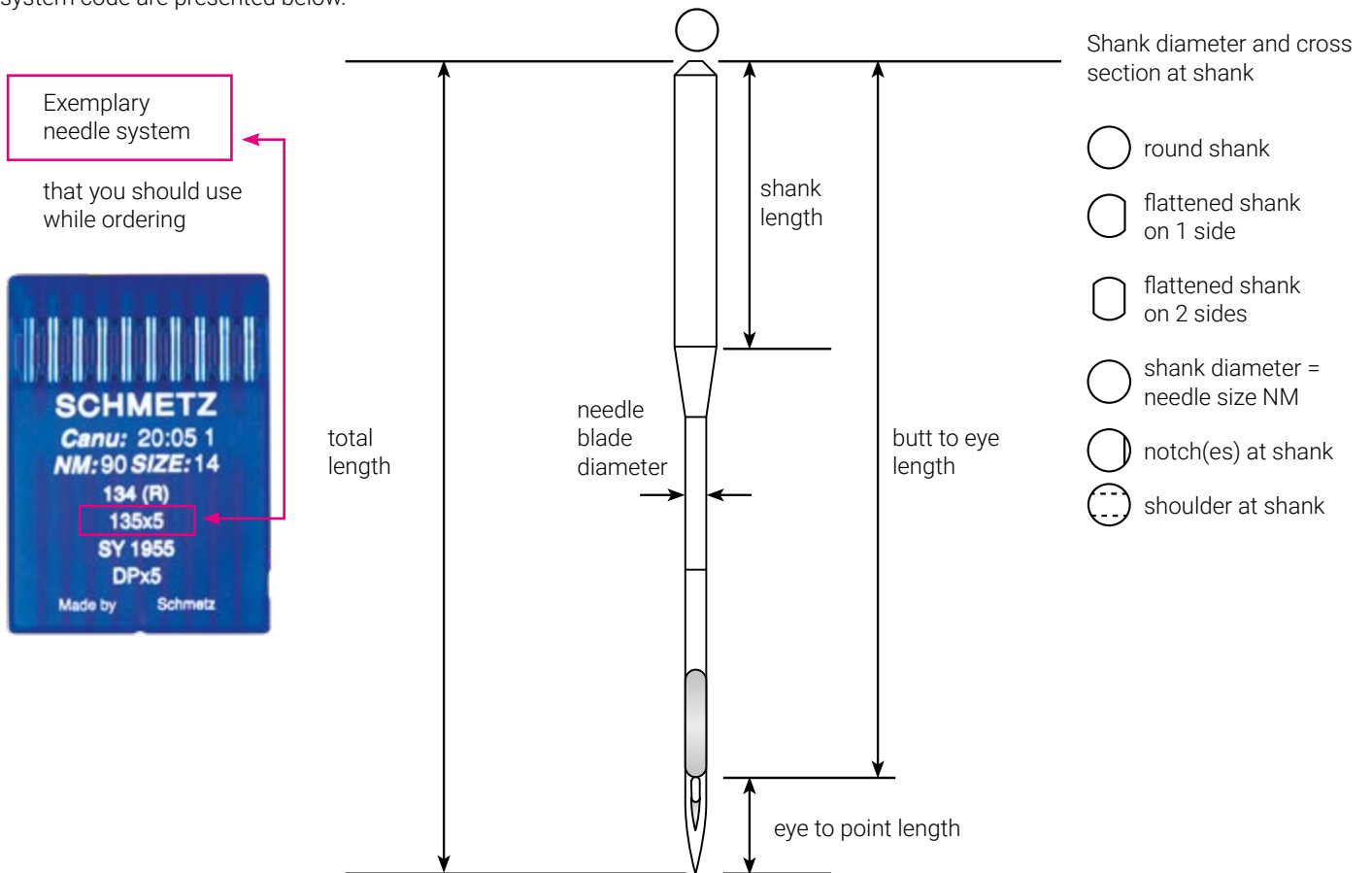
You are in a good place!

Here you will find a set of basic information that will help you perfectly match the needles to the sewn materials and to the expected results.

