

## The Introduction of Denier

The introduction of denier (weight in grams of 9000 meters of a material) by some companies to more accurately reflect thread or thread-like material sizes is a reaction to the chaos in the marketplace caused by the traditional, but non-standardized, N/0 sizing method. Presently, there are threads available, which although identical, are labeled with vastly different N/0 sizes.

Unfortunately fly tiers are used to the N/0 sizing and so UNI Products, who are preparing to provide denier information, will continue to include the N/0 sizing on product labels.

A review of the denier specifications for UNI-Cord revealed that the present UNI-Cord N/0 sizing is incompatible with other materials in the UNI-Products catalog.

Therefore, 3/0 UNI-Cord becomes 7/0 and 8/0 UNI-Cord becomes 12/0. The rationale for this change can be seen from the following examples of denier specifications.

6/0 UNI-Thread 135 denier

7/0 (new) UNI-Cord 100 denier

8/0 UNI-Thread 72 denier

12/0 (new) UNI-Cord 50 denier

Giorgio Benecchi Products, of Modena, Italy, does not have labels on their spools. However, they do provide this information freely to shops or distributors. In my own shop, I use a rubber stamp to put the denier as well as the "aught" rating on each spool of Benecchi thread.

Historically the "aught" system began in the late 1930's. Dan Bezanson said, " Based on the information that has been handed down in the company, Danville Chenille implemented the "aught" system to help standardize fly tying thread. This was based on a system where the number 0 or "aught" was the base point and as the thread became smaller additional zeros were added indicating that the thread was finer. As an example, a thread with six zeros (000000) translated to a 6/0 thread. As other thread distributors came into the market place after the early 1960's, they followed the same system which was assigning a standard that does not necessarily provide as accurate a measurement for the fly tier as denier

As more thread distributors and brands became available, the accuracy of the "aught" became muddled. When only one distributor existed, making some sense of the system was not difficult. Now there are at least seven distributors of thread in what has become a very competitive market. It occurred to me in the mid 1990's that some of the aught numbers being assigned to some thread was a matter of trying to gain a competitive edge rather than providing accuracy for the fly tying customer. That is precisely what generated the article I coauthored with Bill Merg in the summer 1996 issue of Fly Tyer entitled "Testing the Ties That Bind". The focus of this article was on a number of aspects of thread but emphasized breaking strength and thickness.

Denier is defined as the weight in grams of 9000 meters of nylon, polyester, rayon thread, etc. There is a correlation between denier and breaking strength of nylon and polyester thread. The smaller the denier numbers the lower pound / ounce breaking strength of the thread. At the present time, about the smallest denier nylon or polyester for fly tying thread is 40, which would be used for tying midges. The one exception to this denier vs. breaking strength rule is that gel spun polyethylene thread is two to three times stronger than nylon or polyester thread of the same denier.

Denier is only one factor the tier should take into consideration when selecting a thread. The type of material of which the thread is constructed should be considered, whether the thread is a continuous filament, simple twist, bonded, or a rope type. Nylon has about 25% stretch, polyester around 15% stretch, and gel spun only 3% stretch. The type of material being used on the fly as well as the appearance desired also has to be considered. It is important to experiment with all of the various threads available to gain a complete understanding of the pros and cons of each.

Listed below are some of the most popular brands and sizes of threads available. Compare the denier of the thread you are using with others of a similar "aught" size.

<b>Thread Brand</b>	<b>Aught Size</b>	<b>Material</b>	<b>Denier</b>	<b>Breaking Strength</b>	<b>Thickness (.000)</b>
UNI Caenis	N/A	mono	20	3 oz	1.7
Gudebrod	10/0	polyester	45	9 oz.	1.0
Euro Thread	12/0	polyester	45	15 oz.	1.3
UNI	17/0	polyester	40	5 oz	2.0
Danville Spiderweb	N/A	mono	30	5 oz	2.0
Roman Moser Power Silk	8/0	gel spun	55	2 lbs. 6 oz.	1.3
WAPSI 50 GSP	N/A	gel spun	50	2 lbs. 5 oz	0.8
UNI Cord	12/0	gel spun	50	2 lbs. 7 oz	0.9
Benecchi Ultra Strong	N/A	gel spun	50	2 lbs. 6 oz	1.3
Benecchi Ghost	N/A	mono	60	11 oz.	3.0
Gudebrod	10/0	mono	50	2 lbs. 11 oz.	4.0
Gudebrod	8/0	polyester	67	15 oz	1.8
Benecchi	8/0	polyester	150	1 lb. 13 oz.	2.2
Benecchi	12/0	polyester	70	15 oz.	1.9
Lagartun	N/A	Polyester	74	1 lb.	1.2
Gordon Griffith Shear	14/0	polyester	72	10 oz.	1.8
Gudebrod	GXI	gel spun	70	5 lbs. 9 oz.	1.0
Danville	6/0	nylon	70	11 oz.	1.5
UNI	8/0	polyester	72	15 oz.	2.0
WAPSI UTC 70	N/A	nylon	70	13 oz.	1.1
Lagartun	N/A	Polyester	95	1 lbs. 1 oz.	1.4
Gordon Griffith Wisp	8/0	polyester	108	15 oz.	2.2
Gudebrod	6/0	polyester	143	1 lb. 15 oz.	2.3
Benecchi	10/0	polyester	120	1 lb. 6 oz	2.0
Danville Monocord	3/0	polyester	116	1 lb. 10 oz	2.6
UNI	6/0	nylon	130	1 lb. 13 oz.	2.9
WAPSI UTC 140	N/A	nylon	140	2 lbs. 12 oz.	1.6