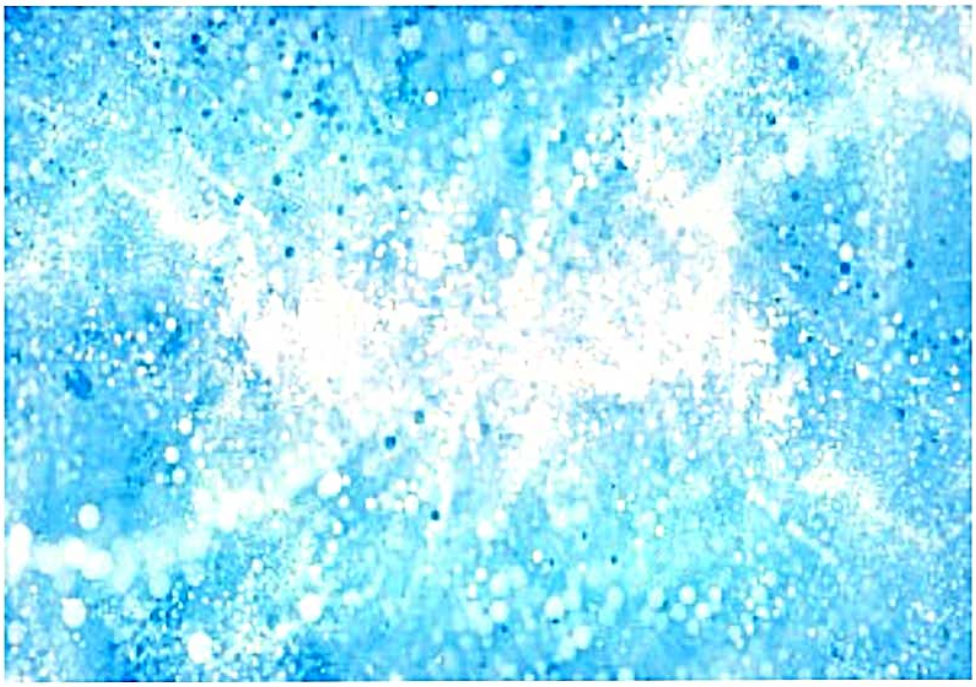
What is Nylon?

Nylon fiber is a synthetic fiber industrialized around 1940 and is the most historical material in synthetic fibers. Nylon is a polyamide fiber, and nylon 6 and nylon 66 are mainly used for fiber applications. It has a gloss resembling silk and has excellent tensile strength, flexibility and abrasion resistance. It is used in the field of clothing such as pantyhose, inner and outdoor wear, materials for bags, carpets, tire cords, etc. It is becoming the main material in the textile field.
We introduce representative processing examples for each organization and solutions from NICCA CHEMICAL.

1.Scouring



As with polyester, Nylon woven graiges has acrylic and wax etc. added as a sizing agent to the warp. This is a secondary contaminant applied in the process before weaving.

In the scouring process, to remove these secondary contaminants in the main continuous processing. In the scouring process, secondary contaminants are removed by continuous treatment.

Also, polyurethane blend knit removes secondary contaminants such as oils and moisture heat set by continuous scouring process. Some woven fabrics scouring and desizing by continuous range then batch scouring with relax.

General knit fabrics is scoured in dyeing bath.

Required of scouring agent is different from used continuous range or bath process. Therefore, selection of the most suitable agent and processing highly affects the quality of the final product.

2.Dyeing

Acid dyes and premetallized dye are used when dyeing nylon. Acidic dyestuffs and premetallized dyestuff are water-soluble and dyeing by ionic bonding.
In nylon dyeing, the dyestuff used will change according to the desired shade density.

Dyeing is generally done in batch processing, dyeing is done by running the fabric inside the machine by looping the fabric. It is important for even dyeing that the runnability of the fabric is stable, and if runnability is not stable, it leads color difference in batch and scraped and bruised.

If this kind of occurs, it is recommended to use a dye bath quality improver.

