

1. Aurifil is 100% Egyptian Cotton, grown in the Mako region of Egypt on the river Nile.
 - a. When considering the quality of cotton, we can make the comparison to that of wine; different geographic areas offer different attributes to the raw material. Aurifil thread is “long staple”, which refers to the length of the fibers in the raw cotton boll. The length of the fibers determines the quality of the cotton
 - b. Although the cotton is grown in Egypt, the thread itself is manufactured in our warehouse in Milano, Italy. In Italy, it will undergo 15 steps before being transformed into a spool of thread for you to use. We manufacture and produce four types of thread: wool/acrylic blend, polyester, monofilament, and six different weights of cotton.
2. How is cotton weighted:
 - a. Cotton sewing thread has been traditionally measured with the abbreviation NE which stands for Number English. The number refers to how many hanks
 - i. for cotton, a hank equals 840 yards – it is different for other types of fibers weighs one pound.
 - ii. 80 weight thread is made of strands that take 80 hanks (or 67,200 yards) to weigh one pound
 - iii. 40 weight thread is made of strands that take 40 hanks (or 33,600 yards) to weigh one pound.
3. Thread Ply
 - a. Most of Aurifil’s thread is 2-ply, meaning it has two strands twisted together to create the finished product.
 - b. A common misconception is that the finished thread is what is used for the measurement or weighting. Instead, it is each individual strand or ply that is used for the weighting.
 - i. This means that 40 weight, 3-ply thread is 1.5 times thicker than the original 40 weight 2-ply thread.
 1. MAKO’ NE 40/2” – this text tells you that the thread on this spool is made of cotton from the MAKO region of Egypt and that it is measured using the Number English standard of measurement. The text also tells you that it consists of 2 strands (2 ply) of 40 weight thread.
 2. MAKO’ NE 40/3” — this means that it is made of 3 strands of the thread that are 40wt each.
4. 12 weight thread
 - a. Wound on a red spool, Comes in all 270 colours,.
 - b. It is the heaviest weight thread that we offer and is perfect for hand applique, hand embroidery, hand quilting, cross stitch, embellishment, handmade lace, machine applique, blanket stitch, machine embroidery (especially for designs

that use a longer stitch length), machine art quilting, Sashiko, redwork, lower looper serging, and longarm quilting.

- c. When using 12wt thread by machine, we recommend using a much thinner thread in the bobbin, like our 40wt. Your machine, seam ripper and sanity will thank you! It is important to use the proper needle size with the thread weight you are using. In this case, it is best to use 100/16 or 90/14 Topstitch needle. Longarmers will want to use a 4.5 needle and 28wt in the bobbin and should quilt slowly, using a longer stitch and silicone conditioner where necessary.

5. 28 weight Thread

- a. Wound on a grey spool, our 28wt thread is the second heaviest weight thread that we offer.
- b. It is excellent for double strand cross stitch, blanket stitch, hand applique, hand piecing, domestic machine quilting, fiber art, thread painting, hand quilting, bobbin and machine lace, machine quilting, longarm quilting, machine embroidery, and lower looper serging.
- c. When using 28wt thread by machine, we recommend using Aurifil 50wt in the bobbin. Longarmers should use 40wt in the bobbin and go a little slower than normal when quilting, particularly when creating curves.
- d. This is a heavier weight thread and it still needs a little more room in the needle - use a 100/16 or 90/14 Top Stitch Needle in your domestic machine and a 4.0 on your long arm.

6. 40 weight thread

- a. 40wt thread comes on a green spool.
- b. Because of its slightly thicker weight, it is perfect for use with sewing bags, toys or dolls, garments or when you want your topstitching or quilting to show up a little more.
- c. 40wt is recommended for Single, Double or Triple Strand Cross Stitch, Hand Piecing, Bobbin and Machine Lace, Machine Applique, Machine Embroidery, Edge-to-Edge, Pantographs and Custom Longarm Quilting.
- d. You should use 80/12 Microtex/Sharp, Universal, or Denim Needle 90/14 or 75/11 Quilting Needle (use 40wt or 50wt in the bobbin). Longarm quilters will use a 3.5 or 4.0 Longarm Quilting Needle (50wt in the bobbin).

