



Environmental Care in the Synthetic Turf Industry

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ABOUT ESTC

ESTC is the trade association for the synthetic turf industry in the EMEA region. Its objective and purpose is to serve, promote, develop, grow and advocate for the synthetic turf industry. We work in both the sports and landscaping sectors.

ESTC fulfils its role by means of close collaboration with all parties involved; members, end-users, sports governing bodies and legislators.

ESTC is focused on the regions of Europe, Middle East and Africa. Via our partnership with the Synthetic Turf Council (STC) in North America, ESTC also helps its members achieve a global reach. On a local level, ESTC works closely with national industry associations to accomplish our goals and objectives.

Our members are at the core of everything we do and are the driving force of the organization. The strategy of ESTC can best be visualised in a 4-pillar model, consisting of Advocacy, Knowledge, Marketing and Networking. Our vision is to build a circular model taking into account sourcing of raw materials, regeneration, and responsible end-of-life processing to close the loop in our supply chains. ESTC is focused on working with members according to a circular economy model.

The United Nations, the European Union and leading national governments are all determined to protect our planet so that it can support the needs of present and future generations. Recognising this need, ESTC is delighted to be working with the European Commission to develop an industry-wide procedure to analyse the life cycle and environmental impact of synthetic turf sports surfaces.

From production of the raw materials from which the surfaces are made, through manufacturing of the surfaces, their installation, operation & maintenance, and finally end of life disposal, the Product Environmental Footprint Category Rules (PEF CR) being developed will become the standard by which all synthetic turf sports surfaces will be assessed.



A key component of the European approach to reducing human impact on the planet is the circular economy. This is a model of economic, social and environmental production and consumption that aims to build a sustainable society through the use of recyclable and sustainable resources. This requires design, production and consumption to be undertaken in a sustainable way.

ESTC and its members fully support this concept and are now committing significant resources to developing new ways of manufacturing synthetic turf surfaces that can be more easily reused or recycled in the future.

THE ROLE OF SUSTAINABLE SYNTHETIC TURF IN SOCIETY

ESTC and its members are committed to creating an environmentally sustainable future for the synthetic turf industry. We help anticipate the demands of a changing world and drive the opportunities synthetic turf systems provide.



Synthetic turf sports and landscape surfaces provide many benefits to society. They allow larger numbers of people to play sport, maximising land utilisation; they allow sport to be played safely in most weather conditions; and although not maintenance-free, they require fewer resources to maintain them in an acceptable condition, without using chemical treatments and fertilisers, and with less or almost no water. Synthetic turf playing fields exponentially increase playing and practice time because they can be used daily and in all types of weather, without worry of damage. Playability is enhanced since the fields remain uniform and consistent, season after season, providing they are maintained correctly. High quality natural grass sports fields can only accommodate 6 to 10 hours of use per week but require extensive maintenance and renovation works to achieve this level of use through a playing season. Lower quality grass fields are often not capable of accommodating even this limited amount of use, but are actually expected to be available for community play throughout a season; often meaning games have to be cancelled. Synthetic turf....



ENABLES LARGE NUMBERS OF PEOPLE TO PLAY SPORT



HAS NO NEED FOR CHEMICAL TREATMENTS AND FERTILISERS



ALLOWS SPORT TO BE PLAYED SAFELY IN MOST WEATHER CONDITIONS



USES LESS OR ALMOST NO WATER



REQUIRES FEWER RESOURCES TO MAINTAIN IN AN ACCEPTABLE CONDITION



MAXIMISES LAND UTILISATION

When used for landscaping, synthetic turf helps reduce noxious emissions from lawn mowers and reduces grass clippings, which are reported as the third largest component of municipal solid waste in landfills. Increasingly, consumers and markets are becoming more environmentally aware, and the desire to incorporate sustainability assessments into the selection process when buying a product is becoming ever more common.

This is especially the case within the construction industry and also when public funding is involved. As facilities with synthetic turf surfaces often fall into both of these categories, this is an increasingly significant consideration for ESTC members.

Within the European Union, legislation to ensure Europe is climate neutral by 2050 and has made a 55% improvement by 2030 is leading member states to now reflect about these objectives in their national policies.

