



FOCUS ON

-Radyarn®-
Bergamo, 20 April 2014

Radyarn® UV Stabilized: maximum performance yarn, tailorable to your fabric needs



■ Radyarn® UV Stabilized is a high-performance, tailorable, high-quality, sustainable yarn. Available in solution-dyed and recycled-PET versions. Radyarn® UV Stabilized is a UV-stabilized polyester yarn produced by the RadiciGroup PET YARN Business Unit.

■ Radyarn® UV Stabilized is ideal for the manufacture of fabrics used in applications such as:

- AWNINGS
- OUTDOOR FURNISHINGS
- MARINE

■ Why choose our yarn? Because we can optimize and tailor-design the performance of our yarn to meet your exact specifications. How can we do that? Through total control over our vertically integrated production from spinning to downstream processing.

Radyarn® UV Stabilized is among the top specialties of the product range offered by RadiciGroup PET YARN – a leading European producer of continuous polyester yarn. Radyarn® UV Stabilized is a high-performance yarn with intrinsic anti-UV-ray properties that make it ideal for fabrics used for awnings, outdoor furnishings and marine applications.

Stability and colourfastness to sunlight.

Residual resistance after solar exposure comparable to that of traditional acrylic products. Compared to the latter, PET yarn provides greater dimensional stability. Indeed, Radyarn® UV Guard yarn prevents fabric creasing, deformation over the entire fabric surface and along the seams, and unsightly waviness in woven fabric.

Excellent aesthetic look.

No degradation as a result of maintenance treatments.

Free of harmful substances.

QUALITY, PERFORMANCE AND A HIGH DEGREE OF CUSTOMIZATION ...

Know-how, vertical integration and total production control from spinning to downstream processing. Taking advantage of these RadiciGroup strengths, the PET YARN Business Unit is able to tailor its products to meet its customers' needs in an efficient way.



Daniele Dossi

“Vertically integrated production is the key to the flexibility needed to customize our polyester yarn to the exact customer specifications, not only in terms of colour, but also, above all, in terms of formulation and functionality,” said **Daniele Dossi**, *site quality manager of Noyfil SA*. “And this means meeting specific aesthetic and performance requirements simultaneously, because look and performance are two equally important factors to our customers. Our yarn’s performance reliability in fabrics is ensured by lab tests on fabric samples, which we perform using specialized instruments. Still another significant aspect is the broad range of UV Stabilized yarn we offer:

not only standard polyester, but also PET Flame Retardant and recycled polyester. We can thus deliver multifunctional products, a feature that is appreciated by our target market.”

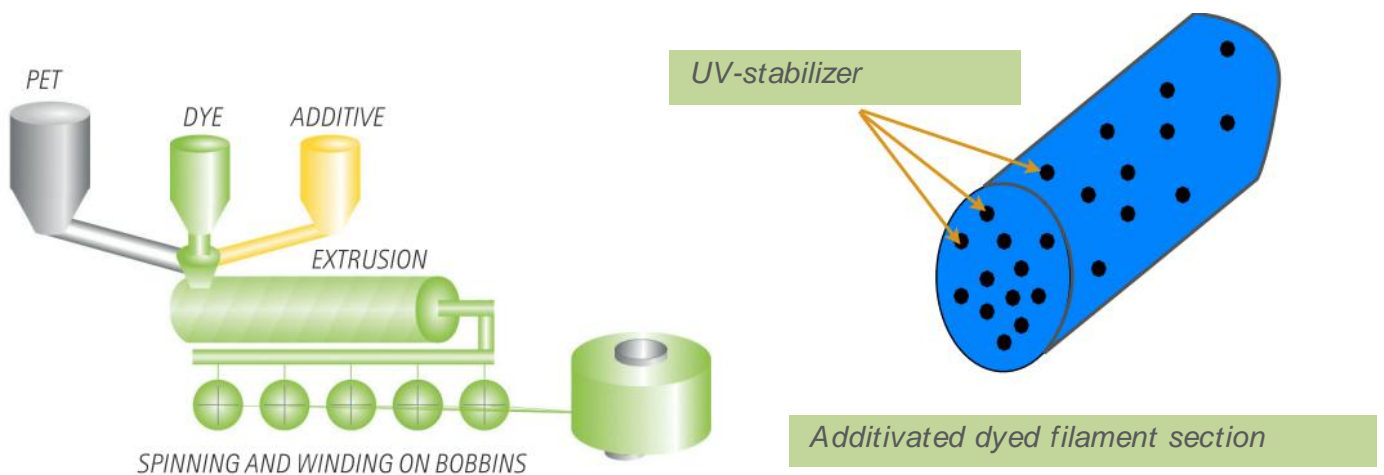
FLEXIBILITY AND COLOUR RANGE...



“Our customers have a wide choice of colours, lustres and counts, even for small production lots,” said **Roberto Milan**, *laboratory and colour department manager of Noyfil SA*. “We offer maximum flexibility in colour tailoring. Requests for particular colours and shades come mostly from customers in the outdoor furnishings sector. Our distinctive competence lies in our ability to develop each product to the exact specifications of our customers, who can thus make innovative fabrics as to hand, performance and look. In the specific case of UV Stabilized yarn, a fundamental characteristic is colourfastness. Our yarns are guaranteed to deliver long lasting performance in both mechanical properties and colourfastness. This is the kind of performance we can directly test in our labs on our Xenotest

machine.”

