

MM#3

The modulyss® magazine

From fishing nets to carpet tiles
partnership with Healthy Seas®





The problem

The issue of **marine waste** is vast. According to a report from the Food and Agriculture Organization of the UN (FAO) and the United Nations Environment Programme (UNEP), a staggering **640,000 tons of discarded fishing gear is left in our oceans each year**, accounting for one-tenth of all marine litter. These discarded nets can remain in the sea for centuries continuing to catch or injure marine life such as fish, dolphins, turtles and marine birds (known as ghost fishing).

The solution

In 2013 **Healthy Seas®** was set up by three founders - one NGO (The ECNC Group) and two enterprises (Aquafil Group & Star Sock) - that have joined forces to protect our seas, by bringing together many different stakeholders: divers, fisheries, NGOs, governments, communities as well as salvage, recycling and production companies. **Healthy Seas®** takes action in many different ways: **raising public awareness, helping prevent marine littering, diving for abandoned fishnets and collaborating with fishermen and harbors** in order to collect their spent fishnets into dedicated areas inside the harbors.

TAKING ACTION FOR

Clean waters teeming with marine life - that's the ultimate goal of Healthy Seas®. We dive for abandoned fishnets, help prevent marine littering and raise public awareness.



RAISING AWARENESS

Joining Healthy Seas®, modulyss® works on raising public awareness of the environmental damage caused by ghost fishing gear and promote the ecological and economic importance of healthy seas.

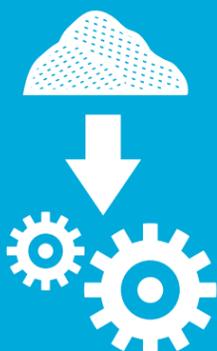


PREVENTING MARINE LITTERING

Joining Healthy Seas®, modulyss® collaborates with other stakeholders to prevent waste nets from ending up in the sea and help them dispose of nets in a responsible way.

FROM FISHING

Healthy Seas® not only removes the waste but makes sure that it gets regenerated into new products.



PREPARING THE WASTE

Recovered fishing nets are cleaned of foreign materials such as organic, plastic or metallic elements, and prepared for regeneration.



REGENERATING NYLON 6

The nylon 6 recovered from fishing nets is transported to a recycling plant where, together with other waste materials, is turned into new products.

Nylon 6

Fishing nets can be made of many different materials but **nylon 6 is the only material used in fishing net production that can be recycled and regenerated**. Healthy Seas® encourages fish farmers to use only nylon 6 fishing nets, so that they can be regenerated after their useful life.

Three pilot regions

Healthy Seas® has started recovering ghost nets **from the North, the Adriatic and the Mediterranean Sea**. These areas are heavily fished and hold many shipwrecks where waste fishing nets tend to accumulate. These pilot regions were chosen because they represent the geographical and ecological conditions of other European seas and can give vital experience for future projects.

modulyss® joins Healthy Seas®

As modulyss® also uses nylon 6 (PA 6) to manufacture its carpet tiles, it was a natural decision to join Healthy Seas® as **an associate partner member**.

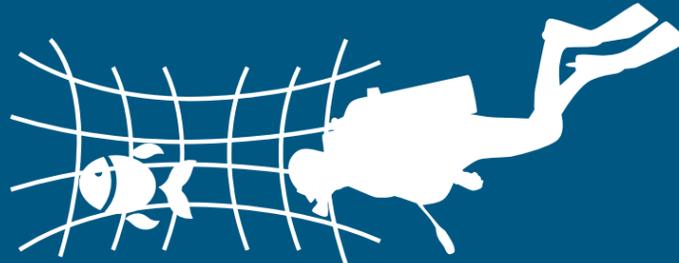
Pairing the ECONYL® 100% regenerated (PA 6) yarns with a recycled primary and secondary backing, modulyss® takes its responsibility to the environment very seriously and is now taking it a step further by joining Healthy Seas®.

As part of the sustainable mission to reduce the Life Cycle Impact of each product, modulyss® is convinced that its contribution will be very valuable in improving the fishing net recovery activities and prevention projects that are currently developed in various harbors areas around Europe.

