

Basic Advises in order to produce Quality Embroidery

1. Optical effect

The **puncher**, he transforms the first idea into an embroidery design and produces the data carrier to run the embroidery machine, is very much responsible for a good stitch formation. The criteria is to choose the correct stitch density due to produce best coverage on the fabric. If the density is too low (saves stitches, time and money) the fabric might gleam through the embroidered area. If stitches are build too dense, this could cause multiple thread breaks. The **stitch lengths** as well need to be considered, because short, small stitches (< 1mm) might cause thread breaks or looping, whereas extreme long stitches (> 1 cm) could be damaged, when the embroidery work gets washed or worn.

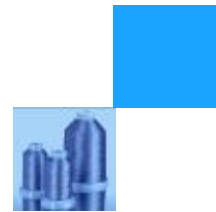
Basically it also must be decided whether a **shiny** embroidery design (Rayon or Polyester machine embroidery thread) or a **dull** embroidery design (Cotton or Polyester sewing thread) is desired. In the matter of sheen more and more 100% Polyester tri-lobal threads gain acceptance besides traditional Rayon / Viscose embroidery threads, and this not least because of its obviously better washing and care resistance. Today our new and innovative product ISALON out-places Rayon / Viscose by no means, because of its silky sheen and extremely soft feel. Together with our all-purpose and strong ISACORD brand we are able to offer a complete and up-to-date assortment, which perfectly supports you in producing any type of embroidery work.

In regard to **ticket numbers** a No.40 (originally a cotton count) is standard within the embroidery thread count and equals a ticket No.120 in sewing thread reading. A bit thicker will perform a No.30 for embroidery, respectively a count 75 / 80 of the sewing thread list.

For exact and consistent **accuracy in colour**, from the original design to the manufactured pieces, the operator always should make sure that he runs one same dye-lot of thread (perceivable by dye-lot number on the label) within one production batch, especially when spools need to be changed before the actual design is completed. When proceeding in such a way, then those small colour deviations, which technically can't be eliminated while batch production, but strictly kept within limited tolerances, actually should not appear to causing major problems.

The single design should be placed and embroidered even and unwrinkled on a piece of fabric or a single garment. This means, before starting the embroidery process the pre-cut material or piece garment needs to be well clamped to the border frame or to a single hoop. Also the **thread tension** must be set correctly. The under-thread should not be seen at all on the front side. When controlling the reverse side thread draw-in should show a well-balanced pattern. The embroidery itself should appear on the fabric slightly raised. For this, usually a **fleece** backing is used, which prevents the embroidery from sinking into the fabric material. When embroidery is done on terry fabrics or velvet, it is recommended to use a water-resolvable or a hot-resolvable **foil**. This keeps the thread from disappearing between the loops. In this context also **shrinkage rate in boiling water** should be considered,





especially when doing large areas. With a rate of 0,5% for ISALON / ISACORD and < 2% for Cotton thread, our products rank in a no-problem zone.

When doing embroidery on leather material a special **embroidery needle** should be used, one that usually has an enlarged needle eye (for example: System DBxK5). Thus, a smooth thread run thru the needle eye is guaranteed, even when using needles of low cross-section (e.g. Nm 70 or Nm 75). This needle maintains the advantage of penetrating the material by only small stitch holes. Basically such type of needle is recommended for all embroideries. Thick needles especially in combination with high stitch-density might more or less perforate leather, synthetic materials or low-weight fabrics.

2. Technical information about embroidery threads

The kind of embroidery thread, which will be used, mainly depend on style and type of the clothing and garment itself, which gets embroidered.

An important factor, **color fastness** of the thread should duly be controlled. A first judgment can be received by looking at the DIN/ISO measurements in respect to the characteristics listed below :

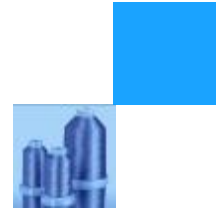
color fastness to artificial daylight (scale 1-8),
color fastness to perspiration (1-5),
color fastness to washing at 95°C (1-5),
color fastness to organic solvents (1-5),
heavy color fastness to water (1-5),
color fastness to dry rubbing (1-5) and
color fastness to bleaching with hypochlorite (1-5).

The scales generally can be understood as: The higher the number in (), the better the color fastness. On our product test reports and data sheets you will not find just average values, but guaranteed minimum rates of color fastness. This means, the indicated mark is achieved by each color, although many of them maintain a higher ranking.

It is also worthy of attention that Rayon / Viscose threads very seldom are **colorfast to chlorine**. This is another reason, why Polyester thread is highly recommended for jeans wear (stone washed process etc.), kitchen towels and chef jackets (stain treatment), and work wear. Also when decorating high durable products like shoes, ski clothing, outdoor jackets, seat covers etc. a superior Polyester make should be used, because of its inherent **fastness to abrasion**. A rayon thread reacts sensitive instead and this especially in wet conditions; such kind of material has the tendency of swelling extremely. That is why drying of embroidered garments in a dryer is not advisable (see our washing & care instructions).

In general, thread makes should be chosen, which are manufactured of high quality raw materials, because only they ensure a long-term consistent performance. With an ISO 9001 certified Quality Management we in addition guarantee a continuously high quality standard on product and service.





3. Environmental aspects

The kind of thread used should not contain any of environment damaging or health dangerous components. It could be still a problem with products imported from Asian countries. Our products clearly correspond with **Ökotex Standard 100 and 115** (accepted for baby clothing).

In this respect our dyeing facilities in Augsburg, one of the most modern ones in Europe, have been specially built in accordance to latest and up-dated ecological standards.

