

AGRICULTURAL ROADWAY

Boyton Hall Farm

Essex, UK

As part of ongoing farm estate improvements, a durable concrete roadway was required to handle frequent agricultural traffic movements. The ready mix concrete supplier was able to offer a proven fibre concrete product for this external application, using a combination of Fibrin XT micro and DURUS EasyFinish macro synthetic fibres. This was not only attractive to the installing Contractor in terms of time and cost saving compared to conventional steel mesh reinforcement, but also for the Client in terms of durability and assured service life.

**Project owner**

Boyton Hall Farm

Product

DURUS EasyFinish

Fibrin XT

Function

Replace conventional steel mesh and provide a very durable and hardwearing reinforced concrete roadway

Contractor

C G Civil & Groundworks

Contractors Ltd

Challenge

This type of reinforced concrete roadway would historically use steel mesh reinforcement to provide post crack residual flexural strength and early age crack control. Both of these requirements can be effectively provided with a combination of Fibrin XT micro and DURUS EasyFinish macro fibres.

Eliminating the need for steel mesh results in a quicker and more cost effective installation and service life will be assured.

In this type of aggressive environment, steel mesh is at high risk of corrosion, inevitably leading to concrete spalling and loss of serviceability in the longer term.

Solution

- The Ready Mix concrete supplier have been able to develop a proven fibre concrete mix for this type of application.
- The addition of Fibrin XT micro fibre improves the durability of the concrete and also provides freeze/thaw protection in lieu of AEA and also enhances the durability of the hardened concrete to protect against heavy surface wear.
- DURUS EasyFinish macro fibres provide post crack residual flexural strength in lieu of conventional steel mesh reinforcement.
- The solution was accepted by the Client and Contractor.



By eliminating steel mesh, the fibre reinforced concrete can be discharged directly into open formwork from the truck mixer. This allows a more efficient installation and also negates the need for concrete pumping or adjacent access to the discharge position.

Benefits

The Contractor was able to show a significant reduction in construction time by eliminating the need for steel placement and fixing in the construction schedule. This also presented an significant overall cost saving due to reduced man hours and increased costs of steel mesh.

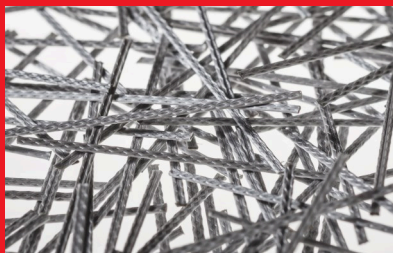
Air Entrainment was not required due to the addition of Fibrin XT to give the concrete frost protection and improve durability.

Service life can be assured as the risk of deterioration and damage due to embedded steel corrosion has been eliminated.

The use of ADFIL DURUS synthetic macro fibres to replace conventional steel mesh reinforcement give an embedded carbon saving of around 60%, allowing the project to improve its sustainability credentials.*

*Reference DURUS EasyFinish macro synthetic fibre Environmental Product Declaration (EPD)

PRODUCTS USED



DURUS EasyFinish



Fibrin XT



VERIFIED ENVIRONMENTAL
PRODUCT DECLARATION
ISO 14025 & EN 15804

Scan QR code to
access certificates



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