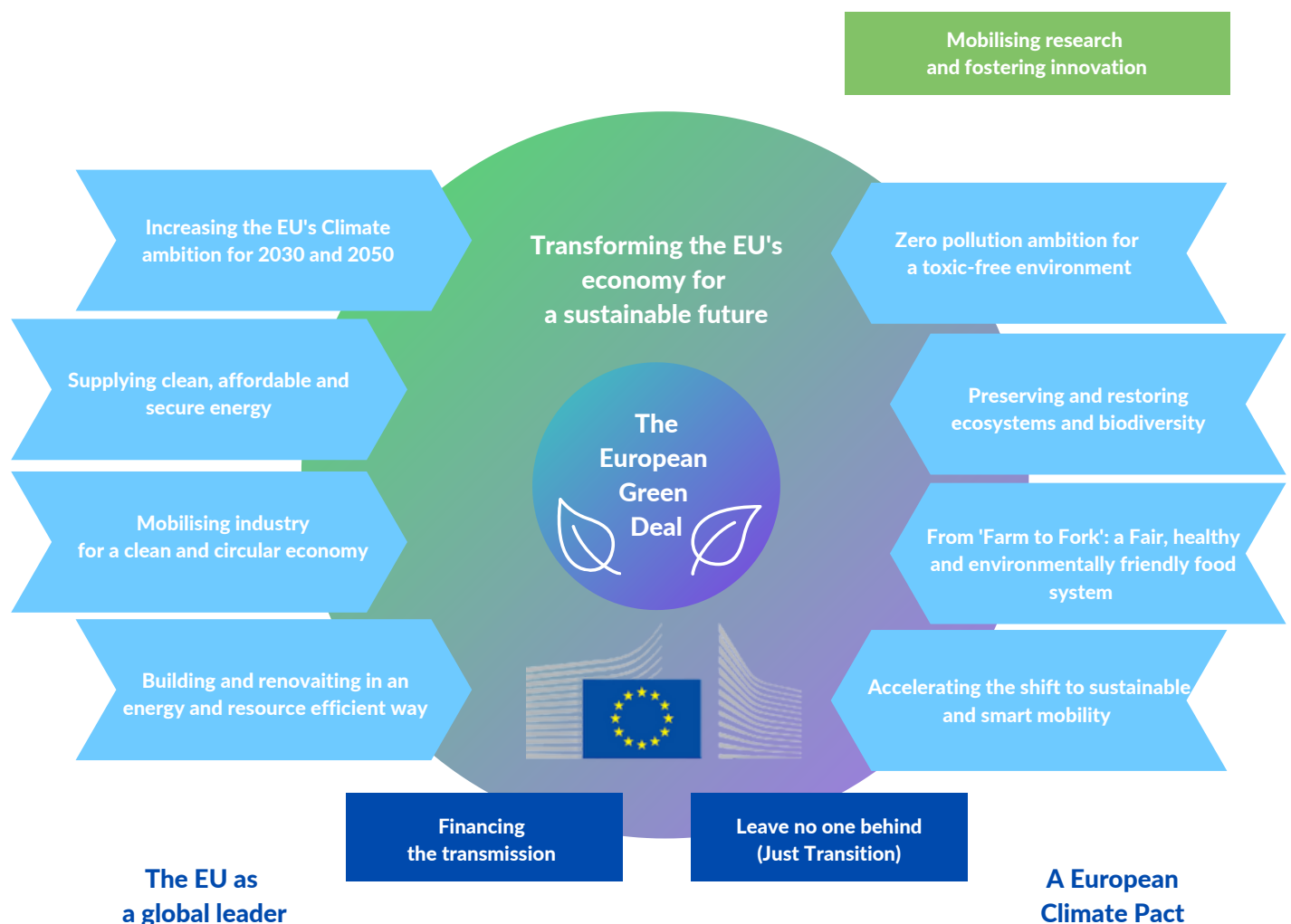


To help achieve these goals the European Commission has published its Circular Economy Action Plan and their Green Deal strategy. These are designed for, and will increasingly require, all industry sectors to adopt an eco-design and sustainable manufacturing philosophy.

