

AMANN
GROUP



**SEWING AND
EMBROIDERING**

FOCUS SEWING AND EMBROIDERING

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SUPPORT

3.8 Ornamental seams – unrestricted creativity in design?

Ornamental seams are eye-catchers. They emphasize and point things out. They shape and give textiles a distinctive look. Whether sporty or fancy, decent or playful, they always emphasize a product's character.

In addition to being just decorative, ornamental seams often have a holding or fixing function. One does not exclude the other. On the contrary, most ornamental seams are topstitching and have an ornamenting and holding function, at the same time. Shirts, blouses, trousers, skirts, upholstery, suitcases and shoes – there are not very many things that can do without topstitching. They offer a great variety of individual design options, even if one doesn't consider their decorative characteristic.

Ornaments need quality for the right effect, and this is also important for a long and satisfactory use. Therefore, the materials and production requirements for ornamental seams must be chosen with care. To realise the wishes of designers it is important to have competent technical support, if you want a product of good quality.

In this chapter, we would like to introduce various design options for ornamental seams and give some valuable advice for their realisation. Maybe reading this chapter should be a must for everybody at the beginning of each season. These helpful suggestions, especially the many pictures, won't hurt. We at AMANN would be pleased.

Ornamental seams – design elements

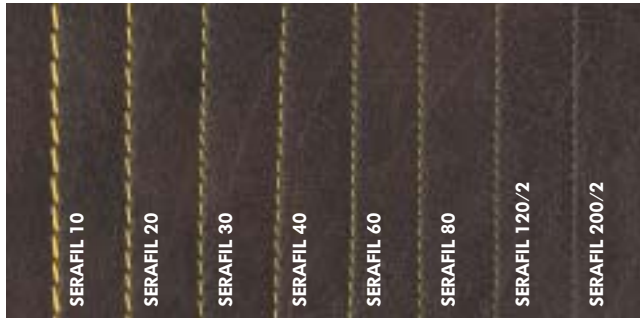
By varying the sewing thread, the stitch type, or the stitch length, the look of an ornamental seam can be changed without restriction. If you want to make use of this great variety, you should know all the design options. Which sewing threads are available and suitable?

Which stitch types make the look you want? Which is the right stitch density for the chosen stitch type and sewing thread? Many questions to answer before you can start designing. The number of different design options for the different sewing threads alone is impressive. Combined with the different stitch types and stitch lengths, there are virtually no limits.

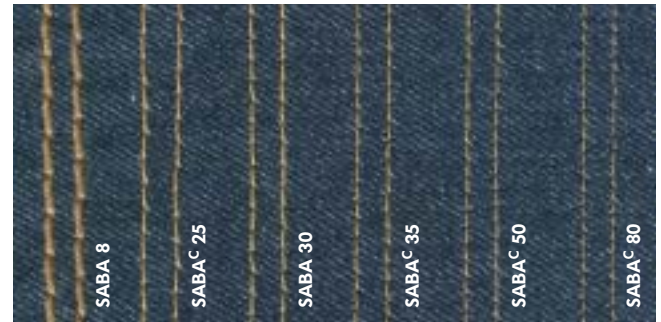
Thread strength

AMANN's product range is extremely wide. It ranges from the coarse ticket numbers 5, 8, or 10 to the well-known fine sizes. The fine grading of the strengths allows fine nuances in a seam's look.

Basically, it is necessary to choose the thread strength that is right for the material and the required ornamental effect. Fleecy materials will of course need a coarser thread to bring out the ornamental seam. Smooth and glossy fabrics with a short fibre pile or even leather display very vivid seams, which bring out the threads' counts perfectly.



