

PRECISION NEEDLES FOR SMOOTH, COMFORTABLE INNERWEAR

Beissel Sewing Machine Needles

1. The Innerwear Production Checklist

Ladies' Innerwear is characterized by its use of "high-value" materials such as lace, tulle, silk, and fine knitted fabrics. Because these items are worn against the skin, the technical parameters must prioritize softness and elasticity.

1.1 Thread Selection

For innerwear, threads must offer a silky lustre and sufficient elasticity to match the stretch of the fabric.

- **Material:** Predominantly polyester filaments or slightly twisted viscose threads are used for their high-quality appearance and durability.
- **Refined Options:** Mercerized cotton threads are selected for very high-value cotton and linen pieces.
- **Balance:** The thread size must exactly match the needle eye to ensure a smooth glide and prevent fraying.

1.2 Machine and Throat Plate Selection

- **Machine Type:** Most Innerwear components are produced using specialized multi-needle machines or lockstitch machines.
- **Throat Plate (Needle Plate):** Selection is critical. The opening must be small enough to support thin fabrics and prevent them from being "flagged" or pulled into the machine, yet large enough for the needle and thread to pass without obstruction.
- **Maintenance:** Damaged needle plates or cloth pressers are a leading cause of mesh damage in knits and should be checked or replaced regularly.

2. Stitch Parameters and Quality

Precision in stitching ensures that the garment remains durable while maintaining a luxurious feel.

2.1 Stitch Type and Density

- **Standard Stitch:** The Double Lockstitch (Stitch Type 301) is the industry standard for secure, decorative seams in innerwear.
- **Density:** While Schiffli-style lace varies by pattern, standard innerwear seaming typically requires a high stitch density (stitches per cm) to ensure the seam remains flat and secure on elastic materials.
- **Tension:** Thread tension should be adjusted to the lowest possible setting to avoid puckering or distortion of delicate tulle and lace.

Invisible Tip Damage — A Hidden Cause of Sewing Problems

Over time, every sewing needle develops microscopic damage at the tip. This damage is not visible to the naked eye and can be detected only under magnification (around 10×). It can occur due to incorrect machine settings, improper handling, contact with machine parts, or other external factors during normal use.



Once this invisible damage develops, the needle may still look “fine,” but it can cause thread breakage, fabric damage, skipped stitches, and accelerated wear of machine components.

Continuing to use such a needle until it breaks is costly and disruptive. Replacing the needle once it has crossed its useful life is far more economical than running it to failure. Timely needle changes protect the garment, the thread, the machine — and overall productivity.

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3. Technical Selection Guide for Innerwear

Component	Recommendation	Why it Matters
Needle Size	NM 70 – 110 (depending on fabric)	Prevents oversized holes in sheer materials. +1
Point Style	SUK (Medium Ball Point)	Pushes fibers aside to avoid mesh damage in knits and tulle.
Point Style	TP (Heavy Ball Point)	Ideal for lace; moves between fibers without snagging. +1
Speed	100 to 700 stitches/min	Lower speeds are often necessary for complex lace or high-friction threads.

4. The Beissel Advantage: Why the “Beissel Way” Wins

4 Simple Checks That Cut Needle Breakage and Boost Production

1 Check throat plates of all your sewing machines. They carry tell tale signs of needles having hit the throat plate.




Result

- Needle breakage.
- Thread breakages when it continuously brushes against rough edges.
- Frequent down time.

Corrective Action

- Select throat plate according to size of needle.
- Change damaged throat plates.

2 Most needle breakages happen when, due to incorrect machine setting, needle hits the hook point.




Result

- Needle breakages.
- Rough edges cause thread breakages.
- If the hook point is ground to smoothen rough edges, machine setting becomes challenging. Too close, and hook point hits the needle and just a bit away from needle, results in skipped stitches.

Corrective Action

- Frequent needle breakage in any single machine is a certain pointer to incorrect setting.
- Weekly check of hook point condition.
- Change damaged shuttle hook.

3 If Bobbin is wound manually, the side walls will go out of shape. Then it will be directly in the path of needle and will cause it to break.





Result

- Needle will break in an instant.
- Needle will become blunt and begin to cause bigger holes in garments.

Corrective Action

- Always wind the bobbin with the automatic device which spreads the thread evenly.
- Change bobbin if out of shape. After all, it is a low-cost item.

4 1-2-3 of needle breakage



If needle breaks in blade, it is certainly due to garment being pulled. The needle will break only in blade due to "Bending stress".



If needle breaks in the CAE, examine the tip. If it is damaged, it has most certainly hit a machine part – throat plate, shuttle hook or bobbin.

At Beissel, we combine German heritage with modern precision to create needles that handle the most delicate Innerwear fabrics with ease.

- At Beissel, we combine German heritage with modern precision to create needles that handle the toughest denim with ease.
- **Advanced Engineering:** Our unique curved CAE design ensures a long life, while the Reinforced Blade prevents needle vibration and deflection during heavy-duty sewing.

- **Milled Groove:** Our precision-milled groove protects the thread during high-speed operations, unlike some designs that can damage thread.
- **Hard Chrome Plating:** Our high-quality hard chrome plating provides rugged piercing power without the need for synthetic coatings.
- **Global Quality:** We are the only brand offering a full range of Industrial and Home needles, manufactured using German Technology. We conform to German DIN standards, carry the ISO 9002 mark, and comply with all BIS and Legal Metrology standards.
- **Made in India:** Proudly manufactured in a state-of-the-art plant in Southern India.
- **Business Ready:** We offer transparent and stable pricing, expert sewing advice, and GST-compliant invoices.

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