Carbon dioxide for the production of sports floorings

Fit with CO₂

- Premiere for new product at hockey field in Germany
- Innovative process from Covestro preserves resources
- Next step in the use of CO₂ for plastics

Fit with CO₂: For the first time, synthetic sports floorings can be produced with carbon dioxide – which means less crude oil is needed as a raw material. The world’s first subfloor of this kind has now been opened in the hockey facility of a renowned sports club in Krefeld in western Germany. The particularly sustainable new material comes from the materials manufacturer Covestro, which has developed a groundbreaking process for CO₂ utilization to market maturity. This can save up to one-fifth of crude oil in production – an innovative contribution to resource preservation and recycling management.

The CO₂ for the subfloor is contained in a binder – or more precisely, in one of its components, a so-called polyol. So far, the new CO₂-based material called cardyon® has been used to produce soft polyurethane foam for mattresses and upholstered furniture, which is already being marketed. The further development for use in sports is now the next step in the expansion of the range of applications.

Using CO₂ and saving oil

"The use of carbon dioxide as a new raw material is a promising approach for making production in the chemical and plastics industries more sustainable," explains Dr. Markus Steilemann, CEO of Covestro. "This way, we use CO₂ in a closed-loop process and save oil. On this basis, we want to offer a comprehensive product portfolio for as many areas of application as possible – in line with our vision of making the world a brighter place."
The first customer for the new binder produced with CO₂ is the globally active sports flooring producer Polytan. The company from Burgheim, Bavaria, which belongs to the Sport Group, uses the material to produce elastic underfloors together with rubber granulate. "We attach great importance to using sustainable raw materials and are always on the lookout for ecologically more sensible alternatives to conventional products. Ideally, even the quality of the product can be improved. Covestro guarantees exactly that with cardyon", says Sport Group Purchasing Manager Daniel Klomp.

The first CO₂-based floor is now in use at the "Crefelder Hockey and Tennis Club". The traditional club maintains one of the leading field hockey facilities in Germany, which repeatedly serves as a venue for international matches and championships. The subfloor was laid on a 99 x 59-meter playing field and serves to cushion the effect of a new, bright blue artificial turf, also from Polytan. "Sport is not just healthy, it can also contribute to sustainability. We are proving this with the newly equipped hockey field, which will certainly make our club even more attractive," explains club manager Robert Haake.

Innovative Technology

The use of CO₂ as a raw material for plastics is made possible by a particularly environmentally friendly technology that Covestro has developed together with its partners. CO₂ is used as a supplier of the important element carbon – instead of petroleum-based raw materials. Up to 20 percent of traditional fossil raw materials can thus be replaced by carbon dioxide. Covestro produces the new CO₂-based polyols at its Dormagen site near Cologne. The carbon dioxide comes from a neighbouring chemical company, which produces it as a by-product.

About Polytan:
1969, Polytan has been pursuing their goal of preparing the optimum ground for sporting success. Always keeping an eye on the latest findings in sports medicine, the specialist for outdoor sports floors is continuously developing its synthetic sports surfaces and artificial turf systems. For instance, artificial turf pitches today have a natural feel and very good playing characteristics. High-quality synthetic surfaces are available from shock-absorbing fall protection floors to multifunctional all-weather pitches and high-speed surfaces for international athletics events. In addition to its own development, manufacture and installation of sports floors, Polytan's range of services also includes lining, repair, cleaning and maintenance. All products comply with current national and international standards and have all relevant certificates from international sports associations such as FIFA, FIH, World Rugby and IAAF.
About Covestro:
With 2017 sales of EUR 14.1 billion, Covestro is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 16,200 people (calculated as full-time equivalents) at the end of 2017.

This press release is available for download from the Covestro press server. There you’ll find also a video, an infographic and pictures. Please acknowledge the source of any pictures used.

Current photos of the event will follow on November 23 at 3:00 pm.

Find more information at www.covestro.com.
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