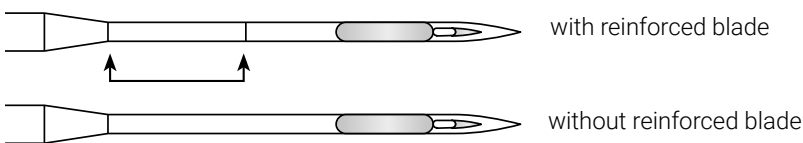
Needles for industrial machines

1. System and needle parameters

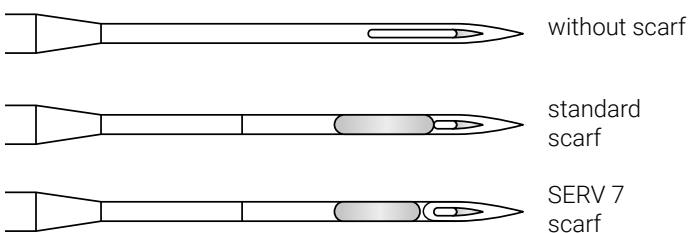
The needle system is an alphanumeric code specifying its parameters. The system specifies the needle dimensions except for the diameter of the needle blade and the type of the needle point, which are identified by separate markings. By specifying dimensions within each system, we know exactly what needle will work properly with the sewing machine. Basic parameters contained in the needle system code are presented below.



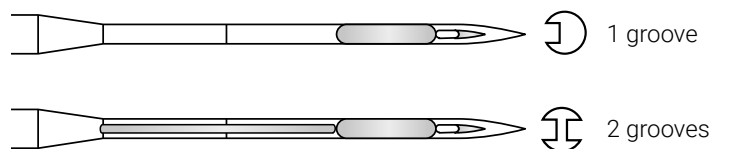
Reinforced blade



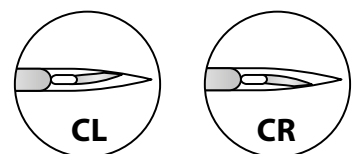
Scarf forms



Cross section at needle blade



A possible groove leading the thread out of the eye at the needle point (right or left) to prevent unwinding of the thread when sewing leather, imitation leather, laminates and other hard materials.



2. Choosing the right needle thickness

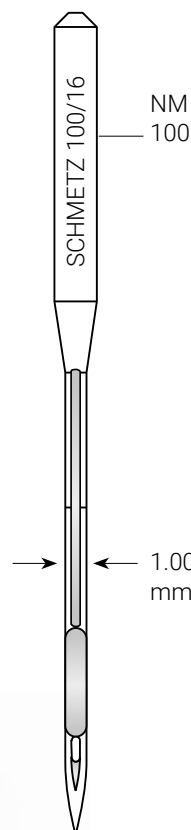
Except for special, decorative or technologically justified incisions on the leather, needle (especially for knitwear and woven fabric) should be as thin as possible.

The reduction of the needle diameter is limited by the thread thickness and the resistance of the sewn fabric. The needle should withstand the resistance of the sewn fabric without breaking and produce the regular, desired stitch. SCHMETZ uses the metric system for marking the thickness of the needle - exactly the diameter of the needle blade.

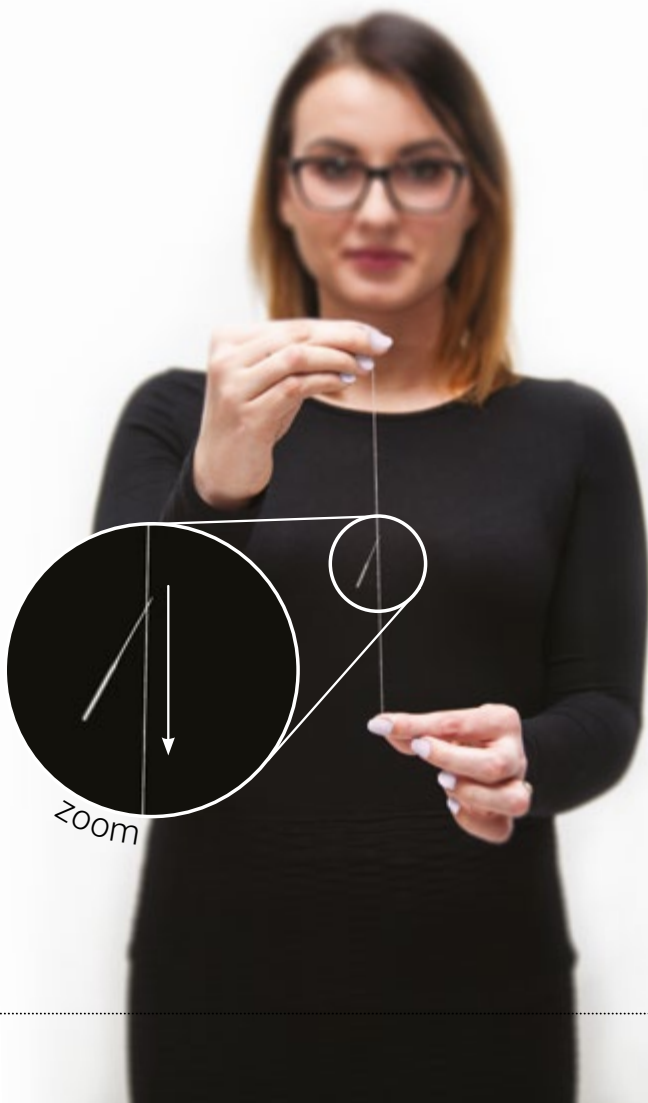
In the SCHMETZ system number 100 indicates a diameter of 1 mm, the number 90 indicates a diameter of 0.9 mm, etc.

