

# MAINTENANCE MANUAL FOR BLUELAY USED UNDER SYNTHETIC TURF FOR SPORTS

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## SECTION 1 | GENERAL PRINCIPLES

Proper maintenance of a synthetic turf ensures maximum duration of optimum conditions and the maximum return on investment by prolonging the synthetic turf's usable life cycle.

- Follow the instructions of the turf supplier's maintenance guideline;
- Preferred is to use machinery with lawn/ turf tires (no profile on the tires);
- Machinery should not exceed 5 kg/cm<sup>2</sup> of wheel pressure directly on the turf/ base system;
- Avoid point loads above 5 kg/cm<sup>2</sup>;
- The pitch should only be used for the purpose for which it was designed and made;
- Choose routes across the pitch in a way that minimises movement of the turf layer;
- Avoid sharp turns and speeding with machinery;
- Once the BlueLay is installed it can't be replaced to another field without becoming completely dry again. Be aware, in dry condition the weight per panel is approx. 8 kg, but at saturation the panel can retain up to 27 L/m<sup>2</sup>.

## SECTION 2 | REQUIRED WATER USE FOR OPTIMAL PERFORMANCE

Natural turf needs water for the grass plants to grow. A capillary cooling synthetic turf uses < 50% of the amount of water for similar cooling and play performance, but providing much more hours of play.

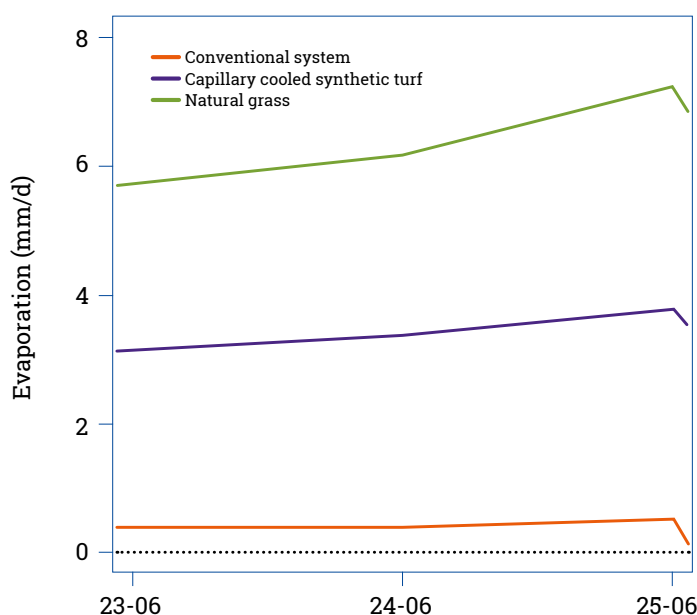
BlueLay has a high buffer capacity and can retain up to 27 L/m<sup>2</sup>. This is 90% of its volume. This means that more than 200 m<sup>3</sup> of water from rain or irrigation can be retained in only the BlueLay layer.

This retained water can be used for:

- Cooling the surface by evaporation of water by temperature and wind;
- Stabilises the infill and reduces its displacement;
- Provide good level of sport technical characteristics without the use of plastic-infill.

# MAINTENANCE MANUAL FOR BLUELAY

Similar to natural turf when no watering can be done from irrigation during droughts the BlueLay will go down in moisture level until field capacity, but used in a system still safe to use. All sport technical properties will remain within the specifications, except the energy restitution will go to or just above the upper limit. This behaviour is similar to natural turf when its completely dry and its energy restitution goes up as well. For both systems, when water is added from irrigation or rain, the system will go back to its optimum performance.



## The Netherlands

Estimated watering per year for optimal performance:

- Capillary synthetic turf system is: 20 L/m<sup>2</sup>
- Natural grass: 250 L/m<sup>2</sup>

Depending on the other system components, only a couple of times per year water needs to be added if optimal cooling and system performance is required.

## Hot climates (almost no rainwater available)

Estimated watering:

- 27 mm/2 weeks
- Buffer more water at once/ less watering moments

## SECTION 3 | WAYS TO IRRIGATE

BlueLay mimics a natural water balance like soil; retaining water from irrigation or rainfall and enable this water by capillary forces to go back to the surface for evaporation. Similar to natural turf and depending on the weather conditions, requirements for optimal performance and long term cooling, water can be added to the turf. Different ways to water the system are:

- Irrigation from above using sprinklers;
- Irrigation from above using watering equipment directly on the field, like a watering tank.  
Take into account the maximum loading capacity on the field;
- Irrigation from below from capillary sub-base with or without rainwater buffer. More efficient (40-60%) water saving compared to sprinklers.

## SECTION 4 | USE OF SENSING

It is possible to use a sensor in the BlueLay for measuring the actual water content. Based on the output of this sensor an irrigation plan can be made if continuous cooling is required. For more information please contact DutchBlue via [www.dutchblue.world](http://www.dutchblue.world).

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