7. 50 weight thread

- a. Our 50wt is wound on the classic, iconic, orange spool.
- b. 50wt is wonderful for piecing, subtle quilting & topstitching, and English paper piecing. The slightly thinner weight creates more accurate and flatter seams.
- c. It is best used for Needle Turn Applique, English Paper Piecing, Hand Piecing, Bobbin and Machine Lace, Machine Applique (Straight Stitch, ZigZag, Blind Hem and Blanket Stitch,) Machine Embroidery, Dense Machine Quilting, Subtle

Machine and Longarm Quilting, Basting, Whole Cloth and Micro Quilting, and Dense Background Designs.

- d. You should use 80/12 Microtex/Sharp, Universal, Quilting, or Denim Needles (use 50wt in the bobbin) Longarm quilters will use 4.0 Longarm Needles (use 50wt in the bobbin).

8. 80 weight thread

- a. Our 80wt thread is the newest member of the Aurifil family and it is quickly earning a large fan club!
- b. It is available in 88 vibrant, luxurious colors available on a beautiful cherry wooden spool that holds of 300 yards (274 meters).
- c. Such a thin thread is perfect for a variety of techniques, including English Paper Piecing, Hand Applique, Machine Embroidery, Machine Applique, Free Motion Quilting, Free Motion Couching, and more.
- d. We recommend that you use 70/10 or 80/12 Microtex/Sharp or Embroidery Needle with 80wt in the bobbin.
- e. For hand sewing, use a short length of thread, around 12"-18" to reduce tangling and breaking. Some prefer to condition the thread when hand sewing, though it isn't necessary.

9. Lana Wool

- a. 12wt thread in a lovely, soft blend of 50% acrylic and 50% wool.
- b. It is available in 192 colors on red spools in three sizes: a Small Spool with 54 yards (50 meters), a Large Spool with 383 yards (350 meters), and a Cone 1860 yards.
- c. Use this thread when you want to create texture or visually pleasing details.
- d. It can also be used for Single or Double Strand Cross Stitch, Hand Embroidery, Machine Applique, Machine Quilting, and Lower Looper Serging.
- e. Use a 90/14 Topstitch Needle with our 50wt in the bobbin. Longarm quilters should use the largest Longarm Needle possible (use 28wt in the bobbin) 100/16 Needle with 40wt in the bobbin

10. Monofilament Invisible Thread

- a. Produced in Italy. It is 100% nylon, available in two colors: smoke (for dark fabrics) and clear (for light fabrics)
- b. Two sizes: a large spool with 1,094 yards (1000 meters) and a cone with 16,400 yards (15,000 meters).
- c. It is the perfect choice for use whenever the thread or the stitching needs to camouflage or to be absolutely invisible. Monofilament can be used as a top thread for many quilting techniques such as stitch-in-the-ditch, invisible machine applique, outlining, shaping and echoing applique, couching, and of course free motion quilting. The smoothness of the thread also makes it perfect

for needle turn applique or when joining the parts of open seams, that need to be hand stitched closed.

