

Little ABC for the use of the (right) embroidery needle

Embroidery needles are distinguished according to point type and needle size. Three of the most important point types are the normal point, the medium ball point (SES) and the big ball point (SUK). Each point type is offered in different needle sizes. Furthermore there are special embroidery needles such as e.g. leather needles, titan needles, needles for metal yarn. On the whole, GUNOLD offers 28 different embroidery needles taking the different point types and needle sizes into account.

There is no doubt that using the right embroidery needle results in higher productivity and of course better embroidery quality. The appropriate embroidery needle (needle point/needle size) depends on the fabric to be embroidered, the embroidery yarn in use (material and count) and the embroidery design (stitch density).

Which thread requires which embroidery needle?		
Thread	Thread count	Needle size
SULKY (viscose) COTTY (cotton) POLY (polyester) METY (metal) FLUOR /GLOWY (polyester) SOLAR (polyester) GLITTER (polyester,polyamid) MONO (polyester)	30, 40 30 40 5/2, 7/2 40 40 40 40	DB x K5 75/11 SES Universal needle in general usable without any problems!!
SULKY (viscose) POLY (cotton) METY (metal)	40 40 7/2	For the embroidery on delicate fabrics DB x K5 60/8 SES
COTTY (cotton) FILAINE (wool)	12 12	For very thick yarns DB x K5 90/14 SES



The embroidery needle systems

The manufacturers of embroidery machines indicate which needle systems may be used. Frequently indicated systems are DB x K5, DB x 7ST as well as 287 WKH.

- DB x K5 is known as the standard needle for many of the popular, commercial embroidery machines and works well with most of the threads.
- DB x 7ST is similar to DB x K5 however has a bigger needle eye. It is longer and rectangular and especially appropriate for the use of metal threads.
- 287 WKH cannot be replaced by the "DB series"! This needle has got a longer blade, a bigger needle eye and a shorter furrow.

The embroidery needle system DB x K5 has especially proven itself. This needle system is well appropriate for all embroidery machines and perfectly works with most of the embroidery yarns, this system is considered as standard needle.

Advantage of the DB x K5 embroidery needle system by Organ

Organ is one of the most important manufacturers of embroidery needles. Since 1939 needles have been produced and their range includes among other things the DB x K5 embroidery needle system as their own development which is now successful all over the world. This system offers:

- lighter and softer thread feed due to the bigger needle eye as well as bigger groove diameter.
- prevention of skipped stitches due to an optimal furrow shape as well as the special design of the change-over from needle eye to furrow.
- higher bending resistance due to a thicker blade and thus less needle breaks, less skipped stitches, and reduced costs due to protection of the machine parts.
- In total, the eye, groove and furrow are designed in a way that processing is safe even with the use of special embroidery and effect yarns and thus better embroidery quality can be achieved.



Basic information on the needle point

In addition to the needle system, embroidery needles are also characterised according to their respective needle point. In general there are three categories: sharp point, ball point and cutting point.

- the sharp or normal point is preferably used for woven fabrics of high density (Denim, twill, towels, cord).
- the round or ball point (SES, SUK) is preferably used for knitwear, fleece, but also loosely woven wear and thin leather.

Sharp and/or normal points and ball points are available in different point sizes: light, medium, etc.!

- The cutting point is nearly exclusively used for leather or extremely tight, non-woven fabrics.

Short point - hints

1. When embroidering on coarse knitwear, the big ball point (SUK) is the best appropriate as it displaces the (coarse) embroidery material and does not damage it
2. Embroidery needles with medium ball point (SES) are a compromise and are not only appropriate for light but also heavy embroidery materials. Using the medium ball point is above all an economic decision too, if the materials to be embroidered often change.
3. The normal (sharp) point is appropriate for woven and more fine embroidery fabrics.

Basic information on the needle size

The needle size (also called needle count) is defined through the dimension of the long groove and the needle eye. That means that the bigger the needle is, the bigger is the needle eye. The most appropriate needle size depends on the thread count as well as on the thickness and stiffness of the fabric.



Determine the right needle count

Thread the embroidery yarn through the loose needle and make it slide back and forth - if the needle slides through its own weight without any problems, it will suit the thread size.

Even the needle count is indicated by a system. There is the metric (European) and the Singer (American) system. Usually both systems are indicated as for example 75/11 = Metric/Singer.

Table of sizes of the needle systems								
Metric	65	70	75	80	85	90	95	100
Singer	9	10	11	12	13	14	15	16

Metric (European) needle size = diameter of the body x100

Singer (American) needle size = according to allocated numbers

The rule of thumb concerning needle count

The thinner the yarn and the finer the basic fabric, the lower the needle count. As a result the same applies vice-versa, the thicker the yarn, the higher the needle count.

The Universal needle DB x K 5 75/11 SES ...

DB x K5 of needle count 75/11 and medium ball point (SES) is a universal needle as about 90% of the embroidery applications may be covered achieving good embroidery results. This embroidery needle has the diameter of a 70 needle and the eye size of an 80 needle. Due to the extended and especially polished eye it is possible to make a knot/pass the yarn when changing it and several thread counts can be used - such as 40, 30 and 20. However the exception proves the rule and therefore this all-round needle should not be used anytime and anywhere! (see table)

Which needle for which fabric		
Fabric/clothing	Needle size	Needle point
Linen/canvas	80/12	Normal point
Coated fabric	80/12	Normal point or medium ball point (SES)
Cord	75/11	Normal point or medium ball point (SES)
Linen	70/10 to 80/12	Normal point
Jeans	75/11	Normal point
Shirts (woven)	70/10 to 80/12	Normal point
Knitwear	70/10 to 80/12	Medium ball point (SES)
Lace	75/11	Normal point
Leather	80/12	Normal or cutting point
Underwear, silk	60/8 to 75/11	Normal point
Lycra, Spandex	70/10 to 80/12	Medium ball point (SES)
Nylon	70/10 to 80/12	Medium ball point (SES)
Organza	65/9	Normal point
Viscose (Rayon)	75/11	Normal point
Satin	75/11	Normal point
Pullover (knitted)	75/11	Big ball point (SUK)
Sweatshirts	70/10 to 80/12	Medium ball point (SES) or big ball point (SUK)
Taffeta	65/9	Normal point
Terrycloth	75/11	Normal point or big ball point (SUK)
Velvet	65/9	Medium ball point
Vinyl	75/11	Normal point