



MICROPLASTICS FROM ARTIFICIAL FOOTBALL TURFS

SALT

Why do we use rubber granules on artificial turfs?

Rubber granules have been traditionally used as infill in artificial football turfs as well as playgrounds for cushioning effect and to improve grip and friction during use. Discarded car tires or other types of used rubber is ground into small 1-4 mm particles to produce rubber granulate. European football clubs started installing synthetic surfaces with rubber infill in the 80s, following the US which introduced artificial grass turfs in different sport arenas from the late 60s. Rubber granules as infills for synthetic turfs are now widely used all over the world.

WHAT IS MICROPLASTICS?

Marine littering is one of the greatest environmental challenges of our time and plastic is one of the most common types of garbage in the sea. Microplastics are plastic particles that are smaller than 5 mm in size.



How are rubber granules contributing to microplastic pollution?

A study from 2020 concluded that rubber granules from football turfs are responsible for the second-highest contribution to microplastic pollution in Norway, only beaten by microplastic emission from car tires ([link to study](#)). In Norway, an estimated 19,000 tons of microplastics are polluting nature each year, with microplastics from football turfs responsible for almost 30% of these emissions. Leakage of microplastics, in the form of rubber granules, out of the sport pitches or playgrounds occurs via snow removal, runoff, as well as through users' clothes and shoes.

Recommendations

There have been several trials over the past years of alternative infill for artificial turfs, with highly positive experiences. The range of alternative infill materials is varied and includes, amongst others, ground coconut shell, ground cork, rice, sand and bioplastic.

The use of natural grass or artificial turfs without infill are also potential solutions depending on the use and climate regime. A combination of several of the above-mentioned infill materials can also be used to match the optimal requirements. New technologies are being continuously tested to find the ideal alternative to rubber granulate.

The use of alternative infills, as of now, is a more expensive one-time investment. However, the reduced need for refill and for pollution limiting measures, involves much lower operational costs in a long-time perspective.

An ongoing life-cycle analysis study carried out by the Norwegian University of Science and Technology and presented during a recent FanPLESStic Sea event, reveals that within a 10-year perspective the investment in alternative infill is far lower than rubber granules ([link to study](#)).

FANPLESSTIC-SEA

This fact sheet has been produced within FanPLESStic-sea, a project working with preventing and decreasing the pollution of microplastics in the water and the Baltic Sea.

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