
ESSEGOMMA
POLYPROPYLENE YARN

POLYPROPYLENE

THE FIBRE OF THE FUTURE

In recent years, textile research and innovation have stimulated fibre producers to develop more ecological and performing yarns and to improve production processes in order to reduce the consumption of water and energy, the use of toxic substances and the production of waste.
In this perspective, the most significant goals have been achieved with polypropylene, **a highly technological**, **versatile** and **highly resistant** fibre that is fully entitled to be called "fibre of the future".

In addition to being used in the field of food containers and in the packaging and automotive sectors, polypropylene yarn is also used in the textile industry for the production of fabrics for indoor/outdoor use, for air filtration, solids and liquids, in intimate and technical-sports clothing, in the pharmaceutical and medical fields (for example in sutures for surgical interventions) but also for engineering works, to confer higher tenacity and elastic modulus to cement matrices.

UPHOLSTERY

PHARMACEUTICAL

APPAREL

BUILDING

POLYPROPYLENE

BY ITS NATURE IS :

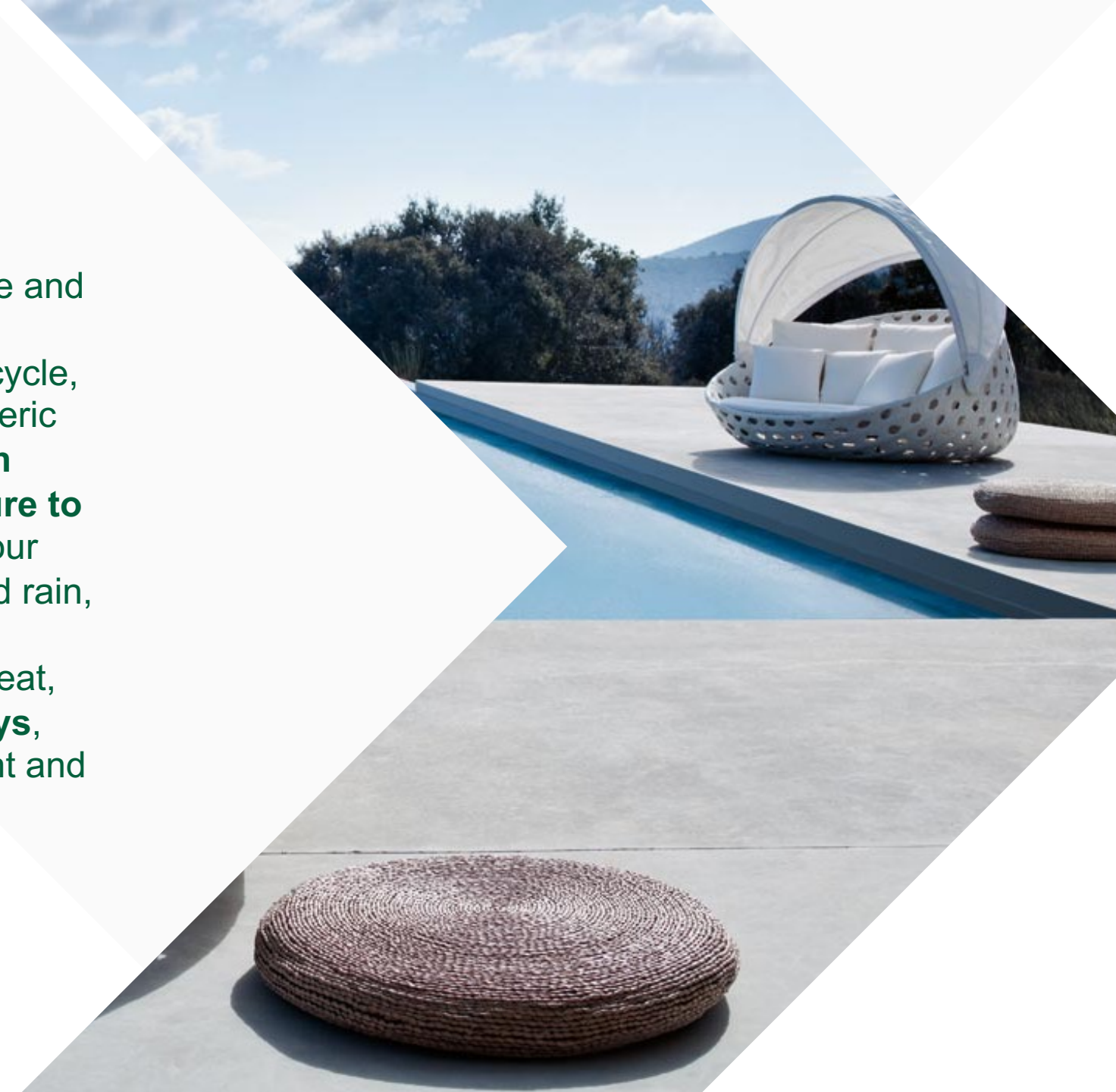
Water-repellent, **stain-proof**, **resistant to mold**, **moths and bacteria** like no other synthetic or natural fiber
It is extremely **resistant to the action of acids and alkalis.**
It is **resistant to humidity and atmospheric agents** and, although not completely waterproof, it does not absorb water, dries quickly and, thanks to its **specific weight of less than 1 g / cm3**, it is the only yarn that floats.

