

CHOICES CHOICES
A LOOK AT FLY TYING THREADS
by
Ian Cox

I am indebted to Marco Breschi in the preparation of this article. Marco is a textile man born into a dynasty of textile people. Indeed it would not surprise me if some ancestor of Marco had a hand in the manufacture of Julius Caesar's togas! However while Marco's expertise in these matters is, as you will see, very considerable, I must caution that I am a layman and this article is written for laymen. Any errors are mine.

I think good fly tying rests on a three cornered stool comprising a vice that can hold the hook, a sharp pair of scissors and the right thread. The right thread is generally a thread that ties the most durable neatest fly with the least amount of hassle. For me tidy fly tying involves using as little thread as possible. Thread is the glue that holds a fly together. As such it should, for the most part, do its work unseen. Thus for me the right thread is one that is easy to use while being strong enough to do the job without damaging the material or adding bulk to the fly. This is not difficult to achieve if you only tie large flies. If you never tie smaller than a size 6 hook most of the commonly available fly tying threads will do the job. Indeed you could in most cases get away with raiding your wife's sewing cupboard. However fishermen who like me spend most of their time tying small flies aren't so lucky. The right thread is vital when tying a tidy small fly. The choice of that thread invariably involves striking a balance between strength and thickness (size) while faced with a bewildering array of choices.



A modest collection of threads

I hope this article will make it easier to deal with those choices. I should caution that the right choice of thread is a marriage of fact and opinion. This article is my idea of that marriage. Doubtless many will disagree.

I think one can simplify the choices one has to make into three big ones. They are:

1. Choice of material.
2. Size.
3. Flat round or mono.

Choice of material

I don't think many of us give much thought to the material our thread is made out of. We should because this largely influences its strength.

1. Silk is for example stronger than cotton which is why nobody has used cotton for a very long time.
2. Nylon is stronger than silk and most polyesters for that matter, but Polyester stretches less.
3. There is also rayon. Rayon is a natural thread in that it is made out of cellulose. It is not as strong as either nylon or polyester but is more lustrous than both, and a lot cheaper than silk.
4. Kevlar is the strongest of them all but is bulky, has a tendency to cut material and is next to impossible to cut.

Most fly tying threads are made from polyester or rayon.

Silk is still used for tying salmon flies and for spider bodies where a lustrous translucency is required. Rayon does the job almost as well. Pearsall's is still famous as a supplier of fly tying silks though I am told that the real Salmon fundi's prefer some horribly expensive silks out of Japan. If you want to elevate your status to "flay" fisherman and add some Pearsall's to your collection then you have to look no further than Craig Thom and his Stream X store www.streamx.co.za. He also sells a range of rayon threads. Truth be told, there is not much that is esoteric in the world of fly fishing that he does not stock.

There is also a relative newcomer to the market which I think is going to change things. Gelspun or GPC threads are made from an ultra high modulus polyethylene polyester blend that is a lot thinner than Kevlar and less likely to cut your material but almost as strong. While not as difficult to cut it is just as capable of destroying your bobbin or scissors.

Marco kindly pointed out to me that the use of the term Gelspun is a misnomer. This is what he wrote:

"Gel spun" is technically incorrect. In fact this term describes the actual extrusion or spinning method employed in the manufacture of the multifilament yarn or thread. The difference between a dry spun and a wet/gel spun fibre is that the spinnarett is submerged in a solution of solvent or other coagulating agent. This results in a much smaller diameter fibre being extruded through the spinnarett. The polymer is in a "gel" state which means only partially liquid. This enhances the degree of orientation or crystallinity of the molecular chains. In other words, the closer the polymer chains are to one another the stronger the



Veniard Silks circa 1975



Gudebrod's GPC or "Gelspun" thread Stocked once by Complete Angler

bond and therefore the higher the tensile strength. This “orientation” of the molecular structure is enhanced by a process called “cold drawing” where the thread is stretched under controlled tension in order to align the molecular chains parallel and close to each other. This in turn reduces the amorphous regions within the fibre thus rendering these fibre types extremely hydrophobic and therefore with very low moisture absorbancy. This can also explain their poor dyeability in an aqueous medium when in thread form and therefore answers your comment of leaving the tier with “inky fingers”. Usually the colouration of these fibre types would be in the “dope” in other words the introduction of pigment to the viscous polymer prior to extrusion through the spinnarett. This, however, would only be viable for large volumes of the same shade and not relevant for the small volumes used in fly tying. High modulus Polyethylene and Aramid (Kevlar) fibres are produced by this process.

