

SEW CLASSIC KNITWEAR

YOUR GUIDE TO CRAFTING
COMFORTABLE GARMENTS



Beissel Guide to Elegant Knits

1. The Fashion of Knits: Effortless Cool and Elegant Attitude Knitwear is all about that "cool" factor. A well-crafted hooded top can instantly transform a look, while a classic polo t-shirt makes "chilling out" look professional and corporate. Whether it is a funky jersey adding a dash of color or a trendy tank top packed with attitude, the magic happens because of craftsmen who weave trends out of threads. At Beissel, we specialize in helping these craftsmen make "hot look hip" by providing the finest needles for every knit application.

2. Why Knits are Different: The Science of the Loop Unlike woven fabrics, knitted materials are fundamentally a combination of loops in a row. This structure provides essential elasticity, but it also makes the material sensitive to sewing damage.

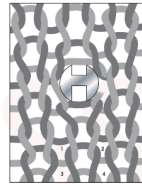
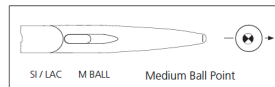
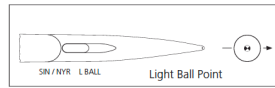
- **Loop Integrity:** A fabric's sewability depends on the yarn type, loop density, regularity, and the overall finish of the loops.

- **The Mesh Danger:** Because the material is elastic, the meshes can easily be destroyed if a needle hits and pierces the inter-looping instead of sliding past it.

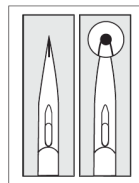
3. Choosing Your Tools: The Beissel Needle and Point Guide In the world of knits, the needle point is everything. Using a normal round point is risky because it often hits and pierces the yarn , causing mesh destruction. Instead, we recommend ballpoint needles that gently push the yarn aside during penetration. Thinner, finer needles are best suited for knits; ideally, needles should not exceed size **Nm 90**.

Knit Category	Recommended Needle Size (NM)	Recommended Point Style
Fine Knits	60	Medium Ball Point (SUK)
Medium Knits	65 - 75	Light Ball Point (SES/SIN)
Coarse Knits	75 - 90	Medium Ball Point (SUK)
Very Coarse	75 - 90	Heavy Ball Point (SKF)
Elastic (Lycra/Elastan)	65 - 90	Heavy Ball Point (SKF) or Special Ball (SKL)

NEEDLE POINT SELECTION



Normal round point cuts the yarn



The diameter of the Ball Point needle tip is 15% of the diameter of the thickness of the needle

HOW TO AVOID MESH LOOP DESTRUCTION

To prevent the destruction of mesh fibres, the following requirements should be observed.	×	✓
use sewing machine needles with ball point		
do not use damaged needles		
use the smallest possible needle size		
throat plate, presser foot, feed dog must be burr free		
knit fabric should be used with the appropriate finishing.		

4. Threads for the Perfect Knit Seam Selecting a high-quality thread is vital to ensure the seam stretches with the fabric without breaking.

- **Soft Polyester/Cotton Core Spun:** Best for general seaming of knitwear and medium-weight apparel.
- **Spun Polyester:** A versatile choice for fine knitwear, undergarments, and shirts.
- **Continuous Filament Textured Polyester:** Frequently used as an under-thread for lightweight chain stitch sewing to provide soft edges.
- **Pro-Tip: The Eye and Thread Balance:** For optimal performance and to prevent fraying, the thread must occupy **no more than 40% of the width of the needle eye.**

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 10x). 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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5. Machine Setup and Environment A professional knit finish requires your machine environment to be perfectly tuned to handle elastic fibers.

- **Overlock Machines:** Essential for seaming knit goods (Stitch Type 504) , providing high extensibility.
- **Cover-Stitch Machines:** Used for sportswear and leisure wear (Stitch Type 406) to provide professional "bottom cover" finishes.
- **Flat-Lock Machines:** The best choice for underwear and swimwear (Stitch Type 607) , creating strong, extensible, and nearly invisible butt-seams.
- **Setup Tips:** Switch needle plates when changing to thinner needles so the hole matches the needle thickness ; this prevents the fabric from being pulled into the hole.
- **Environment:** Maintain correct air temperature to prevent brittle fibers.
- **Lubrication:** Thread lubricants or silicon oil reduce friction and make meshes more elastic.

6. The Mechanics of the Seam: Stitches and Systems

- **Lockstitch Operations:** Use the DBx1 system for standard joining.
- **Buttonhole Operations:** Use the DPX1 system for durable, precise buttonholes.
- **Overlock (Stitch Type 504):** Typically utilizes systems like B 27 or DC x 27.
- **Cover-Stitch (Stitch Type 406):** Often utilizes UY 128 GAS or B 63.
- **Stitch Density:** Aim for 3.5 to 4 stitches per cm for micro-fibers and knits.

7. Troubleshooting: Common Knit Hurdles

- **Mesh Destruction:** Switch to a ballpoint and replace damaged needles immediately.

- **Skipped Stitches:** Adjust presser foot pressure and use the smallest needle size.
- **Thread Breakage:** Reduce speed and ensure machine parts like the throat plate and feed dog are burr-free.
- **Fabric Puckering:** Re-adjust to a lower tension for a flat, relaxed seam.

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.

8. The Beissel Advantage: Why We Are Ideal for knit garments

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.
- **Rigorous Testing:** Every needle undergoes 155 quality checks before reaching you.
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