In times there were several other specific systems of needle size designations. However, the metric size designation is the most common one. We can still find some needles marked in the Asian or old Singer's system.

Comparison table of equivalent needle sizes is on the right.



NM SCHMETZ	SINGER/ASIAN
35	2
40	3
45	4
50	5
55	6
60	8
65	9
70	10
75	11
80	12
85	13
90	14
95	15
100	16
105	17
110	18
120	19
125	20
130	21
140	22
150	22-1/2
160	23
170	23-1/2
180	24
200	25



What needle size should I use?

The needle should always be as thin as possible. This is especially important when we are sewing delicate knitwear or fabrics more exposed to damage. The size of the needle determines the size of its eye, which has to be sufficient for free movement of the thread. That's why choosing the right needle diameter and using good quality threads is an important factor. Thinner needle has a smaller eye through which the thread should move freely. Thread and needle match test is very easy to do. You should thread the needle not mounted to the machine and check if the needle moves freely (under its own weight) from top to bottom, while you keep the thread tense (photo on the right). Most thread producers give us information which needles work with specific thread thicknesses.

3. Round needle points – for sewing textiles and woven fabrics

The quality and look of the stitch depends on the point of the needle.



The applications described are the most typical for each point and needle blade. In practice, choosing the appropriate point shape is determined by the application and desired seam appearance, material and material properties, and other technical parameters of the sewing process.

R **CL** **CR**

Standard round shape with a slim, conical point, the best for light woven fabrics, but also for knitwear (only with very thin needles) and leather.

CL and CR - with a groove for heavy fabrics.

SPI

Very slim, acute point, the best for very densely woven materials, e.g. microfabrics, silk and for topstitch seams in shirt stitching (shirt collars, cuffs). Thanks to this type of needle, we can achieve exact seam appearance.

SES

The light ball point is the best for fine to medium knitwear. Particularly suitable for jersey and sports vests.

SUK

Medium ball point, the best for thicker knitwear and elastic fabrics.

SKF

Heavy ball point, the best for thick knitwear and fine elastic materials (with diameter about 65-70).

SKL

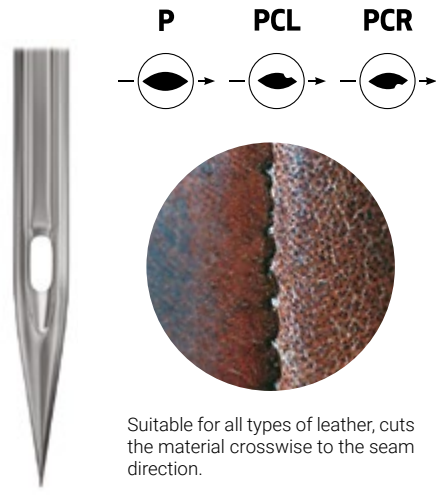
Special very wide, highly rounded ball point, the best for knitwear of varied weave, knitwear with rubber band and thick lycra.

STU

Special round point, with a light cone, for sewing on buttons.

