

## Product advisory

marketing

### Creep and line dancing in synthetic turf systems

As a part of a synthetic turf system the backing of the turf carpet provides the strength, dimensional stability and tuftlock of the turf blades. The choice for the right backing is essential for long term performance of the pitch.

A well known problem in synthetic turf systems is “line dancing”. This effect is illustrated by the following picture.



The picture shows a “growing” synthetic turf pitch. Under the influence of a constant stress the backing slowly starts to permanently deform and the carpet starts to grow. This effect is caused by viscoelastic creep in the backing.

Creep is a phenomena present in viscoelatic materials like polypropylene and polyethylene. It is definite as the tendency of a solid material to slowly deform permanently under the influence of stress.

Circumstances that can increase the chance of creep effects in a synthetic turf system are:

- Low friction coefficient between carpet and subbase
- Significant difference in height between middle and sides of the pitch

In order to minimize creep effects in a synthetic turf system it is essential to choose a backing that matches the needs of the application. An intensively used pitch with strong player movements and high impact, for example rugby, needs a backing with very high dimensional stability and thus creep resistance. A very good option for this application is a backing with a glass scrim. The glass scrim provides an enormous increase in dimensional stability, as it is not sensitive to creep effects. Other backings with increased dimensional stability compared to plain woven fabrics are multilayer backings and backings with polyester.

Again the choice of the ideal backing mainly depends on the application and the combination with other system components. It is all about balancing the needs.

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