

PERMANENTLY ELASTIC, WATER-PERMEABLE, SUSTAINABLE

Elastic layers for synthetic turf

PEAK PERFORMANCE FOR ATHLETES

An overall system that is structurally coordinated and optimised in its individual components ensures long-term optimal use and consistently good playability of the synthetic turf system. The elastic layer and/or elastic base layer in its in-situ design plays a decisive role in this. For over 35 years, these layers have provided a sustainable solution for the elastic substructure of synthetic turf at Polytan.

PROPERTIES

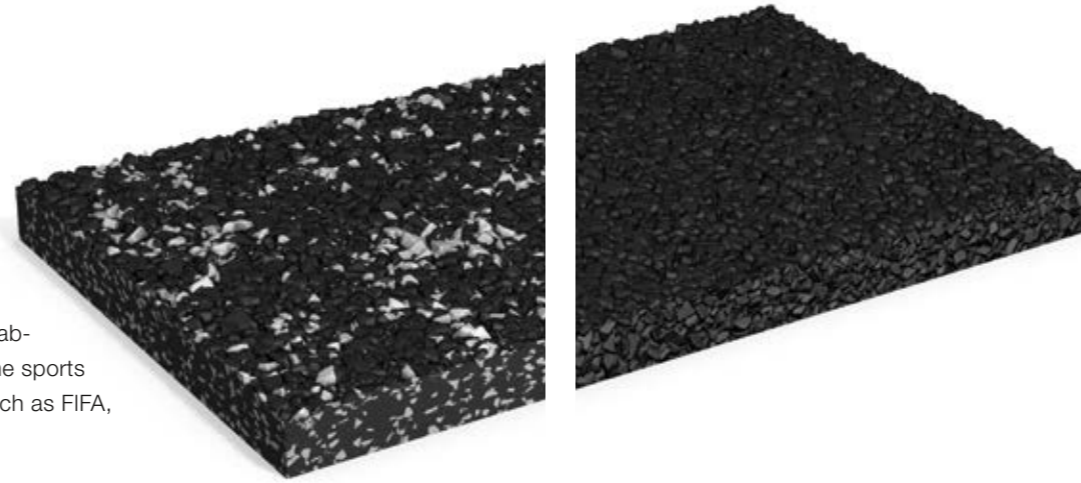
- Absolutely even and seamless surface thanks to in-situ construction
- Permanent elasticity lasting decades
- Rubber granules made from 100% post-consumer recycled material in accordance with the REACH regulation
- Recyclability and direct reuse of the removed material for new installations
- Avoidance of surface sealing thanks to water permeability

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Elastic layers for synthetic turf

With the even and constant shock absorption of the elastic layer, the playing field retains excellent playing properties and, at the same time, provides perfect protection for players throughout its entire service life. With their different shock absorption values and sport-specific properties, the elastic layers are adapted to the sports in question, thereby meeting the different requirements of sports associations such as FIFA, FIH and World Rugby.

The service life of an elastic layer of this kind is generally more than 35 years. This means it is available for at least three synthetic turf generations, and can also be quickly and easily upgraded for continued use if necessary. All Polytan elastic layers consistently fall below the PAH concentration limit in accordance with REACH regulation No. 1272 / 2013. Polytan's elastic layers have also been proven to be harmless in terms of soil and groundwater discharge. The short-term release of assessable substances from the superstructure of synthetic turf and synthetic sports floor coverings under natural precipitation conditions is considered safe, as studies by the BiSp show.*



Overview of benefits

Recycling

- SBR rubber granules from 100% post-consumer recycling comply with the waste hierarchy that is part of EU Directive 2008/98
- European, quality-tested SBR granules that comply with the REACH regulation
- Easy reconditioning and reuse of the synthetic turf elastic layer

Sustainability

- Polytan PU binding agent saves up to 20% CO₂
- Lifetime over 35 years
- Positive environmental impact compared with rubber granules from new products

Health and environment

- Strictest soil and groundwater compatibility tests
- Perfect player protection thanks to permanent elasticity
- Avoidance of surface sealing thanks to water permeability

RUBBER GRANULES MADE FROM 100% RECYCLED MATERIAL

Only high-quality, quality-monitored and environmentally tested ELT (End-of-Life Tires) rubber granules (SBR) and a special Polytan PU binding agent are used in our elastic layers. In the case of the elastic base layer, which is one of the bonded base layers, grit is also mixed in. The encapsulation of the rubber granules with polyurethane binding agent locks in all SBR granulate components. The recycling material is available everywhere in Europe without long transport distances and complies with all requirements of the REACH regulation and corresponding PAH concentration limits. For each tonne of recycled ELT-material instead of incinerated, the climate will be spared a minimum of 700 kg of CO₂-Emissions – significantly contributing to the conservation of our resources and the environment.

PERMANENT ELASTICITY AND PLAYER PROTECTION

When it comes to sport functionality, our elastic layers are especially unique in their elasticity values, which permanently ensure the safety of players. Even with an extreme displacement of the infill materials or a completely worn grass surface, the shock absorption and deformation of the layers are optimally preserved to prevent the joints, tendons and ligaments from becoming overloaded.