GOALS OF THE **SYNTHETIC TURF** INDUSTRY

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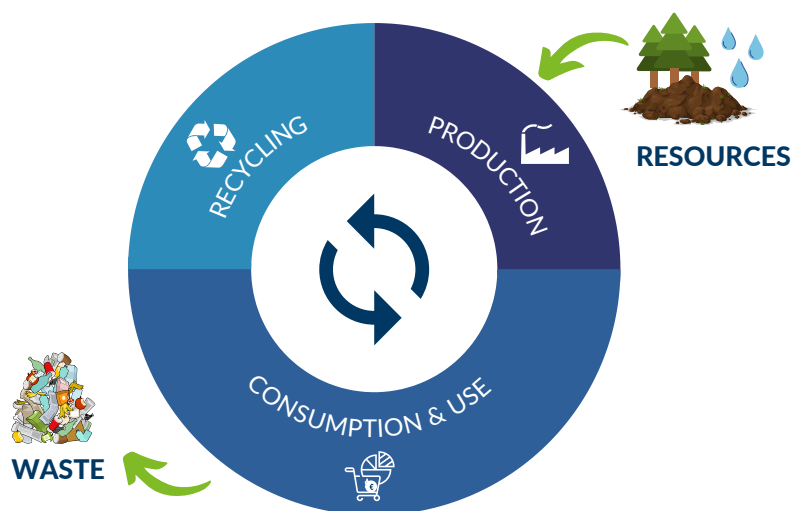
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GOALS OF THE SYNTHETIC TURF INDUSTRY

Legislators are beginning to make policies which require that sustainability and full life cycle impacts are considered in procurement and supply chains.

ESTC and its members endorse these trends and welcome the opportunities to innovate and develop the new technologies they create. Synthetic turf surfaces are typically expected to last for at least 10 years, but well-maintained fields and courts are often used for much longer.



SYNTHETIC TURF SURFACES – ALREADY SUPPORTING A SUSTAINABLE FUTURE			
TURF	INFILLS	SHOCKPADS	BASE CONSTRUCTIONS
Compliant with EU Reach* regulations	SBR (ELT) infill - supporting the circular economy	Many made from recycled materials and can themselves be recycled; supporting the circular economy	Use of recycled materials supporting the circular economy
New EN quality standards ensuring enhanced UV resistance & durability	New EN quality standards including environmental & recycling criteria	New EN quality standards, including environmental criteria ensuring longevity and environmental compatibility	Sustainable drainage solutions
Bio-based yarns saving natural resources	Vegetal infills – natural materials, bio-degradable	Longevity of product offers a sustainable solution as guarantees are offered up to 25 years	Use of post-industrial brown-field sites, helping protect greenfield spaces

Synthetic turf pitches are also able to attenuate water via a SUDS system for storm water management. The possibilities for ground water recharge or reuse offer many solutions and possibilities given that the storage capacities of a pitch are circa 300,000l. High permeability rates mean water can be collected and stored quickly.

**REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) compliance addresses regulations that were created to improve the environment and protect human health.*

