



SIKA AT WORK

MARAZION TO PENZANCE COASTAL FOOTPATH

CONCRETE: Sikafiber® HPP 50, Sikafibermesh®-150, Puraflex® 25
and Sika® Primer-3N



 **AGGREGATE INDUSTRIES**

BUILDING TRUST



MARAZION TO PENZANCE COASTAL FOOTPATH

The Project

The Marazion to Penzance coastal footpath is situated in one of the most scenic parts of the U.K and is an area used by residents and visitors alike, meaning all-season access is required.

The path's location makes it very open to the elements which has caused damage over time. Close to both St Michael's Mount and Penzance Railway Station, the 2.7-mile path was recently in need of improvement to cope with both the footfall and external weather.

The path improvement scheme is part of the wider €23.3m EXPERIENCE project, designed to promote off season experiential tourism and sustainable economic growth across six areas of the Channel region, in which Cornwall (specifically the Penzance area) is one.

This project is co-funded by the European Regional Development Fund (ERDF) through the Interreg France (Channel) England Programme under the Natural & Cultural Heritage Funding category.

Cornwall Council has a total of €2.8million investment designated to the Penzance area (£1.9m from ERDF and €0.9m from Cornwall Council). The path upgrade is one part of the project, which promotes experiential tourism and sustainable economic growth during the October to March period.

Cornwall's funding will support activities that encourage sustainable cultural tourism. Connecting visitors with the distinct historical, geographical and cultural assets of the local area, it aims to leave a positive impact for the community and visitors alike.

Cormac Solutions Ltd was contracted for the coastal path improvements project and turned to Aggregate Industries and Sika to provide a concrete solution which would battle the elements and stand the test of time.

The Requirements

The Marazion to Penzance coastal footpath is a virtually level walk along the seawall on a surface suitable for wheelchair users and pushchairs.

In addition to a new surface, the project also included new benches along the path and improved access to the beach for those with mobility issues.

Because of its length and to minimise disruption, the coastal path improvements needed to be undertaken in phases, with each section requiring the existing footpath to be excavated and the ground levelled. Sections were then compacted in readiness for the concrete.

Weather conditions and location were a huge factor when planning the job as the team would be very exposed at the location.

With works taking place during Autumn/Winter 20/21, this meant at times they'd be working in severe weather which could hinder progress. Additionally, concrete needed to be brought in along a narrow path from a truck located further away.

Any concrete solution proposed needed to be one of adequate strength, durability and if possible, save time, so that any delays could be mitigated.

The Solution

Following consultation with Sika, Aggregate Industries agreed upon Sikafiber HPP 50 and Sikafibermesh as these products together were ideal to replace the path's traditional steel reinforcement composition.

Fibre-reinforced concrete (FRC) is perfect for improving the durability and toughness performance of concrete and mortar. Fibres in concrete help reduce shrinkage cracks, increase strength, energy absorption and reduce dangerous spalling at high temperatures.

Sika's FRC is also a more sustainable option versus traditional steel rebar which is continually rising in price. This was particularly important as the EXPERIENCE project is centred around sustainability. The fibres in the concrete admixture last longer, offer more strength and require less vehicles and manpower for transportation and application, making them the preferred option.

The path's traditionally proposed steel mesh reinforcement was completely removed and, due to it being installed near the coast in a marine environment, the risk of spalling due to rusting reinforcement has now been reduced.

In addition to this, FRC is quicker to install versus traditional mesh and the new solution removed the requirement of carrying and fixing steel reinforcement sheets to the difficult location. This, in turn, reduced the installation programme.

Sika Primer-3 N was also used alongside Puraflex 25 for the expansion joints as this offered an easy to apply option which provided more effective, longer bonding.

Pete Berriman, senior site agent for contractor, Cormac Solutions Ltd, said: "The knowledge and specialist input from Aggregate Industries and their partnership with Sika was of great value to this project. "The solution not only saved us time but also helped cater to the logistics of the programme."

Jonathan Collyer, general manager for concrete in the south at Aggregate Industries, said: "As a pivotal improvement to the area, the renovation of the Marazion to Penzance coastal footpath required a bespoke concrete solution with superior durability. Sika's first-class products allowed us to supply the fibre-reinforced concrete required to meet the unique brief of this project."

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