3.Soaping

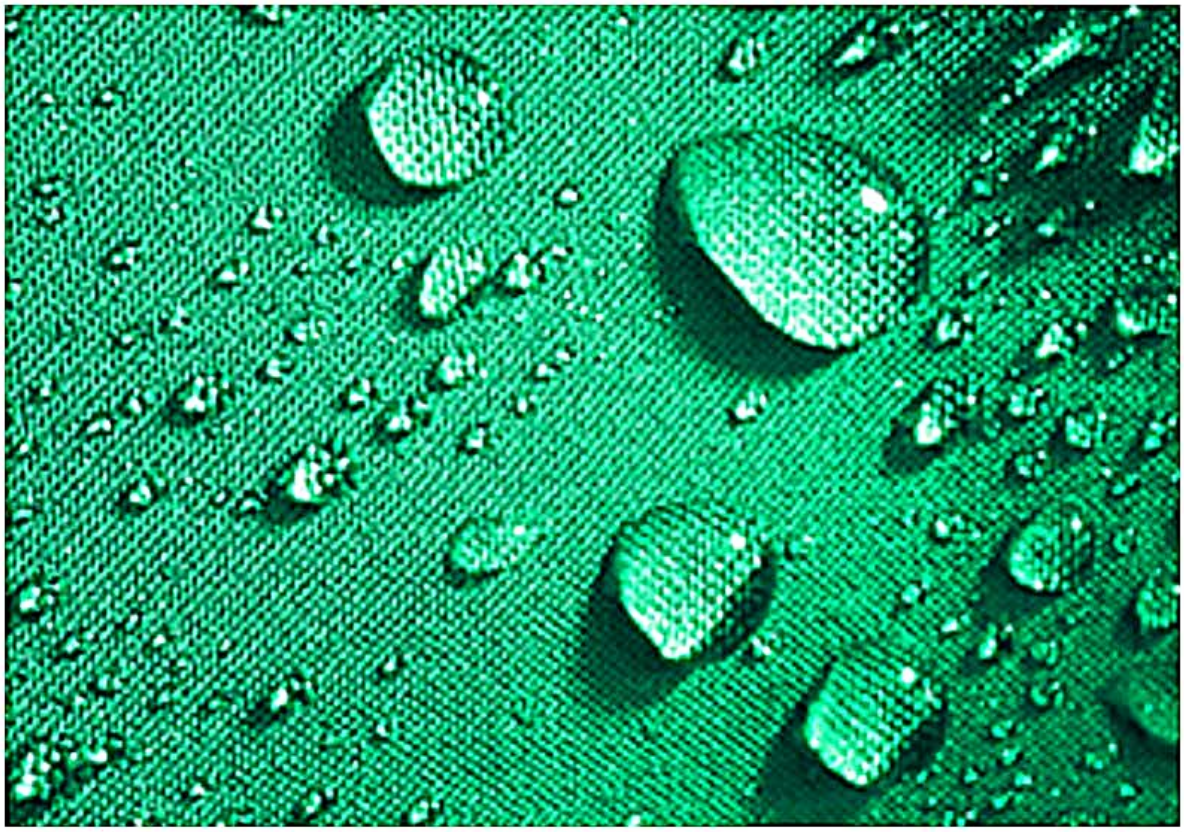
When dyeing is finished, it removes unexhausted dyestuff on fibers and dispersant by soaping after cold water rinse.

4.Fixing

By using a fixative as anionic polymer, it is possible to improve the fastness of dyed nylon fiber by an acidic dye or premetallized.

In general, fixatives are used medium to dark shade, however fixatives effect to hand feeling. Sometime, fixatives are used for lighter shade, due to minimalize to hand feeling changed by shade. Adjust the amount of fixative is used according to the color concentration.

5.Finishing



It is the process of adding to hand feeling and functional performance for the final product.

Continuous pad process is common, required of finishing process is pad bath stability.

Functional property, such as add soft feelling, water repellent and quick dry (moisture management).