SERAFIL – Ticket numbers (Extract)



SABA – Ticket numbers (Extract)

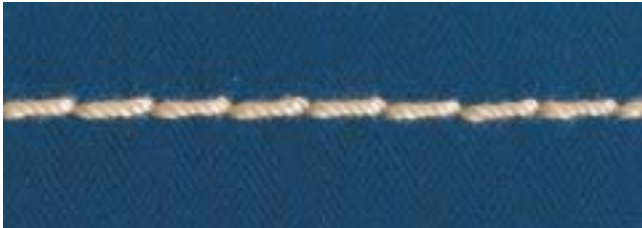


RASANT – Ticket numbers (Extract)

There are no specific suggestions for choosing thread strength. Do as you like – as long as it can be realised. In exceptional cases there are limitations, when for instance coarse threads are to be used for fine materials or if the machines for sewing coarse threads are not available at a production site. Fabric damage, displacement puckering, or sewing problems can then be the result. The sewing recommendations on page 161 will help to find out where the limits are.

Sewing thread construction

Sewing thread construction is decisive for the characteristics of a sewing thread and thus for the characteristics of a seam. The sewing thread types for ornamental seams can be classified in 4 distinctive character categories. A direct comparison shows their different effects best:



Polyester fibre thread – SABA 8

Corespun threads such as SABA^C and RASANT and fibre threads such as SABA and MERCIFIL have a textile and smooth look due to their fibre pile. They are a perfect match for textile materials, for example for typical jeans, shirt, coat, or jacket materials. Today's popular worn look can only be realised with these fibre types.

Multifilament threads such as SERAFIL and STRONGFIL/ONYX have a technical and clean, with finer ticket numbers even delicate, look due to their smooth and glossy surface. They make for an elegant look of the seam and highlight well the characteristics of technical textiles and all products made of leather or artificial leather. This is a common sewing thread type in the footwear industry or for upholstery.



Polyester multifilament thread – SERAFIL 10

The embroidery threads ISALON and ISACORD, multifilament threads as well, feature a great colour brilliance and are therefore well-suited for ornamental seams too, for example for fine leather or fabrics.

Wrapped yarns such as ISAMET and META are typical constructions for metallic threads. Their surface is a wrapped metal foil. This construction makes for the required metallic, shiny, and polished thread character.



Effect thread of wrapped yarn – META 30



Polyester braided thread – SERABRAID

Braided threads are seen more and more often in ornamental seams giving them a high-quality look. No matter if sewn with a machine or manually, the footwear industry, the upholster industry, and producers of leather bags or leather-covered steering wheels don't want to do without them anymore. A distinctive look, a voluminous touch, a first class design element – this is what our braided SERABRAID brand thread collection stands for.



By the way: ISAMET is an embroidery thread that is especially suited for high-quality emblem and uniform embroideries, and for ornamental seams on fine fabrics. The META 30 thread is often used for topstitching seams for a special ornamental effect. However, ISAMET's and META's special construction requires special attention. To prevent the unwrapping of the foil during sewing, and resulting thread break, one must adhere to special sewing requirements. An overview of the most important sewing recommendations can be ordered at nt@amann.com.

The plying of sewing thread also influences the look of coarse ornamental seams. 3-ply sewing threads have an almost circular cross-section and are therefore seated solidly on the material. They are preferred over 2-ply sewing threads, which often look a bit like straps in the coarse ticket numbers. The most commonly used coarse ornamental seam threads in the AMANN range are therefore 3-ply threads. For the medium and finer ticket numbers the plying is irrelevant because the described differences do not show there.

Colour

One can choose colour-coordinated or contrasting colours. Especially when working colour coordinated it is important to perfectly match the sewing thread to the material. AMANN offers a wide range of colours here for the different fields of application. For example, the SABA^C colour card covers 475 colours, which should leave no colour desire unfulfilled. A special product manager responsible for the colours keeps an eye on the fashion trends and adapts the colour cards accordingly.



