

Fibredec

Versatile Applications, Proven Performance

Fibredec - an effective solution to problems above and below the road surface



Where to use

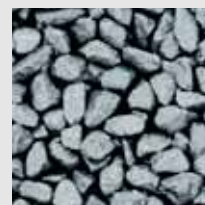
- can be applied by hand in difficult and hard to reach areas
- over black top or concrete
- on consolidated Type1 materials and unbound, granular road bases
- for environmentally sensitive sites, or areas requiring some form of colour demarcation
- in areas with difficult or restricted access



Application

Specially developed application equipment capable of both high output and delicate control applies glass fibres in-situ, sandwiching them between two layers of polymer modified bitumen. Selected aggregates are then rolled into the surface leaving a crack and fatigue resistant surfacing characterised by enhanced tensile strength. The system can be applied as a single coat, double coat or racked-in dressing depending on the needs of the site.

A wide range of different coloured aggregates are available.



Fibredec - An effective solution to problems above and below the road surface

Fibredec is a unique combination of bitumen emulsion, chopped glass fibre and aggregate. Together these form a strong, flexible and waterproof matrix which has a variety of uses both above and below the road surface.

Versatile

Fibredec is particularly effective when used:

- to provide a waterproof and flexible membrane on cracked and crazed surfaces
- to restore skid resistance to spalling or fretting concrete and blacktop
- to provide a cost effective surface over unbound, granular sub bases
- to inhibit reflective cracking when used above or below the road surface as a Stress Absorbing Membrane.



Whatever the use, Fibredec has many advantages over other forms of surface treatment, including:

- enhanced tensile strength and durability proven and verified by independent research and in-house tests
- a fast and efficient application process causing minimal disruption
- all-in contracting service which includes preparation of a specification, application and after care
- a range of different coloured natural aggregates which enable the colour of the finished surface to be varied
- versatile, purpose-built application equipment capable of both high output and delicate control
- a proprietary process applied only by fully trained operators.

Versatile applications proven performance

Fibredec can be applied to a variety of thicknesses as a single coat, double coat or raked-in dressing. Fibredec can be laid to a variety of thicknesses to suit a wide range of uses including roads, car parks, waterways, parks and heritage sites. It is a suitable treatment for many surface types including bitumen macadams, concrete, granular unbound bases, rolled asphalt and worn surface dressings.



Damaged, deteriorated and potholed road: Redcar and Cleveland

Redcar and Cleveland Council approached Colas to overlay a badly potholed road. Colas filled the potholes using existing road planings to form a sound profile for the Fibredec application - a highly efficient and cost effective solution. The preparatory work took one day with a second day involving the laying of a double application of Fibredec finished with two coats of grey chipping. The result - a highly durable surface offering enhanced resistance to cracking and pothole recurrence.



Car Parks: Bath Spa University

Colas were approached by Dave Lucey Ltd to provide resurfacing to a large car park in the university grounds. It was requested that the new surface would present attractive qualities as well as offering high durability and tensile strength to cope with the volume of traffic set to use the space. By selecting Colas' Fibredec with its choice of coloured top coat aggregates, the client was able to select a gold coloured chipping to create an aesthetically pleasing finish in line with their initial idea. The result was a highly efficient, well protected and decorative space in keeping with the surrounding buildings.

Central Reservations: A465 Abergavenny Dual Carriageway Bypass

A double application of Fibredec was laid by Colas' bespoke Fibredec footpath plant and proved ideal in surfacing the narrow strips either side of the already installed barriers. Fibredec's ability to be laid on top of a Type 1 sub-base provided significant cost savings compared to traditional coated material options. To finish, a red aggregate was specified by the client to provide an aesthetically pleasing top-coat.



Parks and Recreational Areas: Hyde Park

The scope of this project was to restore around 4km of footways in Hyde Park which had become worn through the effects of weather combined with general wear and tear, and to visually improve the area for visitors. Colas applied a double dressing of Fibredec using golden aggregate, and this application successfully addressed the maintenance issues whilst aesthetically enhancing the appearance of the Parade Ground area – where historically Queen Victoria first reviewed her troops from. Colas were approached by Blakedown Landscapes to carry out the restoration work after the company were impressed with the quality rendered by Colas on other projects that they had commissioned to them.



