

## Basic fibre forms

**Continuous filaments:** These are fibres of indefinite length and they are silk like in appearance and are produced with different degrees of fineness. Generally much thinner than 0.05 mm diameter. Fishing gear is usually made of filament a 1000 m of which weigh between 0.6-0.2 g. eg.PA.

**Staple fibres:** These are discontinuous fibre, usually prepared by cutting filament into length suitable for the yarn spinning process. Fineness is similar to that of continuous filament but length varies for 40-120 mm. These short fibres are held under pressure to form continuous strand which is called as single yarn. Netting yarn made out of staple fibre have a rough surface owing to the numerous loose ends of fibre sticking out from the twine. This hairy nature decreases the slippage of knots. Staple fibre has lesser breaking strength than continuous filament.

**Monofilament:** This is a single filament which is strong enough to function as a yarn; without any further processing. Transparent P.A monofilament are used in gillnets. These are stiff, larger in diameter, transparent and less visible.

**Split fibres:** are developed recently. These are originated from plastic tapes, which are stretched during manufacture to the extent that tape split longitudinally when under pressure. Yarn made of these filaments contains fibres of irregular fineness.

## Single yarns

Single yarn is the simplest continuous thread composed of fibres

### *Types of single yarns*

- Single spun yarn
- Single Filament yarn
- Single mono-filament yarn
- Single split fibre yarn

## Netting twine

Netting twine is manufactured by one single twisting operation of two or more single netting yarns or monofilaments. Netting yarn is the simplest continuous thread composed of fibres. Based on their construction twines are classified into cabled or twisted and braided types.

### **Construction of braided netting yarn**

Braided netting yarn is produced by interlaying a number of strands in such a way that they cross each other in diagonal direction to the edge of the fabric. This braided material is in the form of a tube. This braided material composes of core, number and kind of strands. Twisted netting twines are more widely used in fishing gears.

Cabled or twisted netting are manufactured by combining two or more netting twines, by further one or more twisting operations. The single yarns are first twisted into folded yarns in the S-direction (left-hand laid). Most twisted netting twines are with three-folded yarns.

### **Structure of the braid:**

Structure of the braided twine can be one strand over one and under another. One strand over one and under two others and one strand over two and under two others.

### **Construction of Core:**

Core can be prepared by using a single yarn, folded yarn and monofilament. Mostly monofilament material is being used up to 30 numbers depending on the thickness of the material. It also gives strength to the product of braided material is prepared without core,

knot stability is reduced to get knot stability soft braided material should be treated with bending agent/heat setting.

Braided netting twine are manufactured by plaiting three or more netting yarns. Braided twines are further grouped into crossing-laid which is without a core and tube-shaped in which braiding is done around a central core. Braided twines are less prone to kinking compared to twisted twine.