SABA^C colour card 555: 475 standard colours

The SABA^C multicolour threads offer special plays of colour, or the metallic thread META 30. Here pictures say more than a thousand words. Let yourself be inspired:



Stitch type

The range of different stitch types for the production of ornamental seams is wide. But in practice, only a small variety is used. Often the manufacturers don't have the special machines needed for the production of rare stitch types, and it's often not worth buying them – fashion trends change too often and too quickly, often from one season to the next, and the quantities to be produced are often not large enough.

This is why producers mostly stick with the same small range of stitch types, which can be realised by many production companies without any problem. Without a doubt, the most important stitch for ornamental seams is the lockstitch in its different versions.

Lockstitch (Stitch type 301, 304, 308, etc.)

Lockstitch ornamental seams (stitch type 301) are often realised as single seams – but often as double or multiple seams too. Varying the distance between the individual seams in an additional design element. The fact that the lockstitch looks the same on both sides of the material is a special feature, if it is supposed to show on both sides of a piece of garment, and this is also what distinguishes it from the other stitch types. For lock stitching all around a garment, the lockstitch should be chosen, because there is no need to stop when going from the front edges to the reverse. For this ornamental lockstitch seam, the needle and bobbin threads must be the same. For distinctive ornamental seams, which can be seen on the top side of a model only, one often uses combinations of different sewing threads. Then, the ornamental seam often is a coarser thread, partly in a contrasting colour, while the underthread is a standard thread used for this model. All that matters here is to see that the needle and the under-thread are about the same strength. For good stitch-forming characteristics when sewing coarse ornamental threads, the under-thread must not be too fine.

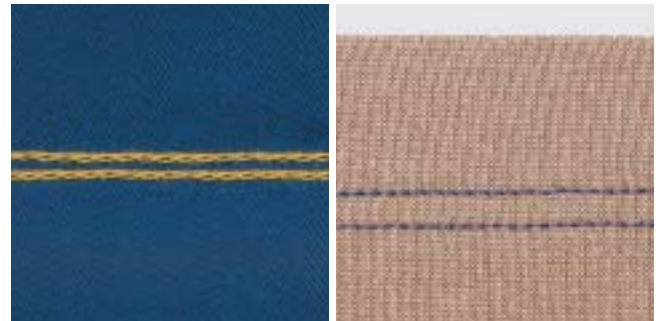


Effective ornamental seams can also be achieved with variations of the straight stitch

Double chainstitch (Stitch type 401, 404, 406, etc.)

Topstitching seen on the topside of the material only is often sewn with 1-needle or 2-needle double chainstitching machines. In jeans production, for example, topstitching is often done with double chainstitching. Compared to the lockstitch, the double chainstitch offers a higher profitability due to higher sewing speeds and because the under-thread needs no changing.

In exceptional cases only the underside, that means the bobbin thread chain, is purposefully applied for decoration. In this regard, sewing machines with a close seam distance bring out an interesting seam pattern. The very close seams look like a single, very broad decorative seam. Another variation of this sewing method can be realised with the balloon stitch – a special double chainstitch. In a balloon stitch seam, the loops are set on the underside of the material, looking like little rings.



Balloon stitch as ornamental seam

Two-needle covering chainstitch



By the way: Make your jeans different: While all jeans producers use corespun threads or spun sewing threads for their topstitching, thus emphasising the typical jeans look and a fashionable worn look, one producer has been successful with a new concept, which made it quite popular. Topstitching seams on jeans, made with SERAFIL 15 – an unusual, but successful concept. In the meantime, this distinctive SERAFIL topstitching is the mark of this jeans producer.

