Product Advisory

Creep and ‘line dancing’

Within a synthetic turf system, the backing of the tufted carpet provides strength and dimensional stability and plays a major part in the tuft lock of the synthetic turf fibres. The choice for the right backing is therefore essential for long term performance and durability.

A well-known problem in synthetic turf systems is ‘line dancing’. Under the influence of constant stress, the backing slowly starts to permanently deform and the carpet starts to stretch. This effect is caused by viscoelastic creep in the backing.

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

Circumstances that can increase the chance of creep 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 minimise creep 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 the effects of creep. Other backings with increased dimensional stability compared to plain woven fabrics are multilayer backings and backings using polyester.

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

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