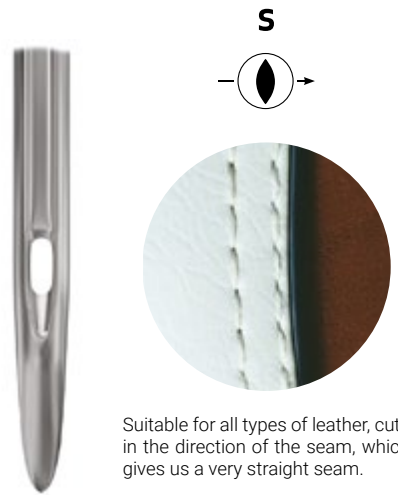
4. Cutting points - needles for sewing leather, films and other materials

Leather and other laminated materials (leatherette) are relatively stiff and stitch - because of flexibility and tension of the thread during sewing - is forming in the shortest way between punctures of the needle. As a result, on a stiff fabric, by using needle with properly selected blade, we can achieve specific, suitable to the style of the product, stitch.

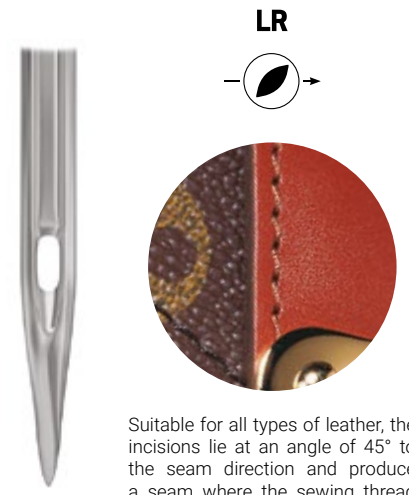


Suitable for all types of leather, cuts the material crosswise to the seam direction.

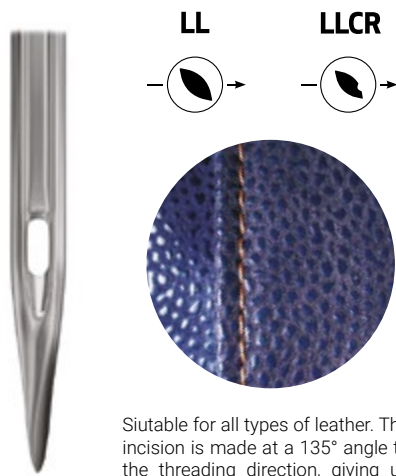
"PCL" and "PCR" with a groove for heavy fabrics.



Suitable for all types of leather, cuts in the direction of the seam, which gives us a very straight seam.



Suitable for all types of leather, the incisions lie at an angle of 45° to the seam direction and produce a seam where the sewing thread is turned slightly to the left on the surface of the material.



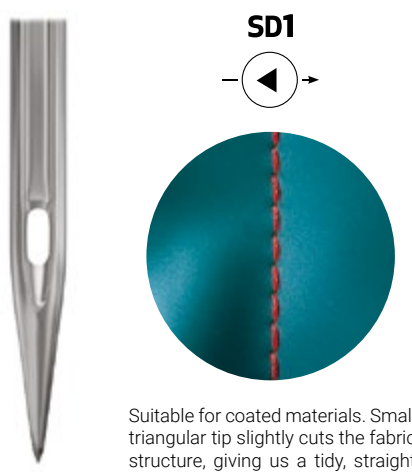
Suitable for all types of leather. The incision is made at a 135° angle to the threading direction, giving us a slightly recessed, straight stitch.



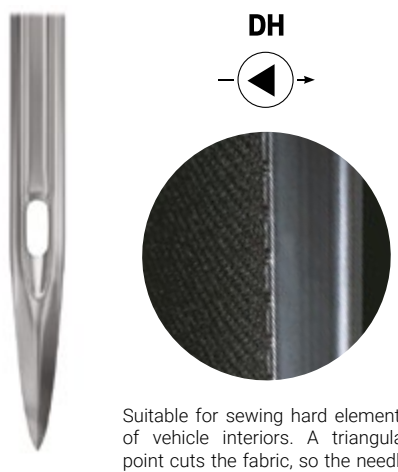
Suitable for heavy, dry, hard leather. The centered incision is made at right angle (90°) to the threading direction giving us a very straight, recessed seam.



Suitable for hard, dry leather. The incision is made at a 45° angle to the threading direction, giving us a seam inclined slightly towards the left.



Suitable for coated materials. Small triangular tip slightly cuts the fabric structure, giving us a tidy, straight seam.



