

Colas

Versatile treatment answers cold weather problems

Colas' Fibredec, developed as the ultimate stress absorbing membrane, is an ideal inlay or surface treatment for repairing damaged roads and strengthening them in preparation for cold weather.

Recent inclement weather across the UK has resulted in numerous potholes and cracks in the nation's roads; bringing home with a vengeance the need to prepare highways adequately prior to the next cold snap.

The answer to this problem is simple, according to Colas' Fibredec consultant Arthur Thompson. Authorities should be making better use of Fibredec, a proven material specifically developed to arrest cracking and crazing of road surfaces.

Left unchecked, the freeze and thaw

action of water often causes cracks in the surface to become larger and turn into potholes. Use of Fibredec on weather damaged carriageways inhibits further ingress of water and protects the foundation layers of a road.

Fibredec is a process whereby bitumen emulsion, aggregate and chopped glass fibres are combined to form a versatile treatment that is very quick to apply and is ideal for sealing cracked surfaces on either concrete or asphalt.

The treatment is applied through specially designed and patented equipment

which simultaneously sprays two films of binder and sandwiches a layer of chopped glass fibre between the films. The total binder application rate depends on the nominal aggregate size, the site category and the rate of spread of glass fibre.

"The glass fibre gives Fibredec greater tensile strength. It can reduce pre-patching normally associated with conventional surface dressing programmes by as much as 40%, which ultimately means less time, cost and waste" says Thompson.

Fibredec is highly versatile and can be used in its own right as an enhanced

FIBREDEC - THE COST EFFECTIVE SOLUTION

"There's no doubt that Fibredec has proven to be the most efficient solution for cracked roads," says Colas' Fibredec consultant Arthur Thompson. "We've done numerous projects and once the preparatory work has been completed, Fibredec can be applied quickly and efficiently."

A recent example is a contract carried out on behalf of Redcar & Cleveland Council which approached Colas to overlay a badly potholed road. This adopted road leads from a main highway to a group of houses and farms and covers a distance of around 1600m.

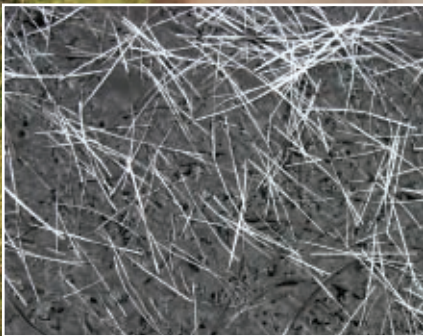
"It was in a particularly bad state with numerous potholes and lots of cracks,"

explains Thompson. "The only viable alternative to Fibredec would've been to plane off the entire surface and relay it. Our method was by far the most cost effective solution."

On this project Colas' first task was to simply fill all of the road's potholes using road planings to form a good profile for the Fibredec application. The preparatory work took one day and a second day was used to apply a double application of Fibredec to the cleaned surface; finished with two coats of grey chippings.



A badly potholed road in Redcar & Cleveland has been treated with Colas' glass fibre reinforced surfacing Fibredec to produce a cost effective solution



Before and after with Fibredec: Deteriorating roads can be provided with a cost effective and high strength treatment to arrest surface cracking and crazing

surface dressing, or – where that technique may not be appropriate – alongside other forms of road treatment as a stress absorbing membrane. For instance, Fibredec can be specified in combination with a micro asphalt surfacing or applied prior to the application of thin surfacing systems.

Fibredec’s high tensile strength and durability have been proved through independent research by Ulster University.

The Northern Ireland institution evaluated Fibredec and concluded that its use as a

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Demand for surface dressing techniques with inherent strength is likely to increase due to pressures on budgets

stress absorbing membrane interlay (SAMI) significantly inhibits the propagation of reflective cracking in an asphalt overlay.

In each of the three tests carried out the samples using Fibredec out performed the samples where no SAMI was used. The use of Fibredec was shown to enhance the overall performance of an overlay by approximately 30% and slow the wheel tracking rate by 300%.

“Increasing pressure on highway budgets is likely to result in a greater portion of maintenance programmes being delivered through more cost effective surface dressing techniques in place of full resurfacing. Fibredec provides clients with a versatile solution with added whole life cost and sustainability benefits,” says Colas specialist treatments business manager Carl Fergusson.

Given the deteriorating structural condition of many roads, highways authorities will be looking for surface treatments that have inherent strength for resisting cracking and ultimately prevent the recurrence of potholes.

“Fibredec will figure in this because it prevents onset of these problems occurring again,” adds Fergusson.

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