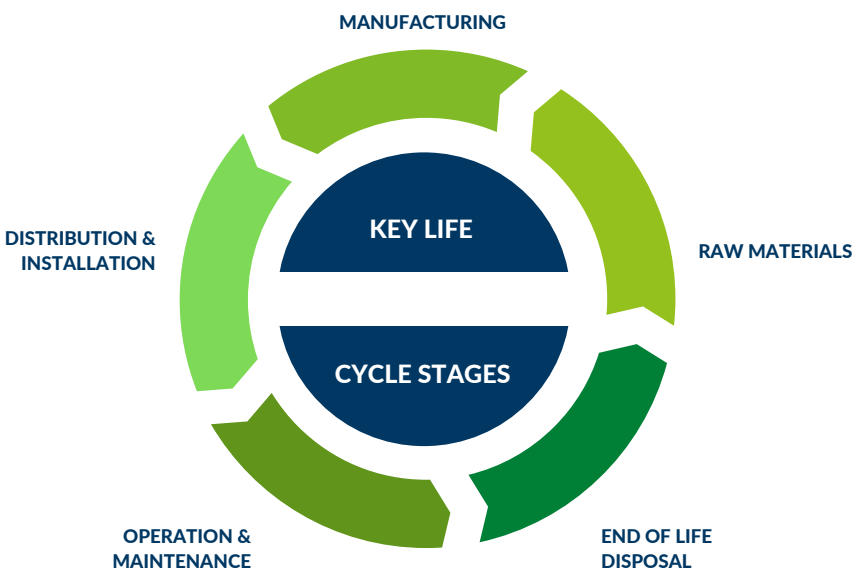
WHAT ESTC IS DOING

PEF CR – A STANDARDISED INDUSTRY APPROACH TOWARDS SUSTAINABILITY

Today, companies are starting to promote their green credentials, often by undertaking life cycle assessments of their products and their production. But with no standardised approach as to how this can and should be done, data is often incompatible meaning direct comparisons between products cannot be made, and allowing those that wish to manipulate data, to promote their green messaging.

The European Commission wishes to bring clarity to the market and want to avoid a multiplication of labels/environmental schemes being developed, some of which could restrict the sale of products throughout the single market. They have therefore adopted the life cycle assessments technique based on Product Environmental Footprints (PEF) as their preferred form. To ensure PEFs achieve the European Commission’s objectives, they need to be undertaken in a standardised way by all companies operating in an industry sector; defining the way you should undertake a PEF study is achieved by setting Category Rules (CR).

The synthetic turf industry is increasingly facing sustainable challenges that require collective action on a large scale to ensure its products are as environmentally compatible as possible.



The PEFCR project has received funding from the LIFE Programme of the European Union.

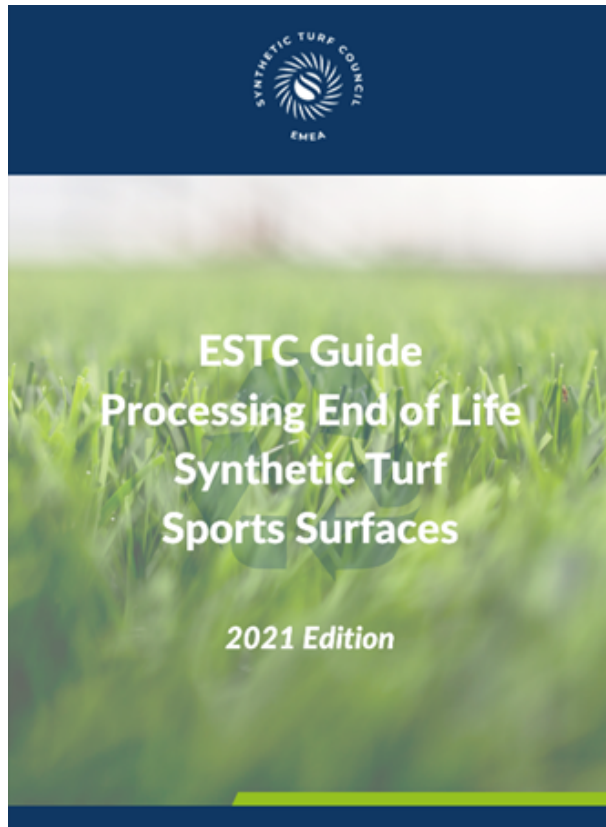
ESTC has recognized that developing a PEFCR for synthetic turf products is an opportunity for the industry to further demonstrate how it is responding to these challenges. Applying to, and being selected by the European Commission to develop a PEFCR within their Environmental Footprint Transition Phase Two Pilot Projects means the European synthetic turf industry is now ahead of future legislation, and most importantly working within the framework of the EU Transition Phase, we can set the rules for our industry instead of having them imposed by others in the future.

WHAT ESTC IS DOING

END OF LIFE GUIDANCE

As the demand and need to dispose of end of life synthetic turf surfaces in an environmentally-sensitive way grows, ESTC members are making major investments in new technologies that are allowing the surfaces to be reprocessed in an environmentally-sustainable way for the first time. ESTC recognizes and encourages these developments.

