

Minimizing Seam Puckering on Stretch Woven Fabrics

Excessive seam puckering is common when sewing stretch-woven blouses, tops, or dresses made with Lycra™ or Spandex™ fibers. Typically, this is not a thread issue unless stitch cracking is occurring. In that case, refer to our technical bulletin, “*Sewing Stretch-Knit Fabrics.*”

Many times, the puckering in stretch-wovens is a result of trying to sew these fabrics using the same seam construction and on the same sewing machines that are used for non-stretch woven fabrics. Standard woven fabrics usually do not have much stretch in the warp or weft seam directions and have only marginal seam stretch in the bias direction. On the other hand, stretch-woven fabrics, have much more stretch in the warp and weft seam directions and a significant amount of stretch in the bias direction. Due to this physical difference in the stretch fabrics, seam puckering is much more of a problem on stretch-woven garments, particularly on seams that run on the bias.

Examples would be on Sleeve Set, Close Sleeve & Side, or Dart Front Panel operations. Also, the more complex the seam construction, the more pronounced the puckering will be. If the sleeve is attached with only a safety stitch (ISO-516) stitch and seam construction, there will be some signs of seam pucker in the bias but far less than more complex seam designs.

If the sleeve is set with a safety stitch (ISO-516) and then restitched with a single needle stitch (ISO-301) for the second operation, the puckering will be much more pronounced.



Blouse Drawing



Simplified Seam Construction



Stitched & Topstitched Construction

If a Felled or French-Felled seam construction is used for Side Seaming, using two rows of chainstitch (ISO-401), the seam puckering will be very pronounced.



**Complex Seam Constructions –
Felled Sideseam**



Close-up of Felled Seam Construction



Safetystitch Seam (Recommended)



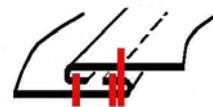
Stitch & Topstitched Seam



Felled Seam



French Felled Seam



Sleeve Set

Suggestions

Factories that are familiar with sewing non-stretch fabrics who are now sewing stretch-woven fabrics must change their paradigm about how to sew pucker-free seams. Many designers have realized that they must look at sewing stretch-wovens with the same thought process used in sewing knits. Below are comments and suggestions that we have found will help to minimize your seam puckering on stretch-woven garments.

- **Use sewing machines with differential feed.** All machines designed for knits are equipped with differential feed where the sewing machine has two feed dogs that are independently adjusted. In most cases, the front feed is adjusted to feed in more fabric than the back feed is feeding out of the sewing machine. This gathering action helps put the fabric back to its original non-stretched or pucker-free state.

On the other hand, most sewing machines designed for wovens are plain feed machines having only one feed. An exception to this would be safetystitch and overedge machines that many times have differential feed but the differential is adjusted for non-stretch woven fabrics instead of for stretch woven fabrics.

Therefore, if possible, sew stretch wovens with sewing machines equipped with differential feed.

- **Simplify the seam construction.** As mentioned earlier, simplify your seam construction particularly on seams that are sewn on the bias. If you must stitch and re-stitch seams, then use a sewing machine with differential feed on the first operation and make sure the differential feed is adjusted properly for the fabric. When single needle topstitching the previously sewn seam, use minimum presser foot pressure and observe sewing operator handling to make sure they are guiding the fabric into the machine and not stretching the seam as it is being sewn.
- **Have the fabric checked for excessive shrinkage.** Sometimes stretch-woven fabrics can have a higher shrinkage than regular non-stretch fabrics and this shrinkage can greatly contribute to excessive seam puckering. Most of the puckering will appear when the garment is run through the finishing processes in the factory, or can appear after the garment is home laundered.

For other causes of seam puckering and how to resolve these see our “*Minimizing Seam Puckering*” bulletin.