

Reaction public consultation restriction of use microplastics

17 may 2019

Perspective: consequences of restriction of the use of microplastics on artificial turf pitches

'No pitch, no sports, no benefits!'

This reaction on the proposed restriction of the use of microplastics is submitted by Vereniging Sport en Gemeenten (VSG), representative of all 355 Dutch municipalities regarding sports. We act as a platform for the development and positioning of sport and physical activity as a binding element in society.

The Dossier Submitter has identified that granular infill material used in synthetic turf (i.e. the granules produced from end-of-life tyres or other synthetic elastomeric materials) is consistent with the definition of an intentionally-added microplastic. In our reaction we will point out the necessity of artificial (infill) pitches and the consequences of the proposed restriction for owners and athletes. We will also show some good practices that have already been carried out and will contribute to minimize the use and the release of infill-material into the environment.

We are convinced that there are plenty of solutions available or to explore, to seriously reduce the release of microplastics into the environment. Therefore strict regulation or restrictions of the use of microplastics on artificial turf pitches is not necessary and unwanted. We ask:

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| The use of synthetic turf and synthetic infill to be granted an exemption |
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We make a clear distinction in synthetic turf (fibres) and synthetic infill-material, since both materials are a possible source of microplastics. The wear of synthetic fibres is however small (<1mm per year) but not negligible. Therefore we ask for a wide stretched exemption to be granted.

If a temporary exemption is considered, make sure enough time to change is given to adapt to new regulation. New synthetic infill turf fields normally have a technical and economical lifespan of 12 years for the toplayer and 40 years (!) for the total construction. With a delayed introduction of rules to apply to, owners can depreciate their capital according to the planned period. This extended period of exemption also gives the market time to explore and produce natural infill of equal (or even better) quality.

As several countries in Europe use synthetic infill for sport pitches and some of these countries are looking for better alternatives individually, we would support every action to merge forces. This could accelerate the research and development of (more) environmental friendly artificial pitches and infill for sports.

Main actor: municipalities

Municipalities play an important role when it comes to sport and physical activity in the Netherlands. As a director through enabling policy and as financier of the many sports facilities. Most of the artificial pitches are financed and owned by local governments. Especially infill-pitches are owned and rent out by local governments. The total number of infill-pitches in the Netherlands is around 2000 infill-pitches.

Sustainability in general is an important issue on local agendas. All different types of action is being taken to minimize the use of resources and to reduce the impact on the environment of lots of activities, including sports. More and more we see good practices of eco-friendly swimming pools, Led-lightning, green deals in restricting the use of pesticides, promotional public campaigns, calculation of ecological footprint, enforce responsible end of life disposal procedures, e.g. Special attention is being paid to artificial pitches. 100% recyclable as a strong demand and the encouraging of better designing and maintenance to minimize the release of infill into the environment.

The attention for infill-pitches has increased dramatically over the last years because of public concerns prompted by the Dutch TV programme Zembra called 'Dangerous Play' in October 2016. In this documentary it was claimed that it is unhealthy to play on granulate infill pitches made of end-of-life tyres. New research by the Dutch National Institute for Public Health and the Environment (RIVM) indicated that the health risk of playing sports on synthetic turf pitches with an infill of rubber granulate is virtually negligible (2016). Therefore, it is considered safe for people to play sports on such pitches.

The same TV programme continued their documentary with claiming that the release of infill of artificial pitches has a negative impact on the environment. An exploratory research project also conducted by RIVM (2018) showed that the use of rubber granulate sourced from car tyres, on synthetic turf fields can be harmful to the environment in the close vicinity of these fields. Substances leach from rubber granulate and enter the soil in the field borders and in the ditches. Ditch water and groundwater in the natural soil are not contaminated by rubber granulate on the fields. This water is expected to be sufficiently suitable, for example, for spraying vegetable gardens.

RIVM recommends that measures be taken to prevent the spreading of rubber granulate to the field borders and to limit the emission of substances via the drainage water.