Single-thread lockstitch (Stitch type 209)

The single-thread lockstitch, also known as hand stitching, is used for sewing along edges. This method for sewing edges was the fashion in the past season. Initially in men's fashion and later in women's wear, many models have featured this decorative seam. The sewing along the edges originates from the custom tailoring industry, and used to be done by hand. Characteristic for this seam are hardly visible stitches. There are no connections between the stitches as they are known from the loop formation in a lockstitch. This edging stitch that imitates sewing by hand is done by special machines in industrial sewing. The AMF machine is a popular machine for this stitch, which is why this edging seam is often called the AMF seam in

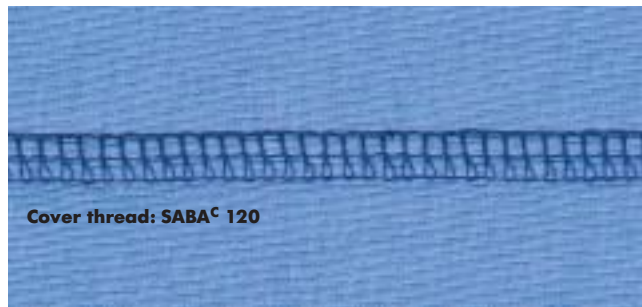


Edging stitch imitating a manual stitch ("AMF seam")

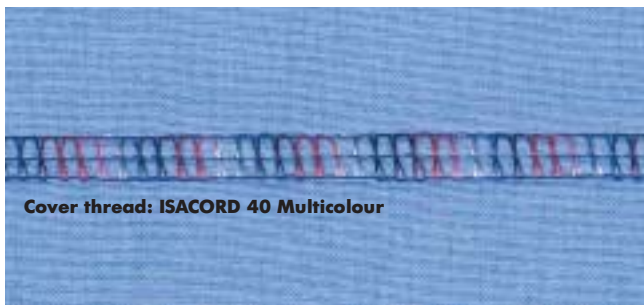
practice. This special machine requires the use of special threads cut to length. Easier or simpler is the sewing with machines of the makes Conti Complett or Juki. On these machines it is possible to use classic sewing threads such as corespun threads. In practice, the thread SABA^C 80 is often used. This edging stitch imitating hand stitching is considered an indicator for high quality outerwear.

Flat seam chain stitch (Stitch type 602, 603, 605, etc.)

Flat-seam chain stitches are classic stitches for joining seams on underwear, sportswear, and stretch outerwear. The advantage here is the flat seams that don't leave any marks. Besides their holding function, cover seams often have a decorative function as well. The cross-directional cover threads make a broad seam line, which offers many design options through a sensible sewing thread use. And in this connection, the selection of the cover thread is decisive for the look of the seam (see pictures below) In addition, the stitch density has great influence on the look of a seam. A high stitch density results in an intense cover effect and a broad and distinctive seam line, which catches the eye especially if sewn in a contrasting colour sewing thread.



Cover thread: SABA^C 120



T-Stitch

The T-stitch for edges on outerwear has made its fashion comeback time and time again. The use of coarse sewing thread is a typical characteristic. A handmade look of the seam is intended. Many designers would therefore be happy if they could apply coarse woollen threads. However, we recommend not doing so in favour of the best possible seam quality. Wool and its characteristic open yarn structure would not be able to cope with the abrasion stress, to which the edges are exposed. From the AMANN product range, SABA 8 is the ideal thread for decorating edges with the T-stitch.



Stitch density/Stitch length

The stitch length must be adapted to the material and the sewing thread. There are no specific suggestions or requirements. After all, the intended decorative effect determines its length. A simple rule of thumb is:

the coarser the sewing thread, the greater the stitch length.

Depending on the model, the stitch lengths may vary from 1.5 mm to 10 mm. For high-quality shirts, for example, one usually uses extremely short stitch lengths for topstitching. Ornamental seams on upholstery however are sewn with stitch lengths of up to 10 mm when extremely coarse threads are used. Experience has taught us that coarse ornamental seams need long stitch lengths.

When stitch types with cross-directional cover threads are used, the stitch length is decisive for the degree of coverage, and thus for the look of the seam. To achieve good coverage – as is often required for swimwear, for example – the stitch length must be very short.