How is that for detail? Eat your heart out Ed Herbst!! The Semperfli Nano silk that Stream X sells is a Gelspun thread. So is Benecchi’s Ultrastrong and Roman Moser’s Powersilk. Gudebrod has one too. I believe Waspi also offers a GPC thread as part of its UTC range though I have not come across it locally.

A word of warning. Gelspun or GPC threads are not easy to use. They are slippery, fray easily and will easily slip a half hitch. They also do not hold their colour leaving the tier with inky fingers. However their strength, flatness and size make for a very tidy tie especially when tying on small hooks. I have for example tied a parachute fly on a size 32 hook using Nano silk. I did break a couple hooks in the process! Yes its that strong. Nano silk is also wonderfully translucent.



Thickness



Veevus 12/0 on Lt and Nano silk 12/0 on Rt. Note the twist in the Veevus thread and its effect on thickness.

The thickness of the thread has a massive impact on the neatness of the fly you are tying. Using thick thread to tie a small fly makes the whole job that much more difficult.

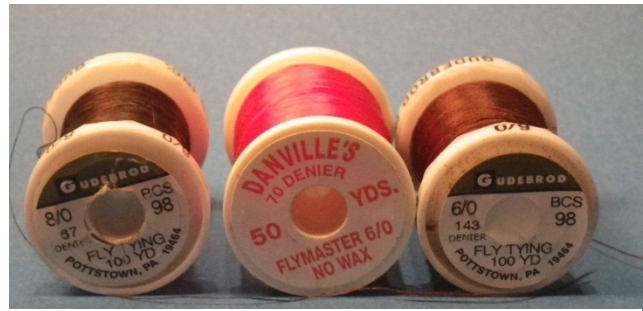
So how to you measure thickness? Manufacturers of fly tying threads use one of two measurement systems.

The older system, which many suppliers of fly tying thread still use, is the Chenille Company’s old ought system. Gudebrod (Orvis), Semperfly, Gordon Griffiths Sheer, Benecchi and Roman

Moser are amongst those who use it. In terms of this system threads get thinner the more noughts they have. Thus a 7/0 or 7 nought thread is thinner than a 1/0 thread. This system is open to abuse witness the huge variations of thread sizes in the threads supplied by manufacturers who still use it.

Christopher Helm's table, available on www.swtu.org/pdfs/fly_tying/Threads.pdf graphically demonstrates how big and bewildering these discrepancies can be.

UTC and Danville use the technically more accurate denier method of measurement. Gudebrod is also beginning to use it albeit in fine print. A denier is the weight in grams of 9000 metres of thread. Thus, the lower the score on the denier scale, the smaller the thread. There is no reliable method of converting the one scale to the other. This is because the ought scale is so unreliable.

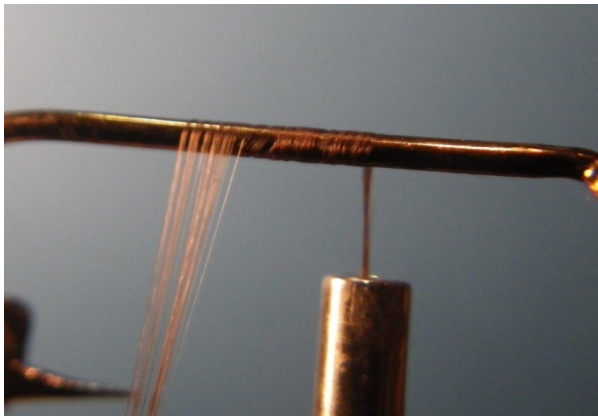


Note the difference in denier rating despite same /0 measurement

An important point to note is that the ought and denier ratings are no indicator of strength. Gelspun or GPC threads are much stronger than other ones despite being a lot thinner. Furthermore, strength varies considerably amongst polyester rayon and nylon threads.

Marco tells me that neither system of measurement is still used in the textile industry. The industry is standardising on the Tex system. This system is similar to the denier system in that it measures the weight in grams of 1000 metres of yarn.