- WATER-REPELLENT
- STAIN-PROOF
- RESISTANT TO MOLD AND BACTERIA
- RESISTANT TO HUMIDITY
- SPECIFIC WEIGHT LESS THAN 1 G/CM^3

ESSEGOMMA
POLYPROPYLENE YARN

FROM THE CHEMICAL-TEXTILE POINT OF VIEW, IN ADDITION TO THE INHERENT ADVANTAGES IN THE FIBRE, THE YARN IS CHARACTERIZED BY A PARTICULARLY SOFT AND SILKY HAND THANKS TO THE MULTIPLE FILAMENTS WITH WHICH IT IS SPUN. IN TERMS OF ADDITIVES, IN ADDITION TO UV STABILIZATION, IT IS POSSIBLE TO GIVE THE YARN ANTI-STATIC AND FLAME RETARDANT CHARACTERISTICS.

Particularly suitable for fabrics for furniture and protection intended for outdoor use and therefore subjected, throughout their life cycle, to the often destructive action of atmospheric agents, polypropylene fabrics have a **high resistance to degradation from exposure to light and to bad weather**, maximum colour fastness to the action of the sun, wind and rain, the ability to overcome **high mechanical stresses** (resistance to tensions, tears, heat, abrasion ...), the **ability to absorb UV rays**, the prerogative to respect the environment and the **advantage of 100% recycling**.



Without the need to add chemical additives, polypropylene has **hypoallergenic and anti-odorant properties** and is **compatible with food use**. Because of its chemical nature, the fabrics made with it do not give rise to allergic phenomena on the skin and mucous membranes, even of particularly sensitive individuals or with problems of irritation or allergies.

Having excellent resistance to acid agents and alkaline sweat, polypropylene guarantees a high level of **comfort, practicality and hygienic safety** even for the contact with the skin of a newborn child under 6 months of age. It is therefore classified in **Class 1 Oeko-Tex.**

