COATYARN SRL

Coatyarn manufactures high-tech and high-quality Coated Yarns, available in a huge range of core-coat combinations and counts, and suitable to countless applications.

TPU Evolution® is our 100% Italian made Polyurethan yarn: thanks to its amazing performances, it can give life to a variety applications, including *knitted and protective garments, accessories, outerwear, sportswear and shoes, technical and workwear, bags, suitcases, indoor and outdoor furniture,* and also finds uses in the *medical area*, *heavier industry* and *automotive* sectors.
Available in many versions and counts, TPU Evolution® generates different effects on the fabric depending on the type of finishing chosen, as mentioned in the attached product sheet.

Uniqueness and *performance* are a given with our yarn.
After the finishing process, the *easy-to-cut* fabric guarantees the dimensional stability of the product, as well as optimum breathability before reaching the waterproof stage.
TPU Evolution® is UV stable and enhances colors, it is sensationally soft to the touch, and shows an excellent resistance to abrasion, hydrolysis, microbial attack, solvents, oils and fats.
TPU Evolution® *High Grip is* suitable for socks, gloves, medical and orthopedic items, thanks to its higher grip features.

As for our Coated Yarns Industrial range, our main areas of focus include various fields like structural reinforcement of buildings and infrastructures, composites, automotive, nautical, ballistics, braided cable harnesses, carpets, ropes, and much more.
Our coated yarns **guarantee fabric reinforcement and stabilization**, **anti-fraying**, **easy cut;** thanks to the choice of specific thermoplastic adhesives used as coat they also grant, after the thermofixing process, **a very strong bond** with all kinds of technical fibers.
The thermoplastic adhesives we use **are compatible with most different resins** used in the further production processes.
Our coated yarns are available in a huge range of counts and combinations between cores and coats:
available core fibers are for example **glass,** high tenacity **polyester,** stainless **steel, basalt, aramid** fiber**, cordura, polyester, polypropilene;**
these can be coated by extrusion with thermoplastic polymers such as Polypropilene, **TPU,** low melt CoPa and CoPes**, EVA,** PA12, PEEK, or other **special polymers such as PPS or PVDF.** (Our catalogue attached)

Our R&D team is in constant research, to create **tailor made solutions** to satisfy our customers' specific needs.

At Coatyarn we care for the environment and try to make our products as sustainable as possible, in addition to always being on the lookout for new ways to reduce the ecological footprint.
TPU Evolution® is solvent-free, **OekoTex Standard 100 Class 1** certified and can be heated and melted over and over again in order to reach different stages of lamination. The *Water Free technology* combined with the low energy impact makes TPU Evolution® even more sustainable.

Product 1: **Tpu evolution for safety shoes**

TPU Evolution® is our 100% made in Italy and 100% recyclable polyurethane yarn that gives space to your creativity, thanks to its infinite possibilities of use and the wide range of colors and counts available.

TPU Evolution® can be used for all kinds of knitted creations, on flat bed or circular machines, as well as for shuttle fabrics: it is successfully used for the creation of bags, outdoor and safety shoes, sneakers, outerwear, but also sweaters, ribbons, accessories, furniture and more technical wear and applications.

TPU Evolution® can be knitted or waived by itself or in combination with any other yarn, from the traditional noble fibers to the most technical fibers.

TPU Evolution® guarantees a very high resistance to abrasion, hydrolysis, solvents, oils and greases, UV rays and aging. It is also permanently antimicrobial and enhances the brilliance of colors.

Tpu Evolution® is successfully used for the production of shoes, both outdoor, sneakers and safety shoes.

For safety shoes, Tpu Evolution® grants a really excellent resistance to abrasion, weather, wear and tear, oils, greases and solvents.

