

Largs Seawall Replacement

In Situ ready mixed concrete supply for replacement Seawall



Our reference in North Ayrshire (United Kingdom): Largs Seawall Replacement

The background

The existing seawall was in a state of disrepair and needed to be upgraded. It was originally constructed in the 1970s and had deteriorated over time due to repeated exposure to seawater.

The proposed project involved the placement of a new precast concrete seawall in front of the existing seawall structure, with placement of infill material behind the new structure and extension of promenade surfacing to the line of the new wall.

The existing steps will be encapsulated within the replacement seawall and replacement steps and ramp access to the beach will be constructed.

The challenge

This project required a 100 year design life. Therefore as part of the initial design phase RPS group stated: 'A 100 year design life is long for an exposed marine structure and hence every chance to minimise the impact of the inevitable chloride ingress (which in the case of the existing walls was very high) on the condition of the reinforcement was taken. RPS designed the concrete with the correct cover for a 100 year design life etc. but wanted the additional certainty for a structure with such a long design life.'

Project:

Largs Seawall Replacement

Location:

North Ayrshire, Scotland

Owner:

North Ayrshire Council

Architect / Specifier:

RPS Group

Contractor:

RJ McLeod Contractors Ltd

Concrete Producer:

Hillhouse Group

Market sector:

Ready Mixed Concrete

Products used:

MasterLife CI 35

MasterGlenium SKY 920

Contact:

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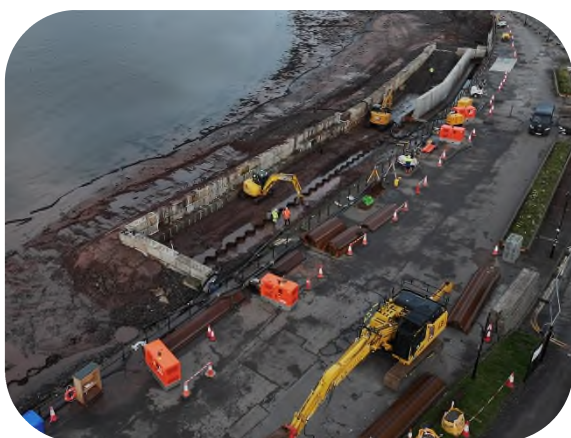
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Our solution

With the design life of over 100 years the precast elements incorporated steel reinforcement, therefore the concrete mix was specified with high strength and also required a corrosion inhibiting solution.

Working with the technical and production team at Hillhouse Group and their client RJ McLeod Contractors Ltd, Master Builders Solutions were delighted to support by providing admixture solutions within the concrete mix utilising MasterLife CI 35 and MasterGlenium SKY 920.

MasterLife CI 35 is a ready to use admixture based on calcium nitrate, that performs as corrosion inhibiting admixture in steel reinforced concrete. MasterLife CI 35 admixture effectively inhibits corrosion in all types of steel reinforced concrete and is compatible within marine structures.

MasterGlenium SKY 920 is an innovative superplasticizer based on a unique blend of state-of-the-art polymers specially engineered for ready-mix concrete. Its particular configuration allows its delayed adsorption onto the cement particles and disperses them efficiently. With MasterGlenium SKY 920, you can obtain a high-quality concrete mix with extended workability and superior concrete rheology without delayed setting characteristics.

The customers benefit

- As a key supplier to Hillhouse Group, Master Builders Solutions provided a bespoke solution, ensured production and delivery of the admixtures to meet the contract demands.
- Master Builders Solutions provided support throughout the contract.
- Site visits were beneficial to understand the supply requirements by Hillhouse Group and also the concrete placement and environmental challenges faced by RJ McLeod Contractors Ltd.
- Innovative admixture technology added to achieve a concrete mix design to meet the specification.

Project facts at a glance

- 100 year design life
- 300 metres of seawall replacement
- Approx. 400m³ of ready mixed concrete placed supplied by Hillhouse Group
- Concrete mix design with MasterLife CI 35 and MasterGlenium SKY 920 admixtures.
- Project Value circa 4 million