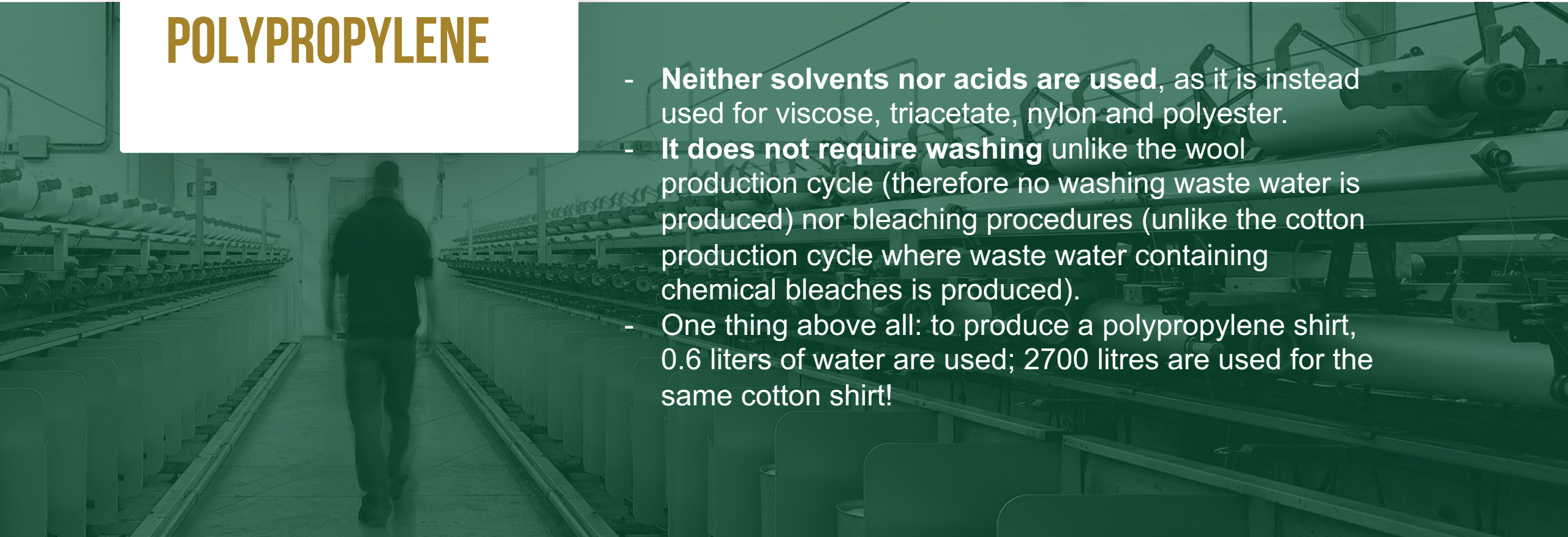
Polypropylene is the **fibre with the lowest specific weight**: very light garments can therefore be obtained in the fashion industry that allow you to keep your body always dry, thanks to the very low capacity to absorb humidity and liquids in general. As regards the production of indoor materials, this feature contributes to a decrease in the total weight of the furnishing fabrics which, with a view to a new sensitivity in the construction of buildings ("green buiding"), is equivalent to lightness which, rather than a aesthetic habit, it is synonymous with anti-seismic.

Furthermore, since it does not chemically bind with other substances, it is particularly **resistant to dirt**, which does not penetrate capillary in the fibres, but remains on the surface. For the same reason it is easy to wash: in fact, very little detergent and a low washing temperature (30-40 °) will be enough to clean it.

1 g/cm3
WEIGHT

THE PRODUCTION PROCESS OF POLYPROPYLENE

IT IS ABSOLUTELY ECOLOGICAL AND WITH A VERY LOW ENVIRONMENTAL IMPACT AS IT DOES NOT GIVE RISE TO ANY TYPE OF POLLUTION, NEITHER CHEMICAL NOR THERMAL:



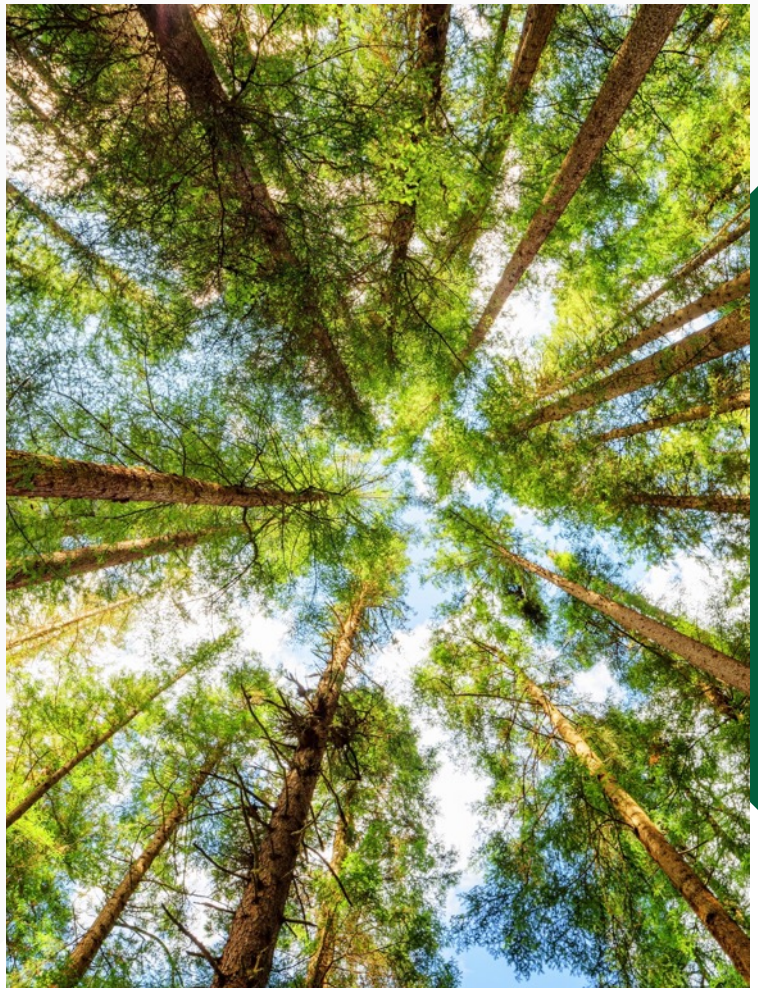
- **Neither solvents nor acids are used**, as it is instead used for viscose, triacetate, nylon and polyester.
- **It does not require washing** unlike the wool production cycle (therefore no washing waste water is produced) nor bleaching procedures (unlike the cotton production cycle where waste water containing chemical bleaches is produced).
- One thing above all: to produce a polypropylene shirt, 0.6 liters of water are used; 2700 litres are used for the same cotton shirt!

POLYPROPYLENE

THE FIBRE OF THE FUTURE

The polypropylene is mass-dyed by introducing into the polymer, during the extrusion phase, pigments that are in a solid state and that are absolutely not soluble in water and in the main solvents. Therefore it is not necessary to resort to the dye works used by the production processes of all the other fibres, whether they are yarn, piece or garment dyed: this allows you to have absolutely no coloured waste water.

We are increasingly aware of environmental issues. From political choices to our home habits, attention is increasingly focused on the changes in the ecosystem in which we live and the behaviour of each individual person is important to maintain the balance of it.
The theme of recycling or disposal of "textile waste" is very topical and in this perspective, among the "man made" fibres, polypropylene is the one with the **best degree of sustainability**; thanks to its physical-chemical characteristics, its production requires lower temperatures than other synthetic polymers and therefore has a **lower impact in terms of energy consumption and CO2 emissions**. **It can also be easily recycled**, a feature that allows the regeneration of waste in printable, recyclable material.



It is also for this reason that many large car factories are moving towards the use of this fibre also for the interior fabrics of the car: interior of the doors, seats, etc. The dashboards and other rigid parts are already in polypropylene.

THE EXTREME VERSATILITY, THE SUPERIOR CHEMICAL-PHYSICAL CHARACTERISTICS, ITS PREROGATIVES OF TOTAL RECYCLABILITY AND THEREFORE SUSTAINABILITY, ALLOW POLYPROPYLENE TO BE USED TO DESIGN INNOVATIVE PRODUCTS BOTH IN TERMS OF TECHNICAL QUALITY AND CREATIVE IMAGINATION: A PERFECT SYNTHESIS BETWEEN AESTHETICS, PERFORMANCE AND ENVIRONMENTAL RESPECT.

ESSEGOMMA

POLYPROPYLENE YARN

Via Don Minzoni 10,
20826 Misinto (MB), Italy
info@essegomma.com
T: (+39) 02 96329172
F: (+39) 02 96720068

www.essegomma.com