Suitable for sewing hard elements of vehicle interiors. A triangular point cuts the fabric, so the needle can work properly with a hook.

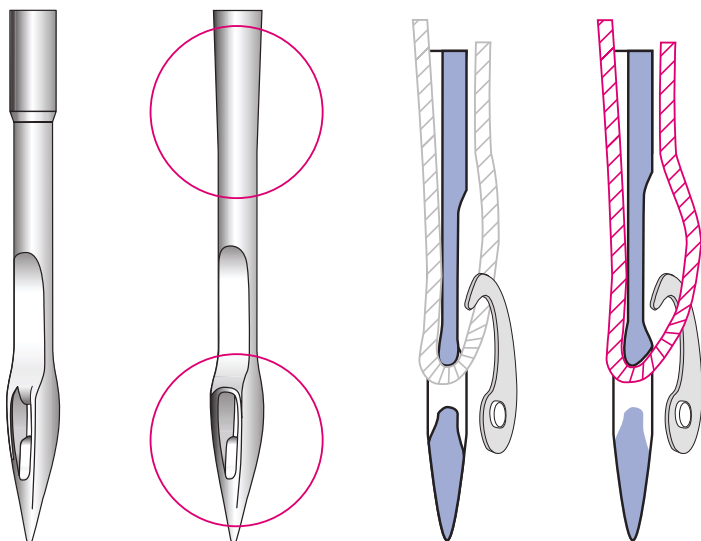


Suitable for hard, dry leather requiring large incision so the needle and the hook can work properly.

5. Needles of special geometry

SCHMETZ SERV 7

LARGER LOOP, INCREASED NEEDLE STABILITY AND RELIABLE SEAMS



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Features

The main distinguishing features of the SERV 7 design are the hump scarf that makes a particularly large loop of thread which can be more easily caught by the point of the hook as well as blade reinforcement, that ensures the extraordinarily high stability of the needle.

Application

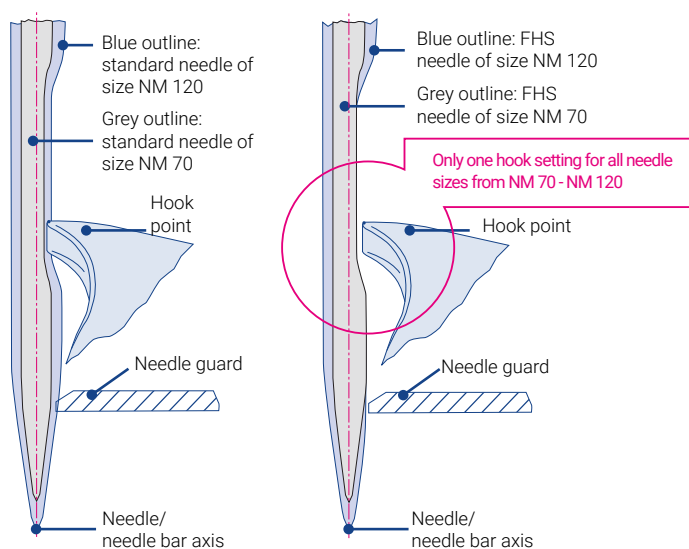
Highly elastic materials, sewing multiple layers of fabric in one operation, cross seams, use of elastic sewing threads.



SCHMETZ needles in the SERV 7 version are offered in the price of standard needles, no extra charge.

SCHMETZ FHS

PERFECT FOR SHOE PRODUCERS



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FHS

Features

Specific, patent-pending needle geometry. The distance between hook and bottom of the scarf is the same in all needle sizes from 70 to 120 NM.

- reduction of machine downtime, increased production
- operators work more efficient and autonomously in changing the needle
- better protection, less wear of the hook
- less damages caused by faulty hook adjustment
- better flexibility of the production process

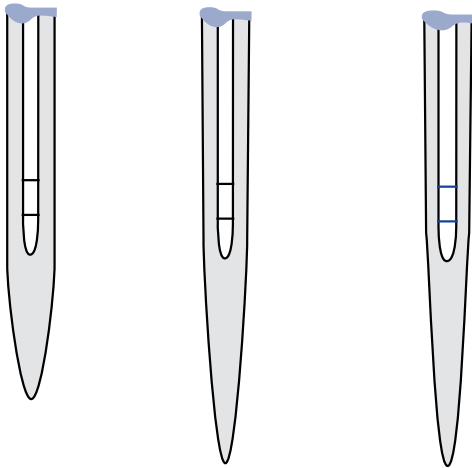
Application

For production of shoes and footwear.



