



# Jacquard Products' Screen Printing Mesh FAQs

Understanding of the various types of screen printing meshes available will help you better choose the size and type appropriate for your project.

## Screen Printing Mesh – How do I choose?

### Thread Diameter and Type

Historically, screen printing meshes were **multifilament**; meaning the threads that were used to weave the mesh were made from fine filaments twisted together. This created a mesh with a high surface area. In contrast, **monofilament** mesh (which is currently favored for silk screening in textile, paper and industrial printing) is made from a single smooth thread. This creates a mesh with less surface area when woven. The larger surface area of the threads in multifilament screens results in higher contact with the ink and greater difficulty pushing ink through the screens. Multifilament mesh screens are also less dimensionally stable than monofilaments. The resulting elasticity of the mesh makes tight registration and exact detail difficult. Multifilament mesh screens hold emulsion better than monofilament mesh screens because of the greater surface area than the monofilament meshes; however, it also makes them harder to clean for reuse. The vast majority of suppliers and screeners use monofilament. A call to a large screening supplies company drew this response, “We don’t carry multifilament in-house, but we can special order it; however, it is more expensive and less sturdy than monofilament – are you sure you really want multifilament?”

The following table and additional information will help you compare monofilament vs. multifilament screen mesh:

Polyester <b>monofilament</b>	Thick single strand	Exact detail and registration	Long lasting – good for long term use	Less easy to adhere emulsions and films	Easy to reclaim and less likely to clog with inks	Mesh count reference -numerical
Polyester <b>multifilament</b>	Thin twisted multi-strand	Difficult to achieve tight registration due to elasticity of mesh	Wears more quickly than monofilament	Easier to adhere emulsions and films	More difficult to reclaim and more likely to clog during printing	Mesh count reference - alphanumeric

### Threads Per Inch

In most cases (when purchasing screen printing mesh), you will be making your selection based on the number of threads per inch. Choices with a monofilament mesh will be a number like 110 or 300 (which reflect the actual threads per inch). Multifilament mesh uses an alphanumeric system like 4xx or 20xx.

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## Threads Per Inch *(continued)*

The table below will give you equivalents between mono and multifilament meshes. The numbers in the chart refer to the number of threads per inch; therefore, the smaller numbers reflect a more open weave and the higher numbers a tighter weave.

Polyester monofilament	Polyester multifilament
60	4xx
70	6xx
89-90	8xx
110-120	10xx
120	12xx
135	14xx
150	16xx
180	18xx
200	20xx
230	30xx plus
250-420	30xx plus

## Mesh Number, Letter and Weave

Some companies will refer to their monofilament mesh with a number like 150/64 or 150-64Y which refers to threads per inch and diameter of the thread. (The Y refers to the mesh color; in this case yellow – or it might be W for white.) They may also add PW for plain weave or TW for twill weave. Plain weave is a simple over/under of the weft thread through alternate warp threads creating a smooth fabric. Twill weave is a pattern created by passing the weft thread over one or more warp threads then under two or more warp threads with an offset between rows. This creates a diagonal pattern to the fabric weave.

## Ink Type

When choosing the mesh size best suited to your project, you will also want to consider the ink you are using. Jacquard Screen Ink’s Super Opaque White and Metallic inks will do best with lower thread count (more open) screens up to about 86 threads per inch. Opaque colors in the Jacquard Screen Ink line will do well with mesh counts of up to 110. Use 150 – 180 mesh count for Regular and Process colors.

## Image Detail and Color

Other considerations when choosing a mesh are the amount of detail in your stencil image and the color of your substrate. If you have very fine detail in your stencil image (or are working in half tones), then you’ll want a finer weave mesh. If you are working on darker substrates, a coarser weave mesh will allow for greater transfer of ink.

## SUMMARY

The variables that contribute to the specific characteristics of a silkscreen fabric include: **thread diameter, thread type, number of threads per inch** and the **type of weave**. Thread diameter and number of threads per inch determine the mesh opening (the space between adjacent threads). Thread type and type of weave contribute to mesh elasticity and longevity of the mesh. Ink transfer is also affected by the type of mesh you use. Multifilament threads, larger thread diameters and twill weaves result in less transfer of ink. (There is more surface area in the components of the mesh which allow the ink to resist flowing out of the mesh when squeegeed onto the substrate.)

*Much of this discussion will not be truly necessary for a successful print job; however, even if you NEVER feel compelled to indulge in the minutia of mesh geometry, you can store this info in your “back pocket.”*