More information? Visit www.healthyseas.org

MARINE PROTECTION

Healthy Seas®. To protect our seas we take action in many different ways. We focus on preventing marine littering and raise public awareness.



MARINE LITTER

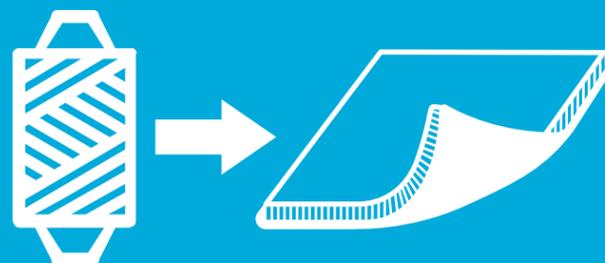
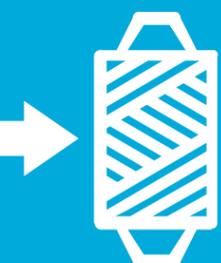
We work together with fishermen, fish farms, local communities and NGOs to clean up in the sea. Together we work on measures to prevent marine littering in a sensible yet affordable way.

RECOVERING FISHNETS

As part of our pilot projects, divers recover ghost nets from the Adriatic and the North Sea. We are busy scouting the Mediterranean Sea for future clean-ups, and other areas, such as California, are already on our agenda.

NETS TO YARN

Recovered fishing nets are recycled by Aquafil into ECONYL® nylon yarn, used in the modulyss® eco-collections.



RAW MATERIAL

Recovered fishing nets are recycled into virgin raw material, which, together with other waste materials, is transformed into ECONYL® regenerated nylon yarn.

PRODUCTS

modulyss® designed the exquisite eco-collections, all produced using the regenerated ECONYL® nylon yarn, derived from recovered fishing nets and other waste materials.

THE ECONYL® REGENERATION SYSTEM

Aquafil: Leading manufacturer of nylon 6

The production of filaments for textile floorings has been Aquafil's core business since the company was founded in 1965. Now, the Group is the leading manufacturer in Europe and the second largest global player in the BCF sector. Since 50 years, Aquafil has been one of the leading players, both in Italy and globally, in the production of Polyamide 6: **a landmark in terms of quality and product innovation.**

The Group's first production facility was established in Arco, Italy for polymerisation and manufacturing of nylon 6 fibers. Today, the Group has a presence in eight countries on three continents with 15 plants employing more than 2.700 people in Italy, Slovenia, Croatia, Germany, the United Kingdom, the United States, Thailand and China.

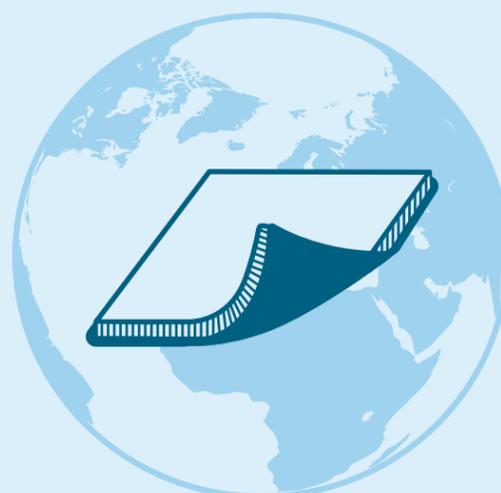
More information? Visit www.aquafil.com

RE-COMMERCIALISATION

BCF yarns are used in the creation of synthetic carpet floorings. These products are marketed to customers throughout the world to produce carpets for their final markets.

When speaking of re-commercialisation, the rules for producing man-made fibers get re-written. The future goal is to manufacture products that are not only entirely made of regenerated material, but are fully and endlessly regenerable.

The ECONYL® Regeneration System starts by collecting nylon 6 waste and never ends. **It is a process that forms a closed-loop production cycle in the truest sense.**



ECONYL

TRANSFORMATION INTO NYLON 6 YARN

The ECONYL® caprolactam that is produced has the same chemical and performance characteristics as caprolactam from raw fossil material. For this reason it is possible to produce ECONYL® nylon yarn with exact the same characteristics and performance of the yarn coming from virgin caprolactam.

