

## PROJECT PROFILE

# Aviva Stadium

Dublin, Ireland



Completed construction of Aviva Stadium

### The Site

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, the stadium is built 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 neighbourhoods.

'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.'

### The Challenge

During the construction of the Aviva Stadium 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 Grace Construction Product's 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 sheets 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 Grace Hydroduct Drainage System.

### The Solution

The solution was to use Grace Construction Products TC3 Exposed Aggregate System. 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.

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

Working in conjunction with Kilsaran Concrete's technical department, a concrete mix design with a reduced fines content and incorporating Grace's Pieri Chromofibre 1B Superblack was developed. Several laboratory and full scale trials were carried out. Once the concrete was laid and floated on the podium the surface was sprayed with Grace surface retarder Pieri VBA 2002, which chemically delays the setting of the top surface of the concrete, which is then jet washed, removing the retarded sand/cement paste on the surface of the slab and thus exposing the coarse aggregate.



#### PRODUCTS USED

**Pieri® Chromofibre 1B Superblack**  
**Pieri® VBA Protector**  
**Pieri® VBA 2002**

#### CREDITS

**Owner:** Irish Rugby Football Union & Football Association of Ireland  
**Engineer:** Buro Happold  
**Architect:** Populous & Scott Tallon Walker  
**General Contractor:** John Sisk & Son  
**Readymix Supplier:** Kilsaran Concrete  
**Applicator:** Colemac Specialist Contracts

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