

## NYLON 6 YARNS

As the first synthetic fiber produced in the world, Nylon was invented and developed in the 1930s, to produce stockings in place of silk which was very expensive. Although until 1980s it was mainly used as flat yarn, the use of flat yarns have dropped heavily in the recent years and the use of mousse (textured) yarns have increased.

### Yarns produced from Nylon 6:

- a) Flat yarn
- b) Tekstured (mousse) yarn or tekstured (mousse) air covered elastane yarn
- c) High tenacity yarn (technical yarn)

### Nylon 6 yarns are used in these areas:

- a) Flat yarns: In the production of fabrics for raincoats, umbrellas, clothings, shirtings, swimsuits and linings.
- b) Tekstured yarns: Knitting (Circular and rachel), blouses, women clothings, corsets, nightwear, socks, stockings and lingerie production
- c) Technical yarns: In the production of fish nets, filter fabrics, parachute fabrics, belts (safety and others), sewing and embroidery threads.

### Advantages and disadvantages of polyamides

#### a) Advantages:

- 1- Tough, strong and has high resistance to pressure
- 2- Low coefficient of friction
- 3- Resistance to high temperature
- 4- Can be processed by thermoplastic methods
- 5- Can take high moisture
- 6- Resistance to solvents
- 7- Resistance to bases

#### b) Disadvantages :

- 1- Affected from strong acid oxidizers
- 2- Easily affected from UV light (this property can be improved upon request).

Nylon yarns ( both Nylon 6 and Nylon 6.6 ) can be produced in our factories. Recently Nylon 6 is mainly used in place of Nylon 6.6. Nylon 6.6 is an expensive raw material and is harder to process.

### Nylon 6 fiber properties :

Specific gravity	: 1,13 – 1,15
Tenacity	: % 28,36
Elasticity	: 3,87 gr/dtex
Water absorption	: max %8,5 – 10
Melting point	: 210 – 220 °C
Electrical resistance	: 5E + 13 OHM
Flammability	: 3
% Elongation	: 50
% Moisture regain	: 7
Softness	: Soft
Oxidation	: Poor
Burning properties	: Flammable, burns with white fumes, can be extinguished easily.
Elastic modulus	: 200 – 300 daN/mm <sup>2</sup>
Dyeability	: Can be dyed with all dyes except sulphur dyes