Flat or Round or Mono

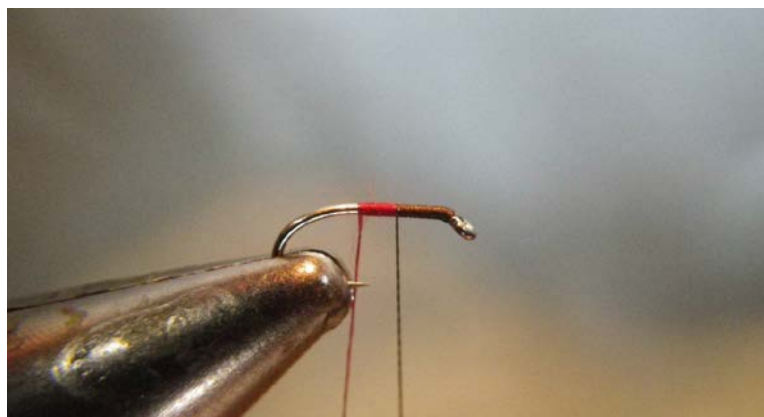


Most fly tying threads are flat, that is to say they are made from continuous filaments. Sometimes these are lightly twisted and sometimes not. The untwisted version of these threads is known as floss.

Marco advised me that:

The insertion of twist in a yarn or thread imparts strength and the twist direction imparted by the spinning machine can either be S or Z, left or right. You can determine this by looking at the thread and observing the direction of the fibre alignment to the thread axis.

The advantage of floss as opposed to a thread that has a twist to it is that it bulks up less and is less likely to cut the material it is holding down. They also lend themselves to split thread techniques. Their disadvantages are that they are not as strong and are more likely to fray against the point of the hook. The twist that manufacturers sometimes put into flat threads strikes me as an attempt at a compromise.



Left Sheer 14/0 flat compared with the Veevus 12/0 round

The slight twist gives the thread added strength and makes them easier to work with. They can also easily be flattened by untwisting them should the need arise.

All round threads are twisted. Most are made up of two or more chemically bonded threads twisted together so they cannot be flattened. Sewing machine threads are made this way or are woven around a monochord core. While round threads offer more strength for size their inability to be splayed flat against the hook means that they also bulk up more. I am not a fan of round threads even though it is theoretically possible to make a stronger thinner thread this way. My sense whatever infinitesimal advantage is gained by the added strength is lost by the fact that the thread cannot be made to lie flat. I don't think I am alone in this which may explain why the Veevus 12/0 thread is the only round fly tying thread I am aware of.

I am also not a fan of monofilament threads though I do sometimes use them when tying salt water flies. For me you may as well be using fishing line. In fact you are using fishing line. The exception is Spider Web which is a 30 denier monofilament suitable for very fine work if you can control a thread that will snap just by you looking at it. It has a breaking strain of only 5 grams. Ed Herbst speaks highly of a thread called UNI Caenis which he says is much better than Spider Web. At 20 denier it's got to be the thinnest thread around but with a breaking strain of 3 grams there can't be many fly tyers sufficiently skilled to use it. You can get it from the African Fly Angler www.africanflyangler.co.za who also stock Veevus.

Personal Choices

So what threads do I use?

1. First off for the reasons stated above, I prefer a flat thread to a twisted one.
2. Like most members I started with the UTI range for no other reason than the Complete Angler stocked it. Like everyone else found that UTI's threads do the trick when tying larger flies. However I found that the UTI 70 denier thread broke too easily. It is also bulky and since I seldom tie a fly on anything bigger than a size 14 hook this and posed a problem.
3. The Danville equivalent, the Flymaster 6/0 70 denier waxed thread filled the gap admirably, strength wise but its also too bulky. Kingfisher and The Complete Angler both stock Danville threads.
4. I frolicked briefly with Gudebrod and Orvis but in truth never use them.
5. This problem was solved when Tony Kietzman introduced me to Gordon Griffiths Sheer 14/0 thread. Notwithstanding the fact that it is poorly wound and is thus prone to slip of its reel. It is still my go to thread. You can get it from Stream X.
6. I am also increasingly using Semperfli's Nanosilk for spinning hair on smaller flies, when tying very small flies and when tying buzzer patterns. I find that its translucency strength and size far outweigh the disadvantage of its slipperiness when used in these applications.



My choices are not necessarily everyone else's. Tony Kietzman no longer likes Sheer. His new love is one of Benecchi's offerings. Ed Herbst doesn't like Nano silk preferring Veevus 12/0 or Roman

Moser's Powersilk instead. Small fly guru Ed Engle swears by Gudebrod 10/0. Oliver Edwards also uses Roman Moser's Powersilk. ED Herbst tells me that Daryl Lampert also uses Sheer and Nano silk. Not many of these choices make David Klausmeyer's (editor of The Fly Tyer Magazine) list of preferred threads for small flies. He lists, Gudebrod 10/0 (45 Denier) Eurothread 12/0 (45 Denier), UNI Caenis (20 Denier), Bennichi 12/0 (70 Denier) UNI 17/0 (50 Denier) and Ultra GSP (50 denier) . As you can see it is a fickle business.
