



Aquafil, A step forward for circularity: first demo plant launched for chemical separation of elastic fiber from nylon

Arco, March 21, 2025 — Aquafil launched in Slovenia the first demonstration plant for the chemical separation of elastic fiber from nylon, an innovative technology that opens new perspectives in the textile fiber sector, allowing the company to take yet another step in research and development, consolidating its commitment to sustainable innovation.

“After more than a decade of research and development, Aquafil marks a turning point in the world of textile fibers with the launch of a revolutionary technology: the first demonstration plant for the chemical separation of elastic fiber from nylon. A challenge that the company has managed to meet with determination and vision, once again confirming its commitment to responsible innovation and circularity.

The journey began in 2013, with a joint research project together with Georgia Tech University and the filing of an initial patent. Although industrialization had not materialized by then, the work of Aquafil researchers never stopped. The perseverance and dedication of the R&D team led to the publication of a new patent in 2022, the result of improved technology that was finally ready to be tested on a semi-industrial scale.

*Today, thanks to this demo plant, the results of laboratory experiments are confirmed: for the first time, it is possible to effectively separate elastic fiber from nylon in blended fabrics - one of the most difficult challenges in recycling composite materials, particularly those from sportswear and swimwear, among the most problematic waste in the textile sector. Indeed, the coexistence of different fibers within the same fabric has long been a significant obstacle to recycling, condemning tons of potentially recoverable materials to becoming waste”, stated **Giulio Bonazzi, Chief Executive Officer.***

The goal now is to optimize the process at every stage to define the set-up of a future large-scale industrial plant. Aquafil has activated a network of strategic stakeholders to ensure a steady flow of waste materials and build a solid and efficient supply chain that can feed an increasingly virtuous recycling model.

The nylon recovered through this technology will be entirely destined for the ECONYL® regeneration plant, where it will be processed into new regenerated nylon, ready for new textile applications. This is another step toward decreasing dependence on virgin resources and making a concrete contribution to reducing the industry's environmental impact.

*“With this project, Aquafil confirms its pioneering role and ability to translate vision into action, investing in cutting-edge solutions that combine research, technology and circularity. A tangible demonstration of how innovation can offer concrete answers to global environmental challenges, turning what is waste today into a valuable resource for tomorrow”, concluded **Mr. Bonazzi.***

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Aquafil is a pioneer in the circular economy also thanks to the ECONYL® regeneration system, an innovative and sustainable process able to create new products from waste and give life to an endless cycle. The nylon waste is collected in locations all over the world and includes industrial waste but also products – such as fishing nets and rugs – that have reached the end of their useful life. Such waste is processed to obtain a raw material – caprolactam – with the same chemical and performance characteristics as those from fossil sources. The polymers produced from ECONYL® caprolactam are distributed to the Group's production plants, where they are transformed into yarn for rugs carpet flooring and for clothing.

Founded in 1965, Aquafil is one of the main producers of nylon in Italy and worldwide. The Group is present on three different continents, employing about 2,400 people at 19 production sites located in Italy, Slovenia, Unites States, China, Croatia, Chile, Thailand and Japan.

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