The PA6 polymers produced from ECONYL® caprolactam are distributed to production facilities where they are processed into **BCF yarn.**



An intelligent and sustainable way to create products from waste in a continuous loop

The **ECONYL® Regeneration System** is the world's most efficient industrial system for the production of nylon 6 from 100% regenerated waste materials. **Conceptualised and designed entirely by the Aquafil Group**, with an investment of nearly 25 million €, this innovative system was introduced in 2011 to reduce the amount of global waste by collecting it from landfills and oceans and feeding it back into production cycles.

Thanks to this groundbreaking process, the fishing nets recovered by the Healthy Seas® can be regenerated into first grade nylon. The regenerated nylon yarn is called **ECONYL®** and has the same qualities as virgin nylon from fossil raw material. The yarn is used for the production of sustainable carpet products and other textiles.

More information? Visit www.econyl.com

WORLD-WIDE NYLON 6 WASTE RESCUE

The **ECONYL® Reclaiming Program** was established by the Aquafil Group to **recover nylon 6 waste worldwide**. The waste collection network expands across the globe with current operations in the USA, Egypt, Greece, Pakistan, Thailand, Norway and Turkey.

The pre-consumer waste collected includes production waste, industrial plastic components and oligomers. The supply chains that provide post-consumer waste are becoming more and more important. Products at the end of their life cycle with high percentage of nylon 6 **such as fishing nets, fabrics and the fluff from carpet flooring** (such as modulyss®) are collected and **sent to the ECONYL® waste treatment center in Slovenia.**



ECONYL®

ECONYL® DEPOLYMERISATION PLANT

At the heart of the ECONYL® Regeneration System lies **a chemical phenomenon: depolymerisation**. What makes this step so unique is a chemical process that transforms waste into raw material. Until recently, depolymerisation at a scale that is commercially viable had been deemed impossible in the synthetic fibers sector.

Aquafil has invented a radically new purification process that is less complex than others applied in the industry. As a result, less energy and water is utilised.



modulyss®

A LONG LASTING RELATIONSHIP WITH SUSTAINABILITY



Pure Air100 504

modulyss® has always been very much aware of its corporate social responsibility. modulyss® believes it is a fundamental precondition to sound entrepreneurship.

Not only initiatives such as CARE and 'back2back' prove that sustainability is a number 1 priority, modulyss® also tries to optimise electricity use by installing solar panels and try to limit water consumption wherever possible, all over its facilities.

Ever since modulyss® inception, the people, the processes and the products themselves have been screened for their environmental impact. This has allowed modulyss® to develop a sustainable workflow over the years, delivering goods that are ecologically viable.

2008

Minimum70*

In October 2008, modulyss® became the first European manufacturer to bring an ecological carpet tile (Minimum70*) to market with a minimum of 70 % recycled material, Econyl70.

(* This product is no longer available in the modulyss® carpet tile collection.

2009

Taking CARE

modulyss® sets up the CARE program in which carpet tiles get re-used as fuel, which results in 50% recycling of our carpet tiles and a significant reduction of the CO₂ emissions.

2010

ISO certification

modulyss® operates in compliance with the ISO 26000 standard, an international certification for businesses that comply to their social responsibility. The conformity declaration is awarded by BECO.

2011

70% becomes 100%

All modulyss® eco-collections use the ECONYL® yarns of Aquafil, the regenerated material which has now been increased from 70% to 100% waste content. The modulyss® eco-collections' colour palette expands, allowing more creativity and mix&match possibilities.

2015

Partnership with Healthy Seas®

modulyss® takes its responsibility to the environment very seriously and is now taking it a step further by joining Healthy Seas®.

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Eco-collections

The past seven years modulyss® launched six ecological carpet tile collections. What makes these collections unique is that they combine three environmental parts into one efficient, ecological carpet tile: **the face fibre, the primary backing and the secondary backing.**

The face fibre

ECONYL® yarns are made from 100% regenerated materials that have been extracted from pre and post consumer waste streams. Redirecting those waste streams back into the manufacturing process, Aquafil is able to produce yarns that achieve a significant reduction in our consumption of precious fossil fuels, energy and raw materials.