Good quality for ornamental seams

Ornamental seams must demonstrate good quality. Decorations must not show any sign of bad quality. The decorating characteristic is lost, if its quality is poor; poor quality here will turn into an obvious defect and often results in complaints. There are many examples. Bleeding contrast stitching, unintended pucker, or worn ornamental seams are well-known in the complaint statistics. Most deficiencies are caused by inappropriate sewing threads or their improper use. Here are some golden rules for prevention:

- Use only quality sewing threads characterized with reliable performance. We recommend obtaining information on the sewing threads' characteristics by ordering product data sheets in time.
- Sewability tests prior to production (see chapter 3.5) must include ornamental seams. Match sewing thread and material at this point of time and determine the suitable production parameters. This is the only way to recognise and prevent problems early enough. Real-life conditions – especially when it comes to the machinery and equipment – are of extreme importance.
- The stress on the ornamental seams under use afterwards must be considered in early stages of production – that is when selecting the sewing threads. Ornamental seams are often heavily exposed to intense scouring because of their positioning. For seams exposed to extreme stress we recommend consulting AMANN. This also applies for parts that undergo industrial washing processes to achieve the popular worn look. Industrial washing processes – just think of the stone washing process or of intense enzyme treatments for abrading the fabric surface – can heavily impair the look of ornamental seams. Threadbare seams and colour changes are seen quite often here.

- Be careful when using contrasting colours, especially intense colour tones on white backgrounds. Not all sewing threads are suitable for this. We recommend consulting with AMANN Technical Sewing Service. And, it is absolutely essential to do washing tests ahead of time. The care labels and instructions must consider the contrasting seams.

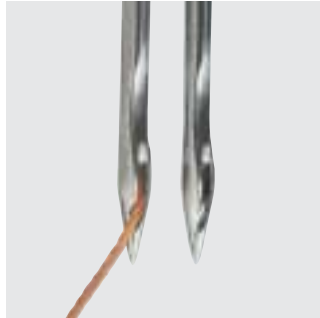
Sewing recommendations

Only perfect workmanship guarantees perfect visual aspects, which is so important for ornamental seams. Defects in workmanship, for example an improper thread balance of needle and bobbin thread, are unacceptable for ornamental seams. And the production of ornamental seams is often very challenging for the engineers: Ornamental seams often require deviating from well-known production standards, especially when unusually fine sewing threads or previously unheard of stitch types and special machines are to be used. In that case, the only solution is to test and test and test. However, there are some general sewing recommendations for the production of ornamental seams that may be helpful:

- When using lockstitches, make sure to regularly check the thread tension to ensure the correct thread balance. This is the only way to achieve a neat seam pattern on both sides of the material – this is important for many types of topstitching on edges seen on both sides, for example on the reverse of a blazer. Exceptions here are shoe production and sometimes also for leather processing. In this case, the looping of the needle and bobbin threads is often drawn to the left side slightly more to improve the seam pattern on the right side. The stitching holes, especially when using cutting needles for leather, do not close about the sewing thread, and thus if processed as usual, there is the risk that the looping can be seen from above.

- Thread tensions must be as low as possible to prevent tension puckering and thus a rippled seam pattern. At the same time, low thread tension improves the sewability. Regular checks of the thread tension in production are therefore absolutely essential.

- Needle size, sewing thread strength, and sewing equipment must be perfectly synchronized with each other in order not to impair the look of a thread. You will find a table of recommended needle sizes in Focus 1, page 123.



Needle with right-tapering point groove
Source: Groz-Beckert KG

- For topstitching with the two-needle lockstitch we recommend using a needle with right-tapering point groove "CR" for the left needle position. This prevents an unravelling of the plied thread and the resulting change of its look.
- For sewing distinctive ornamental seams it is often an advantage to use a coarse decorative thread as the under-thread. Through this sewing on the left side it is possible to use finer needle threads and thus smaller needle sizes – a benefit for many fine fabrics and for knitware, which are prone to fabric or stitch damage with bigger needle sizes.