When used for knitted and woven shoe uppers, Tpu Evolution® can be inserted in the areas that need reinforcement, such as tip and heel, or for logos and skins. The

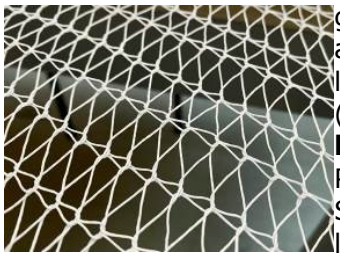
result is a shoe upper that can be produced in one go, with logos and skin effects already incorporated. The finishing treatment allows for different degrees of lamination and matt or glossy effects. One knit, one shot, one shoe.

TPU Evolution® is Oekotex Class 1 certified and produced according to a zero-waste logic: it is a sustainable yarn, 100% recyclable, solvent-free, and colors are produced with water-free technology.

Product 2: **Biodegradable geomat**

Our collaboration with the Civil and Industrial Engineering and Biology Departments at Pisa University started as a way to answer the need for a biodegradable geomat that could help the repopulation of Posidonia plants in the Tuscan archipelago.

Thanks to the constant research, we have studied and developed a highly sustainable coated yarn. Its fiberglass core, having a high percentage of silica, grants the net high tenacity and resistance during its active time while becoming part of the marine soil end of life. Its coating is composed of Thermoplastic biopolymers (PBSA) which have been identified as **totally biodegradable** in seawater over time by the University of Pisa and its partners ASA (Azienda Servizi Ambientali Spa), Acquario di Livorno and Ispra (Istituto Superiore per la Protezione e la Ricerca Ambientale).



The same net can be produced using yarns with different cores, such as the cellulose-based Lenzing™ Lyocell filament yarn or other biodegradable materials for the most various applications.

With this yarn, in cooperation with Tex Tech Technologies Srl, a geomat has been realized for the first time through knitting process, getting **a net with variable meshes, perfectly adapting to the sea floor.**

This geomat will be used for the creation of "undersea gardens", allowing the repopulation of posidonia plants under the sea. The colonisation by vegetation is in fact necessary for the health of the marine ecosystem, but rather difficult to achieve naturally. Our geomat secures a strong anchorage of the roots to the soil, moreover its variable mashes adapt to the natural growth of the plant, finally biodegrading completely with no impact on the delicate marine ecosystem.

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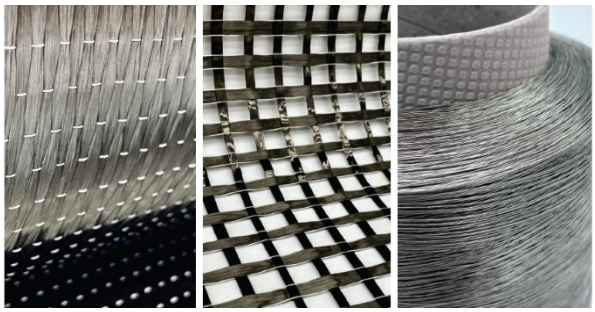
Product 3: **Coated yarns for Unidirectional and multiaxial fabrics, meshes**



Our Coated Yarns Industrial range include yarns apt for the production of technical textile fabrics (*unidirectional and multiaxial fabrics, as well as meshes)* made with fiberglass, carbon fibre, aramid fibre, basalt and used for the *structural reinforcement of buildings and infrastructures* and for *composites:*

Our yarns are made up of *cores* that include, among others, e-glass, stainless steel, aramid fiber, basalt, polyamide, high tenacity polyester, coated in extrusion with thermoplastic polymers including bio-based low melt co-polyamide, EVA, low melt polyester, polypropylene, thermoplastic polyurethane and special polymers such as PEEK, LDPE, Dyneema, PPS and PVDF.
Our coated yarns guarantee fabric reinforcement and stabilization, anti-fraying, easy cut; thanks to the choice of specific thermoplastic adhesives used as coat they also grant, after the thermofixing process, a very strong bond with all kinds of technical fibers.
The thermoplastic adhesives we use are compatible with most different resins used in the further production processes.

Contact Details:

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