



## 3G Rugby Pitch Construction

A synthetic turf rugby pitch is constructed from a free draining, frost-free sub-base, sometimes one or two tarmac layers, a shockpad and an artificial grass carpet, often known as a 3G surface.

**Drainage:** The purpose of pitch drainage is to remove surface water and prevent flooding, and make sure that no excess water builds-up within the sub-base which can potentially damage the structure. Lateral drainage is common under a pitch, connecting into drains outside the perimeter which, in turn, discharge into storm water sewers, soak-aways or watercourses.

**Sub-Base:** Constructed from unbound, graded, loose-laid aggregate to give an inert, stable, frost-free and free-draining base on which to build the pitch. Materials and workmanship should be of the highest quality in order to ensure maximum structural integrity..

**Tarmac (engineered) Base:** Adding one or two bound (engineered) layers of open textured (porous) tarmac minimises the risk of localised movement of the sub-base, though the rigidity of the tarmac will necessitate the use of a shockpad in order to achieve the required levels of dynamic performance. We generally lay the top layer of sub-base aggregate through a laser machine in order that only one layer of tarmac is necessary to meet the required tolerances for surface regularity. However, on sites with poor ground conditions, two layers of tarmac will provide greater stability.

**Shockpad:** Used for stability and cushioning which enables the use of shorter pile carpets and less infill which in turn reduces maintenance. Insitu pads are rubber mixes laid by machine. Other options are rubber or polyethylene panels or rolls. A high quality shockpad can extend the life of a pitch and, in some instances, be left in place and perform just as well under a similar, replacement carpet.

**Carpet:** Artificial grass or 3G synthetic turf carpets for rugby typically have a polyethylene, monofilament yarn, sometimes with a secondary backing, a pile height of 60mm - 65mm and a pile weight of between 900g /m<sup>2</sup> and 2000g / m<sup>2</sup>. Generally speaking, the higher the pile weight the better quality the carpet. The choice of carpet is very important and specialist knowledge is required to ensure that the yarn used is the best option for the type and level of sport to be played.