Primary backing

To improve the environmental credentials of our carpet tiles even further, each and every carpet tile employs Colback® SMR primary backing. This primary backing is produced completely from locally sourced 100% post-consumer recycled polyester.

Back2back

modulyss® aims to consider the environment at every stage and even uses its own carpet tile waste to provide their products with strength and stability. **The waste from the tile cutting process is shredded and added to the secondary backing, giving it a 10% post-industrial recycled content.**

Recycled limestone in backing

The filler used for the production of carpet tiles is 100% post-industrial recycled, diverted from a waste stream of the limestone mining.

CARE

Response to used carpet tiles

A Partnership of modulyss® and the Vanheede Environment Group in which carpet tiles are converted into secondary fuel to reduce CO₂ emissions significantly. The minerals are extracted from the carpet tiles and recycled into raw material for the cement production industry, which results in 50% recycling of our carpet tiles.

A closed, traceable system

After the sustainable processing of the carpet tiles, one receives the Sustainable Solution certificate from Vanheede Environment Group. The certificate serves as proof that the carpet tiles have been processed in the most sustainable way.

Let's face the facts



Total m²
of modulyss® eco-collections
produced with ECONYL® yarn in 2014

745.000 m²



Km of ECONYL® yarn
used to produce the modulyss® eco-collections
in 2014

4.830.000 km



Saved electrical energy
by using ECONYL® yarn
in the modulyss® eco-collections in 2014
= energy demand for 1 year of

2.000 households

(source: Eurostat documents - European Commission)



Reduced CO₂ equivalent emissions
by using the modulyss® eco-collections in 2014

> 2.500.000 kg

= a car circumnavigating the equator more than 490 times

(source: Aquafil Internal Data)

ECO-COLLECTIONS

Alternative100 - Converse100 - Eco100 C - Pure Air100 - Reverse100 - Millennium100

The modulyss® eco-collections offer a wide variety of trend-defining contemporary designs as well as real evergreens with a proven track record. Available in a huge array of colours, the eco-collections can be combined and coordinated to suit any style of interior design.

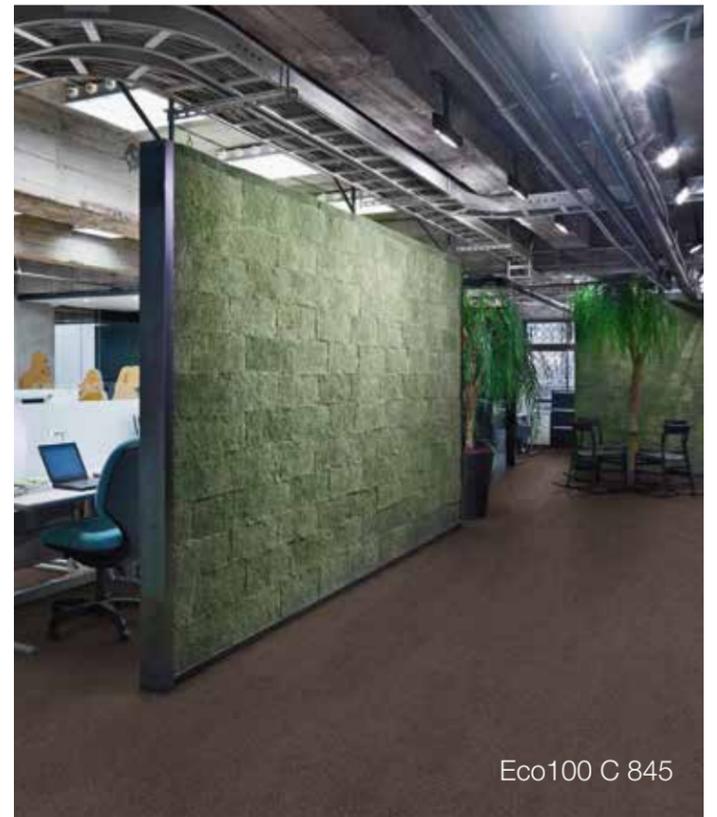
More information? Visit www.modulyss.com



Alternative100 312



Converse100 569



Eco100 C 845



Pure Air100 609



Reverse100 95U



Millennium100 918

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styles in carpet tiles