

Unraveling the Mystery of Thread Size.

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Since the dawn of time people have joined things together (skins, hides, fabrics) to make clothing and shelters using “thread” (sinews, twisted animal hair, twisted fibers). Precise size didn’t matter to these early seamstresses and tailors – they just wanted something that worked – fine, medium or heavy.

Over the centuries cottage industries sprang up and became specialized. Weavers, and manufacturers of sewn products purchased thread from people, groups, or companies that specialized in making thread. In order to communicate, thread sizing conventions were developed. Unfortunately, manufacturing was taking place in many different countries, and they all seem to have their own measuring systems. The English liked weight in pounds so they developed the Cotton Count (Ne), the French developed Denier for their continuous filament threads, and as time went on the metric system took hold in many countries and the Metric Count (Nm) system resulted. In modern times manufacturers developed a more consistent measuring system called Tex. All of this led to much confusion.

A modern home thread consumer has the same needs as those early seamstresses - a fine, medium, or heavy thread. If the thread is manufactured by a reputable manufacturer there will be consistency in size from spool to spool.

To understand the numbering systems you need to know that thread sizing systems are either based on Fixed Weight or Fixed Length.

Fixed Weight systems use the length of the thread that makes up a given weight.

So, for the Cotton Count (Ne) system, the size is equal to the number of 840 Yd. hanks of thread it takes to equal 1 pound.

- A cotton count of "1" means 840 yards = 1 Pound
- A cotton count of "2" means 1680 yards (840 X 2) = 1 Pound

A common cotton count thread size is 40/3. The "40" refers to the single ply and it means that 40 840Yd.hanks of thread = 1 pound, but the "3" means that it is three ply so the number is divided by 3 (in other words it only takes 280 yards to = 1 pound).

Another common fixed weight system is simply called Thread Weight. It is the length of thread that weighs 1 gram. The number of plies do not need to be taken into consideration in this system so a thread that weighs 1 gram and is 30 meters long is a 30 Wt. thread.

In fixed weight systems, the higher the number the finer the thread.

Fixed Length systems use the weight of a given length.

Denier count (Td) is a fixed length system for continuous filament threads. It is the weight in grams of 9000 meters.

The tex system (TEX) is probably the easiest to understand, and is the most consistent. It is the weight in grams of 1000 meters. It doesn't matter if the thread is two, three, or four plies; you just reel off 1000 meters

and put it on a scale. So... 1000 meters that weighs 1 gram = 1 Tex.

In fixed length systems, the higher the number the thicker the thread. Since bigger is higher it is much more logical.

You can't leave the subject of thread size without adding one more commonly used old numbering system simply called **Size**. This is an approximate numbering system that groups threads back around the fine, medium, and heavy categories. Fine threads would be about a Size 60, Medium threads would be about a Size 50, and Heavy threads would be about a Size 20. Once again, it is not intuitive as the higher the number the finer the thread. It is not recommended, but you will still see this number on spool tickets and cones.

Here are some helpful formulas for converting one sizing system to another:

To convert cotton count to TEX:
 $(590.5 / \text{cotton count}) * \text{Plies}$

To convert from Denier to TEX:
 $(\text{Denier} * .1111) * \text{Plies}$

To convert from Tex to Weight:
 $(109 / \text{TEX}) * 10$

The following chart helps in comparing the various thread sizing conventions.

COTTON TO TEX TO WEIGHT CONVERSIONS

Cotton Count Singles	Ply	Singles Tex	Tex Number	Rounded Tex Number	Calculated Weight	Aprox. "Weight"	Aprox. "Size"
54	2	11	22	21	50	50	60
50	2	12	24	24	46	50	60
40	2	15	30	27	37	40	60
47	3	13	38	35	29	30	50
40	3	15	44	40	25	25	40
35	3	17	51	50	22	20	30

MONO-FILAMENT CONVERSIONS DENIER TO TEX TO WEIGHT

Denier Singles	Ply	Singles Tex	Tex Number	Rounded Tex Number	Calculated Weight	Aprox. "Weight"	Aprox. "Size"
115	2	13	26	24	43	40	60
120	2	13	27	27	41	40	60

KEY		
Pink =		Light Threads generally used for finer quilting, machine embroidery, piecing, appliqué, and micro stippling.
Lt. Blue =		Medium Threads generally used for piecing, and quilting.
Green =		Heavy Threads generally used when a strong, bold thread is desired as in Hand Quilting.

Confusing?

Yes! But when it's all said and done, the best size thread to use is the one that looks best on the quilt or project. Don't get too hung up on specifications. Play with the threads to determine what you like and when you find one you like, record the brand and any size information you find on the spool or cone so that you can find the thread again. Then you're ready to do what you like – and do best....sewing and quilting!