TENCATE Mirafi®

PROJECT REFERENCE

Subsoil drainage of artificial turf sports field

Titan Stadium, Osh Kosh, WI, USA

Project Data

Project : Subsoil drainage, Titan Stadium, Osh Kosh, WI, USA

Products Used : TenCate Mirafi® FW402

Overview

A new state-of-the-art artificial grass multipurpose field was to be constructed over an existing natural grass football field. The width of the new field was to be more than double that of the existing field to accommodate a full size soccer field and a nine lane running track.

Construction

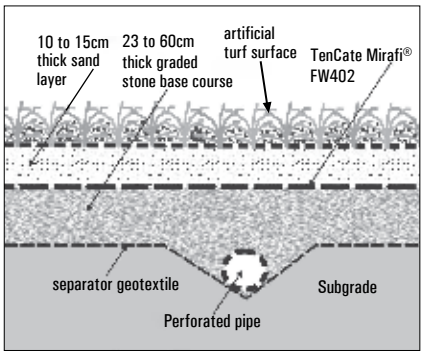
Subsoil drainage is an extremely important consideration when designing a project that utilises this new type of artificial surface. The challenge was to design the field cross section to provide maximum drainage for storm water over the entire engineering life span to ensure playability during rain.

The subsoil drainage consist of a continuous drainage blanket of graded stone over the entire field and running track area that is connected to a discharge system to drain water away quickly. Above the subsoil drainage blanket, is a layer of 10 to 15 cm of manufactured sand. The sand layer provides a cushioning stratum beneath the artificial surface. This sand layer helps to give the artificial surface a "real grass field" feel.

To be effective in quickly draining away rainwater falling over the field, each component of the subsoil drainage system must provide maximum drainage capability and does not clog over time. This required use of a high permeability geotextile and TenCate Mirafi® FW402 satisfied the critical filtration criteria and was specified for the project. Permeability under low hydraulic head is crucial, since the sand layer above is thin and the design aim is to prevent water from ponding over the field. At the same time, the geotextile filter must prevent the sand particles from passing through to clog up the continuous drainage blanket and associated discharge system. To ensure the longevity of the drainage system, the chosen filter geotextile must be highly resistant to clogging.

TenCate Mirafi® FW402 was easily laid over the continuous drainage blanket. Adjacent rolls of the TenCate Mirafi® FW402 was overlapped to provide full coverage of the area. The use of TenCate Mirafi® FW402 successfully achieved the aim of a very permeable filter geotextile while preventing long term clogging of either the subsoil drainage system or the filtration geotextile.

A total of 11,700 m2 of of TenCate Mirafi® FW402 was used in this project . The new field was complete in time for the start of the Fall 2004 soccer season.



Cross section of subsoil drainage.

Installation of TenCate Mirafi® FW402.

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