Thanks to the media-attention and public concern, the final call for what kind of infill to be used has become a major political decision nowadays. With large awareness and involvement of local politicians and good mutual consultation with sportclubs. Impact on human beings, flora and fauna is now a main aspect in the decision process.

Necessity of artificial pitches and infill

Why artificial pitches?

In the Netherlands there are a lot of artificial pitches for different kind of sports and they have become a permanent feature in the sports world, especially fieldhockey and soccer. Other sports that play on artificial pitches are korfbal, tennis and rugby. Most venues are also being used as multisport fields by schools (physical education, school tournaments), commercial sports (such as football academies), daycare, neighbourhood (playground), etc. Also artificial grass pitches are very often used as a surface in public playgrounds.

Artificial grass systems are very popular as a durable, year-round alternative to traditional grass sports fields. There are several reasons why local governments use artificial grass pitches for sports in stead of natural grass fields:

- *Space saving:* To promote sports and to make sports accessible for all people, pitches are very often planned in urban regions where there is few space for all kinds of facilities,

housing and industry. Especially for big cities the use of synthetic pitches is absolutely necessary and indisputable. One artificial turf pitch has the same capacity as three natural grass pitches and can be used for different sports, training sessions and games. It can be played for 24 hours a day, all year round, where natural grass is more vulnerable and needs time to recover after usage. This intensity of play and space saving attributes are crucial aspects for local governments to accommodate sports in public areas in the direct neighbourhood of people.

- *Shared maintenance:* Cleaning and daily maintenance of turf is easy in comparison to natural grass, therefore maintenance can be handed over to sportclubs very easily which helps to reduce costs.
- *All-weather purpose:* The all-weather properties of these fields make them particularly ideal for wetter areas or playing during rainy times of the year. Heavy rainfall is tend to happen more often because of climate change.
- Furthermore synthetic turf eliminates the use of potentially harmful pesticides and fertilizers while significantly decreasing maintenance costs.

Why synthetic infill?

Sports like soccer and rugby have special needs regarding the construction and surface of artificial sportfields. To get a equivalent of good quality that compares to a natural grass pitch, a special layer (shockpad) and infill has to be used. Although different kinds of infill can be used, synthetic infill such as SBR-rubber granulate and TPE are the infill-types that meets best the special needs of sports (friction, stability, shock absorption). Second best are infill types like cork, coconut-fibres and sand. Taking other aspects into account like price, quality and maintenance the synthetic infill types are the popular choice.

Financial impact

Artificial grass systems are much more expensive then normal grass pitches. At least the initial costs. Local governments make an extensive trade-off whether what kind of field to build. For normal use and normal circumstances grass fields are an excellent choice. However, financing is not the determining factor for what kind of pitch to choose. Whereas the limitless usage of play usually is.

Banning or restricting the use of synthetic infill turf fields is a financial catastrophe for local governments and other owners of these kind of pitches.

Every year a pitch is not used will effect in an early depreciation of up to 40k per pitch per year, dependent on the cost and life-span of this pitch. For instance, the ban of a five year old infill-pitch with a estimated economical life-span of twelve years, would result in a loss of 7/12 the initial investment (normally around 300k – 450k per pitch).

Reconstructing synthetic infill-pitches is not as easy as may appear. The total construction of a pitch is well balanced and it is hardly not possible to replace an infill with another more natural infill. Reconstruction will damage the pitch, it will degrade the quality and the reconstructed pitch will possibly not meet the standards needed for safe sports. Costs for reconstructing one pitch vary from 75k euro to 250k euro (complete renovation).

With over 2000 infill pitches being used in the Netherlands at this moment (over 65% with synthetic infill which is consistent with the definition of an intentionally-added microplastic), the total

depreciation due to restrictions or an immediately ban of use of infill-pitches can grow up to hundreds of millions euros of mainly public money.

Impacts to society

Mass participation in sport contributes to public health by encouraging communities to exercise. Sport—and, in particular, teamsports on artificial pitches—provide many additional outcomes such as social engagement, teambuilding, self-discipline and responsibility.