ESTC has produced the guide to assist everyone involved with the end of life disposal of synthetic turf sports fields. It highlights current options and best practices and gives an overview of the legal obligations that need to be considered before a surface is disposed of.



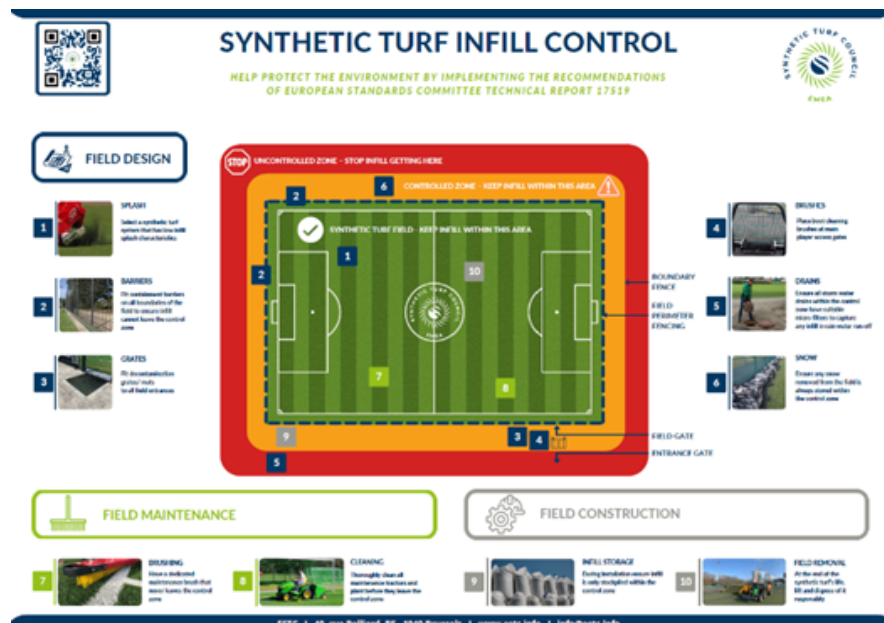
[ESTC Guide to Processing End of Life Synthetic Turf Sport Surfaces - download](#)

WHAT ESTC IS DOING

RMM - RISK MANAGEMENT MEASURES

Risk Management Measures (RMM) are designed to contain performance infill within the synthetic turf field playing and run-off areas. The techniques and measures which have been developed across the EMEA region have been formalised in the CEN Technical Report 17519, published by the European Standards Commission.

ESTC has produced a document that shows all possible solutions to prevent or limit the spread of infill from a third-generation synthetic turf field. Acknowledging or embracing these solutions is important, as it takes a collective effort to protect the environment. This document has been translated into 8 European languages.



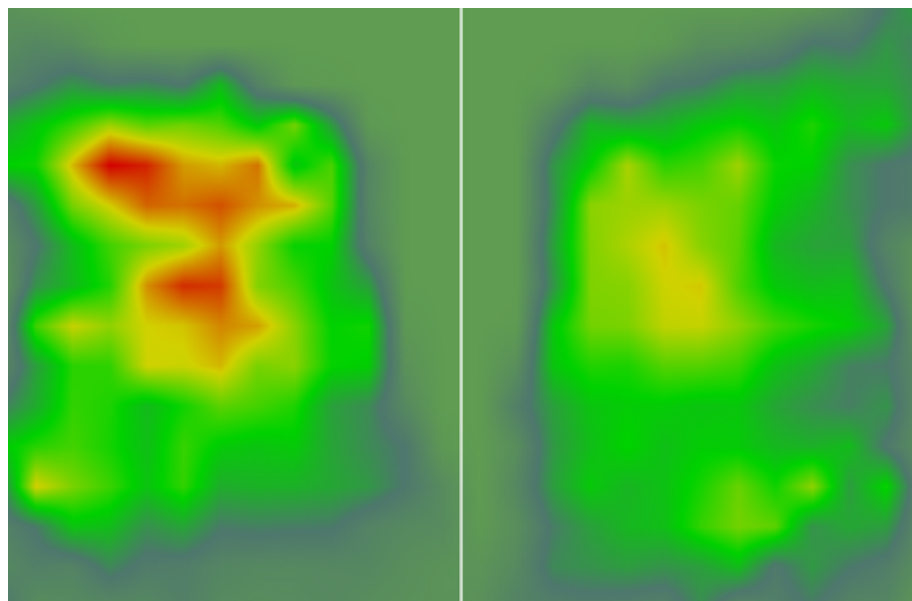
[Synthetic Turf Infill Control \(RMM\) - download](#)

