



Artificial Grass for Hockey

3G Carpets: The choice of carpet for your project 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(s) to be played.

Artificial or synthetic grass carpet is manufactured in 3.5m or 4.5m wide rolls, stitched or glued together using a backing layer. Carpets are tufted. Yarn is looped through a primary, woven mesh backing material and cut it to the correct pile height. A secondary backing can be used to hold the tufts in place. For intensive use pitches, carpets may be further strengthened by an additional reinforcing layer.



Yarn: Polyethylene yarn is preferred as it provides a resilient and durable surface without being too abrasive. A secondary yarn is sometimes used to add strength and stability. Yarn is either monofilament or fibrillated.

Monofilament is the most common option and can be easily engineered to help stability and improve the quality of a pitch for secondary sports. Individual strands are plied to form tufts. The more strands the denser the tuft.

Fibrillated yarns are formed from plastic sheets that are slit and twisted. They are less durable (the thicker filaments can split) but they do provide good stabilisation of the infill so there is less movement and dispersion, and they are sometimes preferred for rugby pitches.



Pile Height: The height of pile above the backing is an important consideration when deciding which sports are to be played on an artificial surface. For example, a hockey pitch would have a pile height of 18mm-23mm; football would use 40mm-60mm and a rugby pitch would have a 60mm or 65mm pile height. Pile heights below 50mm are laid onto a shockpad to achieve the correct dynamic response. Pile heights 50mm and above are generally laid on a shockpad for Rugby and can be for other sports but do not have to be as the infill materials (sand and rubber) should ensure that the artificial pitch performs correctly.

Pile or face weight is the weight of yarn. A 900g / m² weight is a lighter carpet and will not have the infill stability or durability of a 1600g /m² carpet.

Play Lines: One set of permanent straight lines is usually tufted during the manufacturing process. Non-straight permanent lines are cut in (inlaid) by the carpet installer. Additional lines are generally painted which, although more maintenance is required, makes the pitch more flexible for a variety of sports. All lines should be the same width (100mm-125mm).

Infill Materials: Infill materials support the carpet providing stability and cushioning. Sand or sand and rubber mixes are used with particulate sizes and production methods carefully controlled to maximise the performance of the playing surface.





Maintenance: Maintenance of an artificial pitch is vital in order to maximise the life of the pitch and retain acceptable performance. Carpet manufacturers will often specify maintenance requirements in order for any guarantee (typically 8-10 years) to be valid and a pitch may not be certified to the required FIFA standard if maintenance training, equipment and programming has not been taken into consideration. Maintenance costs should be considered at the outset of any project and maintenance logs should be kept.

Three types of maintenance are usually required:

Regular (at least weekly)

- Drag matting or brushing to redistribute infill
- Brushing to lift the pile. Flattened pile results in a faster surface, fibrillation and matting and a consequential reduction in performance.
- Localised topping up of infill levels (penalty spot, centre spot, corner kick areas...) to support the pile and maintain maximum dynamic response from the carpet.
- The removal of litter, leaves and other debris from the surface

Periodic (1 – 4 times per year)

Ride-on brushing system with oscillating brushes

- Relieving compaction of the infill to ensure consistent ball and foot response.
- Removing moss or weeds within the surface, particularly around the edges of the pitch.

Rejuvenation

As the carpet pile wears, dirt and debris inevitably become trapped in the infill. Contaminated infill can compact, which will give a harder playing surface and problems with drainage leading to flooding. Contaminated infill should therefore be replaced before such problems occur.

