

# Queensferry High Sports Complex

## Watertight concrete solution for olympic size swimming pool



Our reference in West Lothian (United Kingdom): Queensferry High Sports Complex

### The background

The new £40 million school redevelopment was built on the current school's playing fields including a multi-purpose assembly space with retractable seating that can be used for drama shows and film screenings. The plans also incorporate a sports hall and new six lane Olympic size swimming pool - increased in size from four lanes after taking into account community feedback.

### The challenge

As part of this redevelopment, a new Olympic size swimming pool is being built. With the waterproofing element of this project being already specified, Master Builders Solutions offered a solution that would be both cost effective and technically beneficial to the application. Overall, 840m<sup>3</sup> worth of watertight concrete was required for the project.

The swimming pool base was to be poured on 3 separate occasions at 1000mm depth. The design of the concrete would have to have sufficient consistence retention to ensure no cold joints were formed within the base. The base was also to be poured on a gradient, so the importance of the concrete being the right consistence was critical.

### Project:

Queensferry High Sports Complex

### Location:

West Lothian

### Main contractor:

Morrison Construction

### Sub-contractor:

George Burns Site Services

### Concrete producer:

Skene Group

### Market sector:

Watertight Concrete

### Products used:

MasterLife WP 799

MasterLife WP 910 & 912

MasterGlenium 123

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### Our solution

With a combination of MasterGlenium I 23 and MasterLife WP 799 the challenge of having a base was also to be poured on a gradient, so the importance of the concrete being the right consistence was critical was easy to overcome.

MasterLife WP 799 plasticizing properties allowed for the increase in the concrete consistence without the addition of water. With the concrete initially being batched to a consistence of approximately 70mm, and with the additions of MasterLife WP 799, this increased the final pouring consistence of the concrete to approximately 130mm/140mm. This was created whilst still achieving the target water/cement ratio of 0.45 with ease.

The MasterLife WP 910 & 912 system was used to eliminate the risk of water ingress through unavoidable construction joints. Using the MasterLife WP 912 as the adhering sealant for MasterLife WP 910, this was a simple solution fit for purpose.

### The customers benefit

- Site support was given throughout the pours from both parties. Offering advice on best practice and checking the concrete consistency throughout the pours
- The customer benefited from support throughout this element of the project and were able to make a saving of circa £20k in lieu of using the originally specified product.
- All products coming from one supplier giving a single source system approach with single point liability.
- BBA approved system

### Project facts at a glance

- Over 840m<sup>3</sup> Watertight Concrete
- Joined up support from supplier and manufacturer
- Onsite support throughout the duration of pours
- Olympic size swimming pool completed with Master Builders Solutions BS 8102 Type B watertight concrete solution
- Cost saving to the customer
- BBA approved system