SCHMETZ KN I SF

SLIM NEEDLE AGAINST KNITWEAR DAMAGE



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**SCHMETZ
KN**

**SCHMETZ
SF**

KN and SF needles are the best choice for delicate, very fine knitwear and materials prone to damage. They were made to reduce the fiber damage during sewing.

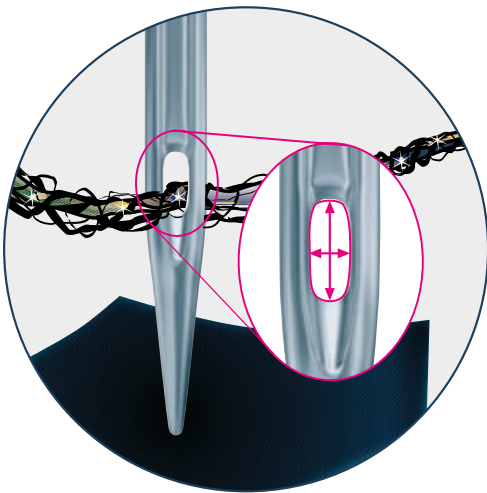
KN and SF needles have a slim, continuous cylindrical blade without any reinforcement.

Extra slim shape advantages:

- Smaller stitch holes than with standard needles
- Minimises knitwear damage due to the slim shape
- Reduced penetration force in comparison to standard needles

SCHMETZ DBXK5

BEST FOR EMBROIDERY



STANDARD

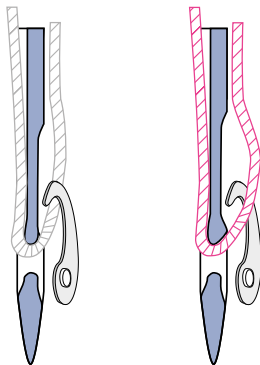
**SCHMETZ
DBXK5**

Features

SCHMETZ DBXK5 embroidery needles have all features of the SERV 7 version (greater stiffness, better needle cooperation with hook, less skipped stitches).

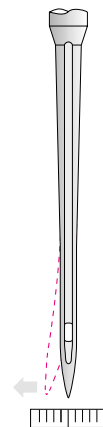
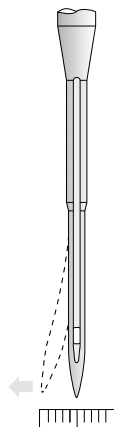
Also, they have enlarged eye, what allows to use thicker, decorative or metalized embroidery threads.

E.g. in a needle of size 70/10 the eye is of a needle size 90/14.



STANDARD

**SCHMETZ
DBXK5**



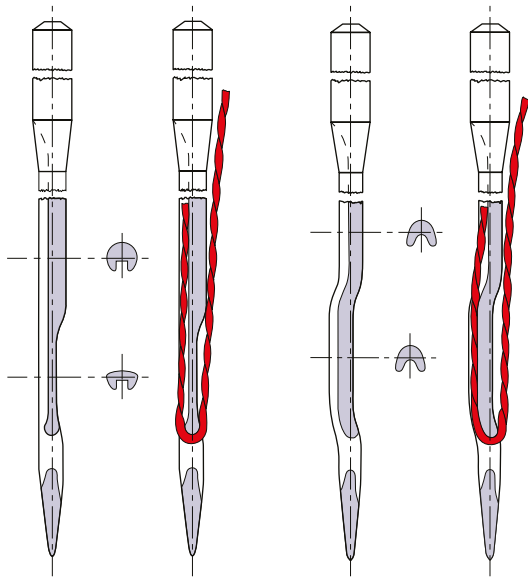
STANDARD

**SCHMETZ
DBXK5**

Application

Embroidery machine

- easy embroidery even with thicker threads
- less stitch skipping
- less needle fractures
- easier threading
- shorter downtime



STANDARD

SCHMETZ MR

Features

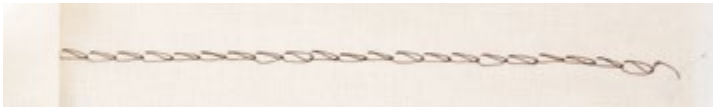
The needle has a round shank and a long and deep scarf. Special design of the scarf provides wide space for the hook to pick up the thread loop. It prevents skipping stitches even in a very difficult fabrics. The full depth of the long groove goes into the eye of the needle to protect the thread during quilting. It also prevents the thread from untwisting and results in a better stitch appearance. The needle has increased buckling strength. It has the same cross section in the blade and scarf area, which provides less needle breakage.