- d. While on many occasions you may want to stay “invisible” with your top thread, the back of your project may not need the same invisibility.
 - i. Choose a matching color from one of our Aurifil 100% Cotton threads — we’d recommend using our 50wt as a bobbin thread.
 - ii. Top tension should be lowered to at least 2.0 on a home sewing machine and as necessary on a long arm. A slightly larger stitch will also guarantee an excellent result
 - iii. Although we don’t typically recommend using monofilament thread in the bobbin, it can be done with some minor adjustments. The bobbin should be filled at the slowest speed possible and shouldn’t be filled all the way. In case the winding speed cannot be reduced on the machine, the tension of the thread path should be reduced as much as possible when winding, as the invisible thread tends to stretch a bit and will be wound too tight otherwise. You might consider using a second bobbin case, as the bobbin tension will need to be adapted as well.
 - iv. We recommend using an 80/12 or 70/10 topstitching or Microtex Sharp Needle, and a 3.0 or 4.0 Longarm Needle (use 40wt, 50wt, or hand-wound monofilament in the bobbin).
 - v. Other Monofilament uses include: Hand Needle Turn Applique, Attach Binding, Ladder Stitch, Machine Stitch in the Ditch, Invisible Seaming, Free Motion Quilting, Couching, Machine Applique, Outline Applique, Shape Applique, & Echo Applique.
- e. Aurifloss
 - i. Our 6-strand cotton floss thread is wound on a pretty little wooden spool similar to our 80wt thread.
 - ii. It has 18 yards (16 meters) per spool and is available in all 270 colors.
 - iii. Our floss is excellent for Cross Stitch, Huck Embroidery, Miniature Punch-Needle Embroidery, Tatting, Needle Point, Crochet, Applique, Big Stitch Quilting, Accent stitching on garments and other items, and hand embroidery.
 - iv. We recommend matching your hand-sewing needle to the intended project. You should try to match the diameter of the needle’s eye to the thickness of the thread as close as possible.
 1. If you use a needle with a too-large eye, it will cause a lot of stress and friction on the thread, which will weaken and eventually break the fiber. A size #10 hand sewing needle, like a Tulip Hiroshima, is

our favorite. (You might want to invest in a needle threader, this eye can be challenging for some!)

11. Needles

- a. SCHMETZ makes a variety of needles created especially to do particular sewing jobs very well. What many sewers don't know is how to choose the correct type and size of needle for the work that they are doing. It is crucial to choose the correct needle to complement your thread choice and the kind of sewing work that you are doing.
- b. Sewing machine needles are not indestructible ... they will not last forever. The points get dull from repeated use and the shaft may get bent from hitting pins in the fabric. A general rule of thumb is to replace the needle after eight (8) hours of use and at the beginning of each project.
- c. A SCHMETZ sewing machine needle passes through up to 35 stages of production. After each production stage there is a semi- or fully automated check. The single processes are permanently optimized using innovative technologies.

12. Needle System

- a. The most used needle system for household machines is 130/705 H (H=Hohlkehle in German, means with scarf).
 - i. All needles of system 130/705 H have a flattened shank for perfect positioning of the needle in the needle bar and in relation to the point of the hook.
- b. The special needles differ in size, point shape and eye.
 - i. The groove is adapted to the needle size and guarantees the friction free guidance of the thread through the material.
 - ii. The scarf supports the hook to pick up the needle thread loop correctly.
 - iii. The selection of the correct needle size and point shape has a big influence on the sewing result. The choice of the optimum needle depends on the material to be sewn, its thickness and the intended sewing process (sewing, topstitching, embroidering, etc.)

13. Needle Sizes

- a. Choose your needle size based on the type and weight of thread that is being used as well as the fabric that is being sewn. The goal is to have the needle slide easily through the fabric without damaging the fibers or creating too large of a hole, and to carry the thread smoothly without damaging it when sewing.
- b. Needles typically have European and U.S. size equivalents written at the very bottom of the front of the plastic case. Typically they range from 8/60 (the finest) to 20/120 (the largest). This number, indicating the size, will help determine the suitability of the needles to the fabric, thread size and the kind

of sewing being done. In general, the finer the thread and the finer the fabric that is being sewn, the finer the needle should be.

14.Thread/Needle Relationship

- a. The Physical Dimension of a Thread Affects:
 - i. Both top and bobbin tensions — Changing the thread physically changes the tension.
 - ii. When thread size is changed, the upper and lower tensions should be checked.
 - iii. Thread displacement — Too many thread fibers in a set space make the fabric pucker.
 - iv. Reduce field density, scale pattern or increase stitch length.
 - v. Needle selection — Eye of the needle should be 40% larger than the diameter of the thread. When going to a larger size thread, a larger needle should be used.
- b. Damaged or worn needles result in:
 - i. Broken or shredded threads
 - ii. Skipped or uneven stitches
 - iii. Puckered or damaged fabrics
 - iv. Popping sounds made by sewing machine