

# Aviva Stadium Construction Reaches New Levels with GCP's TC3 System

An aesthetically pleasing concrete with superior functional integrity

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Project	Aviva Stadium
Owner	Irish Rugby Football Union & Football Association of Ireland
Engineer	Buro Happold
Architect	Populous & Scott Tallon Walker
Readymix Supplier	Kilsaran Concrete
Applicator	Colemac Specialist Contracts
GCP Solutions	Hydroduct® Drainage System, TC3 Exposed Aggregate System

## The Overview

### The Project

Ireland's new international stadium for rugby and football, the Aviva Stadium, is located in Dublin, and officially opened in May 2010.

Conceived by the Irish Rugby Football Union, the Football Association of Ireland and Irish Government, stadium construction began on the site of the old Lansdowne Road venue, which was demolished in 2007.

It has four tiers and a capacity for 51,700 seated spectators.

The stadium's distinctive roof design, shaped in a wave-like manner, integrates well with the residential area of Dublin—rising in the east and west, and falling in the north to minimise the impact to adjoining neighborhoods. Making it one of the most unique sports stadiums in Ireland.

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*"The TC3 System allowed the production of a black concrete, similar in appearance to tarmacadam, without posing a threat to the integrity of the Hydroduct® Drainage System."*

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## The Challenge



During stadium construction, a black concrete with an exposed aggregate finish was required for an external podium deck at the corporate entrance to the ground.

The original specification was designed with the podium deck to be covered with black tarmacadam. However, as HYDRODUCT® Drainage System was also being employed to remove water from the deck, there was a fear that the hot tarmac would melt the plastic pipes of the HYDRODUCT® drainages when it was laid on top of them and greatly reduce their effectiveness.

The architects wanted to cover the deck with a material that would have the same aesthetic appearance as tarmacadam but would not have an adverse effect on the performance of the HYDRODUCT®, Drainage System.

## The Solution

The solution was TC3 Exposed Aggregate System during stadium construction. It allowed the production of a black concrete with an exposed aggregate finish, which gave a similar appearance and texture to tarmacadam, without posing a threat to the integrity of the drainage system.

TC3 System is an exposed aggregate concrete finishing solution that provides functional and aesthetically pleasing surfaces for both grey and integrally coloured concrete applications.

Several laboratory and full-scale trials were carried out until the top surface of the concrete revealed exposed coarse aggregate, suitable for sports stadiums in Ireland. It was all made possible thanks to GCP's Blue360<sup>SM</sup> Total Business Advantage, which provided the products and services needed to optimise the project.

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