Very tight restrictions or even a ban on the use of microplastics will make it impossible to accommodate sports in a proper way. Changing to natural grass is not an option because of the lack of space in many cities. This will result in fewer outdoor accommodations and a declining sports participation. And the social and health benefits of sport participation will disappear.

When municipalities do have space for natural pitches, these pitches will probably be located in less populated areas with poor accessibility. Cycling in the Netherlands is a very common means of transport, also to reach sport accommodations. But with longer travel distances the use of cars will incline and will negatively effect the environment.

Last but not least, this continuing discussion about environmental impact of sport venues and the uncertainty that it brings, can result in a strongly reduced involvement and willingness of local governments to invest in accommodations for sports. The financial risks will be simply to high. The future of some outdoor sportvenues will be highly insecure and impoverishment in the variety of sportsupply will occur.

If it becomes harder to accommodate sports like soccer and hockey, we have to disappoint a lot of (potential new) athletes as both sports are very popular in the Netherlands. Soccer (1,25 million) and hockey (250.000) account for one-third of the total number of people practising clubsports. We believe that only a small number will transfer to other sports.

Sport impact

As mentioned before, infill is added to artificial grasssystems to improve some sportfunctional aspects, such as friction, shock absorption and reinforcement. Very important issues for practising sports. Not being able to use synthetic infill anymore, would effect the way sports is being practised seriously, as synthetic infill is still the best kind of infill in many aspects.

For 7 days a week and sometimes more than 12 hours a day, artificial turf pitches are being used very intensively. Therefore these artificial surfaces are essential to meet the high demand for suitable sports surfaces which can be used day in day out. Artificial turf pitches are also indispensable for a good progress of competition.

When pitches cannot be used because of restrictions or a ban, sportclubs cannot play their games anymore and no competition is possible. Also these pitches cannot be used anymore for other activities, such as physical education, sport camps of even as an additional playground for the neighbourhood. No pitch, no sports, no benefits!

Best practice

A lot of effort is already taken by different stakeholders to reduce the environmental impact of artificial turf pitches and infill. Some good results are:

- Better design of artificial pitches, for instance with concrete or recycled polymer (from used shredded artificial pitches) 6cm high borders to keep the infill (and fibers) on the pitch during windy and/or rainy days (e.g. pilot city Den Haag – good results!));
- A guide for better maintenance of infill-pitches. This guide has some practical suggestions how to minimize the release of infill in to the environment;
- Use of better filtration systems (e.g. filtration-put Sweco);
- Development of non-filled systems that meet sporting needs. Experimental pitches have been laid out to explore the potential use of non-infill artificial grass pitches for soccer (pilotprograms for non-infill synthetic pitches in cities of Hoofddorp, Hellendoorn, Groningen and Oss supported by Royal Ten Cate). These pilotprograms are being followed with great interest by governments and clubs;
- To allow development of alternative bio-based infills that works in wider range of environments and are readily available. 1st of April a innovation call is put out by the Dutch Ministry of Public Health, Welfare and Sports;
- Encourage the production of 100% re-usable infill and artificial turf including better end-of-life recycling procedures;
- Application of hybrid-grass(hybrid grass in which the artificial grass gives structure and reinforcement to the ordinary grass)
- Well considered (political) decisions what kind of fields and infill needed. For certain areas such as playgrounds, sand alone (without any added granulate) may suffice.

Significant trade-off

The immeasurable benefits of participation in sports enhance the quality of life in our communities and must be balanced against the knowledge that improperly maintained artificial pitches can potentially become a source, however small, of microplastic generation. This is a significant trade-off and society needs to square this equation. In the Netherlands local governments have a crucial role in this equation, together with the National government, NOC*NSF and their sport unions.

We strongly believe that the sportsector can regulate themselves and can actually contribute to the reduction of the release microplastics into the environment without any restrictions imposed by the European Union. In stead of regulations we rather benefit from EU-subsidized programs which speed up the research and development of environmental friendly artificial turf and infill. And the set up of programs for collection and sharing knowledge throughout Europe.