Application

Using SCHMETZ MR needles at high-speed multidirectional sewing machines reduces downtime caused by needle breakage or skipped stitch.

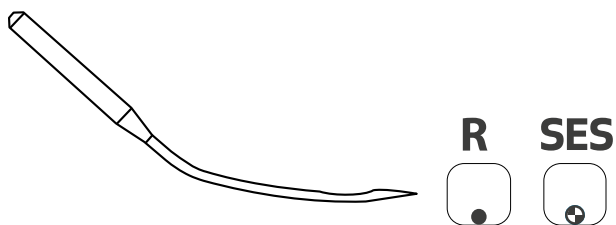
SCHMETZ CURVED NEEDLES

SCHMETZ SPECIALTY



Curved needles need to be exactly the same shape. For years, SCHMETZ has been an absolute leader in the production of top-quality needles for blind stitch machines and others in which curved needles are used.

The cross-section of the curved needle blade has a square shape, which increases needle stiffness and stitch repeatability. Blind stitch machine needles are offered with two versions of points: standard R and small SES ball.



SCHMETZ GO Design – the best for decorative sewing. The eye of GO needles is enlarged by 2 sizes in relation to the needle size, e.g. in a needle of size 70/10 the eye is of a needle size 90/14. Also the groove is enlarged what allows sewing with heavy sewing threads.

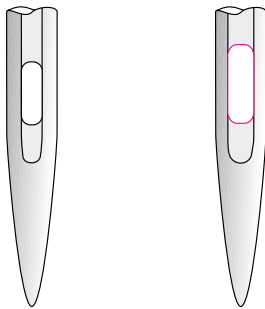
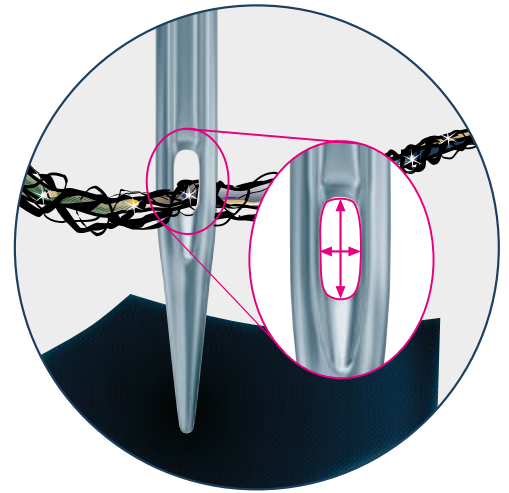
Advantages:

- thread guidance optimised by lowering friction, smooth passage of the sewing thread, especially with thick or special effects threads
- minimalisation of thread breakage and reduced machine downtime
- optimal conditions for avoiding skipped stitches
- higher stiffness minimises bending and needle breakage

Available with RRT and LR points.

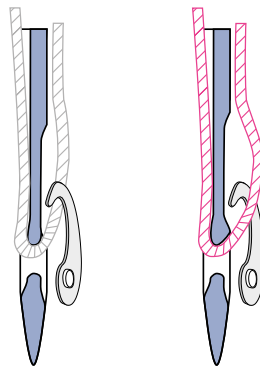
GO RRT - round point. Suitable for sewing clothes but also airbags, safety and cargo belts.

GO LR – cutting point makes the incisions at 45° angle to the seam direction and produce a seam where the sewing thread is turned slightly to the left. Suitable for all types of leather. Used for sewing upholstery, clothing, footwear, and leather goods.



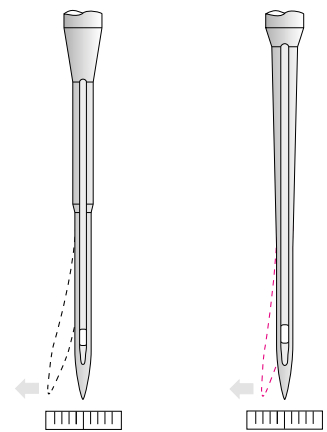
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