A UV-stabilizer is added to the polymer in the spinning phase. This particular additive absorbs and dissipates part of the radiation from UV rays, thus preventing polymer degradation. The yarn is solution dyed (solution dyeing is a “green” process in that it uses less water compared to other dyeing methods). In this process, the

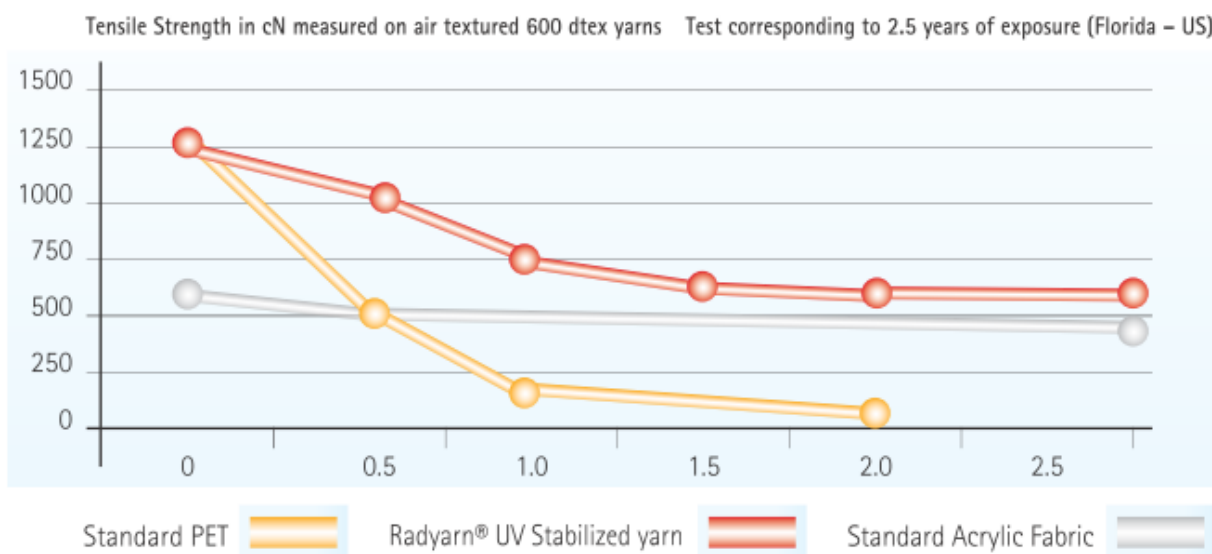


pigments are directly added upstream of the production process and become an integral part of the polymer matrix. Additives and dyes are directly incorporated into the polymer, which ensures longer-lasting weathering resistance and less degradation from maintenance treatments on the end product.

STANDARD POLYESTER, ACRYLIC AND UV STABILIZED POLYESTER

Comparison of the three materials after exposure to solar radiation:

- Standard polyester loses its tensile strength completely after exposure, already during the first phase of the test.
- Acrylic starts off with lower tensile strength, but the value drops only slightly during the test.
- Radyarn® UV stabilized yarn drops to a value just above the acrylic (market reference value) and maintains that value during the final phase until the end of the test. This is attributable to the continuous filament spinning technology and the texturing process.



AN IMPROVED VERSION OF RADYARN® UV STABILIZED... Thanks to continuous research and development on performance optimization, RadiciGroup PET YARN now has in production a **UV-stabilized polyester with improved UV resistance**. This new improved UV-stabilized product exhibits tensile strength after exposure that is double the value of acrylic yarn.

Colourfastness has also been improved, which has eliminated the loss of surface lustre – a colour degradation-like effect, particularly on very dark colours. Using this new Radyarn® UV Stabilized yarn, you can weave higher-performance fabrics with all the characteristics typical of our other UV-stabilized yarns, including aesthetic look and fabric elasticity.

Radyarn® UV Stabilized is available in a wide range of combinations:

- **BASE POLYMER:** dull, bright or translucent
- **YARN CROSS-SECTION:** round or trilobal
- **YARN TYPES:** Friction textured (FTF), air-jet textured (AJT) or twisted

Besides the standard polyester, Radyarn® UV Stabilized is available in the following versions:

- FLAME RETARDANT POLYMER FR: fabrics made with this yarn will pass the M1 burning test.
- CERTIFIED 100% POST CONSUMER RECYCLED POLYMER: the yarn is guaranteed to deliver the same performance as standard polymer, with the added value of sustainability.
- BACTERIOSTATIC: additives are added in the spinning phase in order to obtain bacteriostatic yarns compliant with the ISO 20743:2007 standard with excellent wash resistance.

-Radyarn® and **★Starlight®**

All the Radyarn® UV-stabilized yarns are made from the RadiciGroup yarn sold under the Starlight® brand name,

**FOR MORE DETAILS ON OUR
RADYARN® UV STABILIZED RANGE, PLEASE
CONTACT OUR MARKETING DEPARTMENT:
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RADICIGROUP: FROM CHEMICALS TO PLASTICS, SYNTHETIC FIBRES AND NONWOVENS.

Production and sales sites in Europe, North America, South America and Asia. Diversified businesses focusing on chemicals, plastics, synthetic fibres and nonwovens. Know-how. Vertically integrated nylon production. Constant commitment to guaranteeing its customers quality, sustainable innovation and reliability.

All this is RadiciGroup, a leader in nylon chemicals. RadiciGroup products are used in applications such as:

- Apparel
- Furnishings
- Automotive
- Consumer goods
- Construction
- Electrical and electronics
- Household appliances
- Sport

RadiciGroup, with its Chemicals, Plastics, Synthetic Fibres and Nonwovens Business Areas, is part of a larger industrial group that also includes textile machinery and energy businesses. www.radicigroup.com

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