WHAT ESTC IS DOING

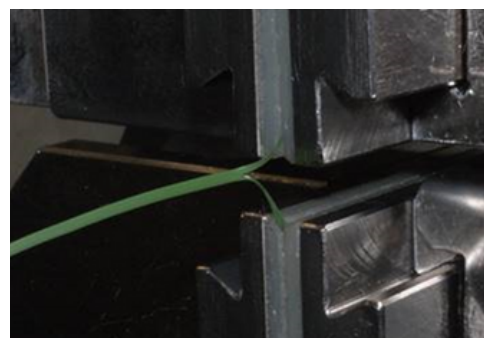
STUDY ON YARN WEAR

Future legislation is likely to consider the impact from microplastic contamination via synthetic turf yarns. Loss from turf yarns is considered a secondary microplastic, in other words, it is generated from the 'wear' of the turf system. This is different from current legislation for 'intentional microplastics' or primary microplastics which includes infill. The EU want to reduce microplastics released into the environment by 30% by 2030.

The quality of yarns used in synthetic turf surfaces is improving all the time, however all polymers weaken through ageing and use. It is very important that yarn debris is prevented from entering the environment and existing infill containment procedures will help control yarn debris migration. In addition, maintenance needs to be designed to ensure fields retain acceptable performance & collect yarn debris.



*Typical example of high field usage on a community field.
Credit - FieldTurf Genius system*



ESTC has formed the Yarn Wear Task Force, to study the yarn wear characteristics and pathways of yarn particles into the environment. This task force will also look at containment measures to ensure that yarn particles are being captured in time and migration into the environment is being prevented.

THE FUTURE IS GREEN

As the synthetic turf industry continues to evolve and embrace additional sustainable practices, so the design of synthetic turf systems will continue to change. Already, industry is working on new methods of recycling waste streams, use of recycled materials and improvements to polymer technology to name only a few.

Mechanical recycling

Recently, mechanical and chemical recycling have become more prevalent in the synthetic turf industry. With mechanical recycling, specialist synthetic turf recycling companies have developed innovative processes that efficiently separate and clean components, allowing them to be used in a range of applications including: sports applications - new e-layers, microplastic containment barriers and also in a selection of road, rail, marine, construction and industrial applications.

Chemical recycling

Chemical recycling is the process in which a polymer is chemically reduced to its original monomer form so that it can eventually be processed (re-polymerized) and remade into new plastic materials that go on to be new plastic products. For example, yarn production using chemically recycled plastic waste can not only divert waste from incineration plants, but also reduce the reliance on fossil oil raw materials.

As environmental awareness grows, this is creating commercial opportunities, and an increasing number of companies are entering the market offering waste handling and processing services. Not all companies work to the same professional standard. It is recommended that you check to ensure the waste handling process being offered by a company has been independently verified under a recognised environmental certification programme. These include:

- EN ISO 14034 - Environmental technology verification (ETV)
- EN 15343 - Plastics recycling traceability and assessment of conformity and recycled content
- European Union's Environmental Technology Verification (ETV) pilot programme
- Plastics Recyclers Europe EuCertPlast programme, or equivalents.

The sustainable evolution of synthetic turf system design will be tasked with the goal of matching sustainability with system performance criteria.



**THINK GREEN
DREAM BIG
ACT TOGETHER**

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DISCLAIMER

ESTC Guide to Sustainability in the Synthetic Turf Industry - 2022 Edition (this "Document") should not be considered as a 'standard' and aims to provide information only.

CONTACT



40, rue Belliard,
B-1040 Brussels
Belgium



www.estc.info



info@estc.info



+32 2 880 52 95