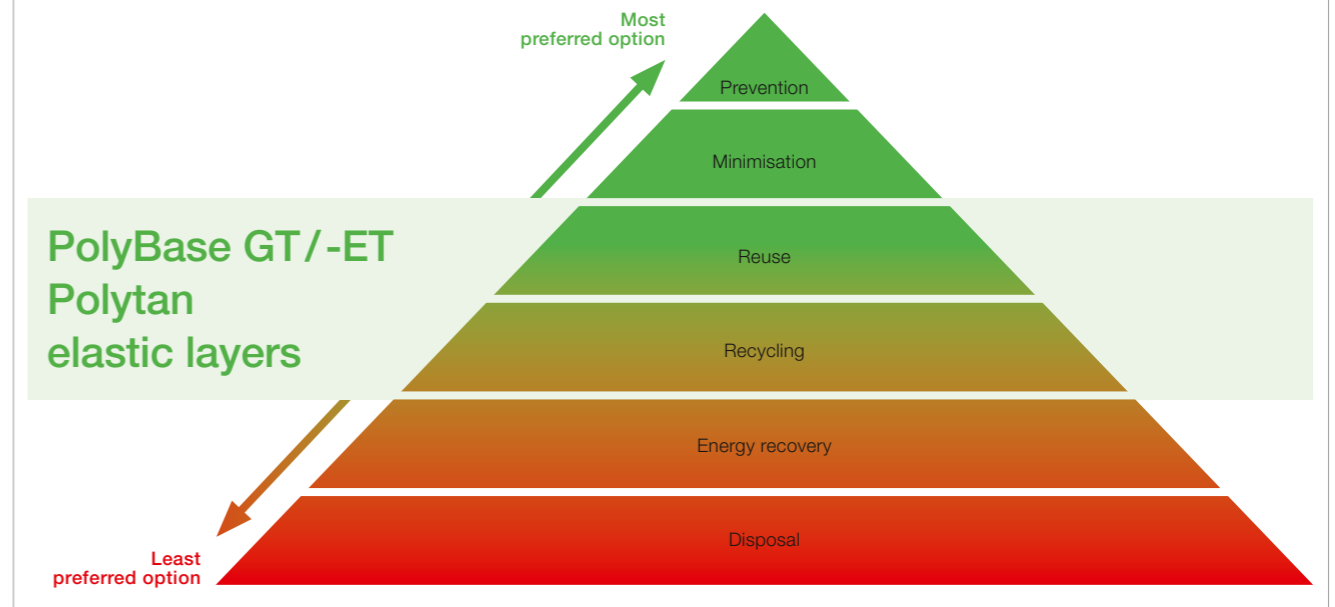
PERFECTLY LEVEL AND SEAMLESS THANKS TO IN-SITU CONSTRUCTION

In the case of in-situ construction, PU and rubber granules are mixed on site and laid precisely to the specified thicknesses with a paving machine. In contrast to prefabricated layers and shockpads, the construction of the Polytan elastic layers ensures that a perfectly flat surface with defined angles of inclination is created. In this way, even unevenness of the unbound base layer that is permissible on site can also be levelled by the elastic layer. This construction method is also the only way to create a seamless connection between the laid tracks that are always required for a sports field. This ensures that the turf surface laid on top does not develop ripples or gaps.

OPTIMAL DRAINAGE AND ENVIRONMENTAL PROPERTIES

The elastic layer not only ensures sports functionality, but also has consistently reliable drainage properties, so that the synthetic turf pitch can even be fully used during heavy rainfall. The water permeability of the system also contributes to the avoidance of surface sealing. In addition, the environmental compatibility of the elastic layer is monitored by complete quality control according to the strict guidelines for soil and water.

WASTE HIERARCHY



PolyBase GT / -ET

Polytan PolyBase GT/-ET, the next step to the perfect elastic layer: Polytan's latest Green Technology development combines the well-known benefits of in-situ elastic layers with the environmental benefits of a recycled product and a revolutionary new technology for carbon dioxide utilisation. cardyon® is the name of the product from German polymer manufacturer Covestro, which is the first company

in the world to successfully use CO₂ as a raw material for the manufacture of plastics, thereby conserving fossil resources such as crude oil. In Polytan's PolyBase GT / -ET, cardyon®, which consists of up to 20% natural carbon dioxide, is used for the permanently elastic binding of the rubber granules. Use of the post-consumer recycled materials (ELT-SBR) also contributes to an improved life-cycle assessment.



GREEN
technology



*Kalbe, U., Susset, B. and Bandow, N. (2016): Umweltverträglichkeit von Kunststoffbelägen auf Sportfreizeitanlagen – Modellierung der Stofffreisetzung aus Sportböden auf Kunststoffbasis zur Bewertung der Boden- und Grundwasserträglichkeit. Series of publications by the Federal Institute of Sport Science (Bundesinstitut für Sportwissenschaft). Vol. 2016/05, Sportverlag Strauß: Hellenthal