Waterways: Bolton Towpath

Colas were approached to provide a durable surface to a popular riverside towpath. Polymer modified bitumen with chopped glass fibre strands was sprayed onto a Type 1 sub-base to give the extra strength needed to cope with the stresses exerted on the surface by cyclists and pedestrians. To remain in keeping with the natural surroundings, a natural red/brown aggregate was selected as a top-coat.



Countryside: Hardwick Hall Footpath, Durham

Set in majestic countryside, the popular Hardwick Hall footpath required a user-friendly surface in keeping with its surroundings. Colas' Fibredec was chosen for its ability to be applied directly onto an unbound material and a natural stone finish was achieved by using unrefined aggregates. The result was a footpath offering increased durability and tensile strength needed to cope with the pressures and stresses exerted on its surface by pedestrians.



Stress Absorbing Membrane Interlayer (SAMI)

Following on from successful trials in 2009, Colas were awarded a contract from Hertfordshire County Council to provide 40km² of reinforced surface dressing to carriageways exhibiting extreme fatigue. Fibredec was selected for its ability to provide a hard-wearing, resilient surfacing upgrade, without the need for a full planing off and resurfacing scenario.



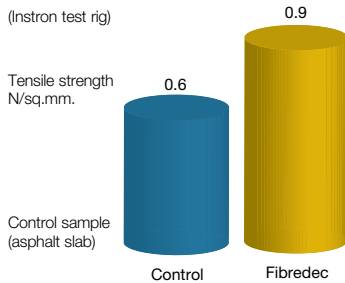
Cycleways and Footways: Wisemans Bridge Cycle Track

Sustrans commissioned Colas to provide a strong, aesthetically pleasing surface to a cycle track connecting an existing coastal footpath and cycleway to the nearby resort of Tenby. The incorporation of glass fibres in Fibredec provided sufficient strength for the process to be laid directly on top of a Type 1 sub-base (already prepared by Sustrans – and allowing their project costs to be significantly reduced). The result – an attractive and robust track that is user friendly.

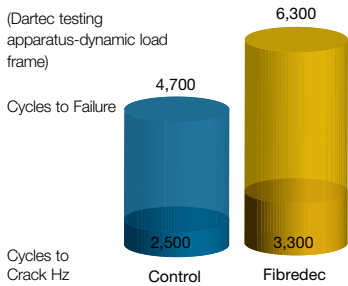
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Proven performance

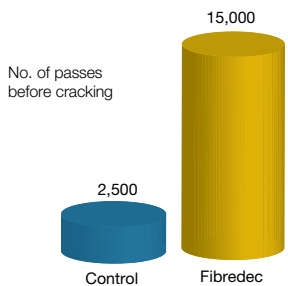
Tensile Test



Fatigue Test

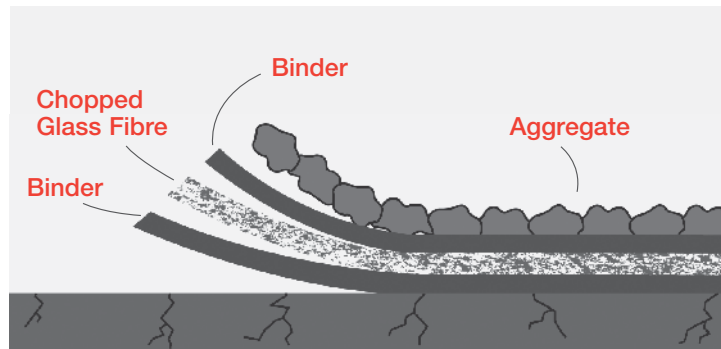


Wheel-tracking Test



Why it works

Research undertaken by Nottingham University concluded that: Fibredec has sufficient tensile strength and flexibility to absorb movements in the pavement structure and prevent the surface from cracking. Where permanent lateral movement of the overlay might occur – due to cracks in the underlay material – Fibredec reduces the magnitude of the resultant strain in the overlay by spreading it over a greater area.



Whilst conventional SAMIs simply relieve stress, Fibredec acts like a cushion - its thickness absorbs stresses, thereby acting as a true stress absorbing membrane.

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