



# Technical Data Sheet

PN# PY16125x2

## Conductive Yarn

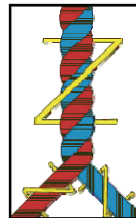


### Conductive Yarn Silver Plated Nylon Yarn 117/17 x 2-ply

**PURPOSE:** Conductive thread for ESD, medical and EMI knitted gasket applications  
**Description:** Silver plated nylon 66 yarn  
**Material Resistance:** 100-150Ω/inch  
**Material Resistivity:** < 0.025 Ω/sq. cm

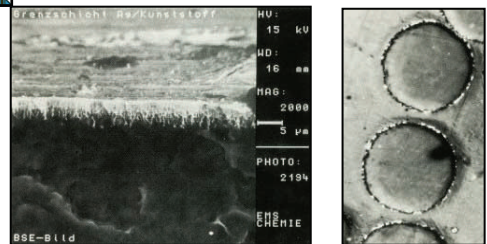
#### General Properties

**Nominal Denier:** 125/17 x 2 ply  
**Nominal Diameter:** 170 microns  
**Number of Filaments:** 34 nominal  
**Twist:** 16 TPI nominal  
**Twist Direction:** S  
**Ply-Twist:** 12 TPI Nominal  
**Ply-Twist Direction:** Z  
**End Joinings:** air splice only  
**Splice Frequency:** 4 Max/Package  
**Transfer Tail:** None  
**Yield** 19,800 yards/lb.



#### Physical Properties

**Denier At 11% MR:** Min=200 / Max=260  
**Breaking Strength (g.):\*** Min=675 / Max=725  
**Elongation At Break (%):** Min=15.8 / Max=21.4  
**Shrinkage (%) \*\*:** Min=5 / Max=20  
**Tenacity (g/den)** 5.0



Cross section views of nylon fiber showing silver deposits

#### Packaging

**Single Case:** 21 Packages  
**Nominal Case Weight:** 23 lb.  
**Standard Pallet:** 16 Cases  
**Nominal Pallet Weight:** 468 lb.

#### Package Properties

**Core Type:** 3 Deg-30 Min Cone 9"  
**Core Material:** Pressed Paper or plastic  
**Product ID Color:** Gray  
**Package Weight:** 0.1 LB Nominal  
**Package Weight Control:** +/- .1 lb. within single case



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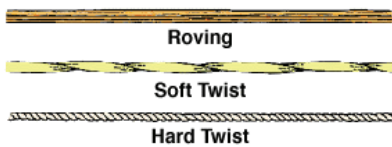
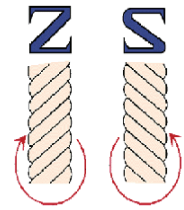


## Conductive Yarn

### Textile Notes

#### Twist

During the spinning process fibers are twisted into yarn. Twisting the fibers holds them together and gives the yarn strength. There are only two directions that yarn can be twisted- clockwise and counter clockwise. Either direction can be used. Counter-clockwise twist is known as "S" twist while clockwise is known as "Z" twists. Single strands of yarn are usually given a Z twist during spinning and plied yarns are usually given an S twist.



The degree of twist required depends on the fiber and can vary from no twist to high twist. Yarns with no twist are called 'Roving' while high twist yarns are 'Crepe'. The amount of twist in a yarn is measured in Turns Per Inch (TPI). Spun yarns with relatively little twist of 2-12 TPI are referred to as 'Soft Twist'. Yarns with 20-30 TPI

are referred to as 'hard twist.'

#### Packaging

Yarns are bought and sold by weight, not by length. Because of this sizes (or numbers) are used to express a relationship between unit length and weight of yarn.

There are two main numbering systems- direct numbering for filament yarns and indirect numbering for spun yarns. While yarns sizes reflect a relationship between weight and length, this relationship also reflects the diameter or thickness of the yarn, although not as precisely. Basically the relationship to size is expressed in that a lighter weight yarn is finer (smaller) than a heavier weight yarn of the same length. This relationship becomes less precise due to variations in twist and fibers. Therefore sizes express the relationship between weight and length in a yarn and a close, but not precise, relationship to diameter.

#### Direct Numbering

In the direct system as the numerical value of the size goes up, so does the weight per length and the diameter. Direct numbering is expressed in terms of weight in grams over length in meters. The most common direct numbering terms are:

- Denier- Grams/9000 M
- Decitex- Grams/ 10,000 M
- Tex- Grams/1000



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