

## RMC

The Highways Agency is detrunking some roads which go to local authorities to be maintained. This presents a financial and technical challenge to already hard pressed councils. RMC has a new product to help

# Viabase – the third way?

**Q**uestions over the future funding for maintenance of the Highways Agency roads which are to be detrunked remain to be settled, but however it is resolved there is unlikely to be a greatly enlarged pot. Local authority engineers will have to struggle to stretch every pound they are budgeted - nothing new there.

But detrunking of these roads at least presents an opportunity for reviewing the approach to their maintenance, says RMC's Divisional Technical Manager Gordon Lemon: "Maintenance strategies generally have undergone a subtle change in the past couple of years as thin surfacing has come of age to substantially replace surface dressing as the favoured maintenance approach.

"Thin surfacings might still be a relatively small proportion of total asphalt use but there has been enough laid to show that a different method of construction needs to be adopted when this form of maintenance is used. Surface dressing involves a number of drawbacks which we are all familiar with,"

RMC's solution has been to develop an extension

*"Without full commitment to increased funding...the need for a technically superior, cost effective solution like Viabase combined with a thin surfacing is pressing."* Gordon Lemon

of its 'VIA' range with a new base course material called Viabase. This is the same as RMC's well established low noise, highly durable thin surfacing product, Viatex, with the exception that it does not need high specification aggregate.

"So all the regulating that has to be done can use the thinnest of thin surfacings," Lemon says.

Viatex was launched as an alternative to hot rolled asphalt after several years of development to turn what was a product designed originally for German road conditions into one suitable for the UK (see Modern Asphalts No3). The advent of performance based specifications smoothed the path.

The new material, Viabase, had to have the following attributes: it had to be capable of being compacted easily in thin layers, which is something conventional materials are not good at; it had to be waterproof; and it had to have the same rutting characteristics as thin materials which would go on top of it. Development of the material happened because of the HAPAS requirement on thin surfacings which Gordon says has created a vehicle for innovation.

Viabase is the 'sandwich filling' between the existing sound base and a new thin wearing course. This new approach is an alternative to conventional thin surfacing systems which do not always provide adequate regulation. It is particularly useful when a failed wearing course has to be removed during carriageway reconstruction, where difficult thicknesses of material have to be replaced.

For example, where 50mm of worn out surface has to be replaced, something in addition to a typical thin surfacing (normally 15 to 40mm) has to be used – Viabase fills this gap.

"Viabase is an effective, economic option for maintenance which local authorities will be interested in," says Gordon Lemon. "They are being asked to take on maintenance of roads on which little money has been spent by way of improvement;



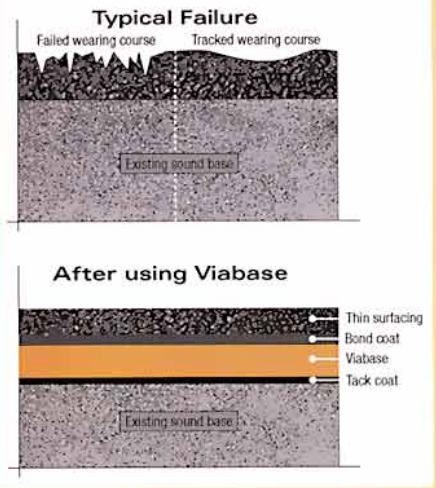
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1. Viabase is laid as the "sandwich filling" between sound base and thin surfacing
2. A typical grading curve (see text in box right)

2

## Composition and Design

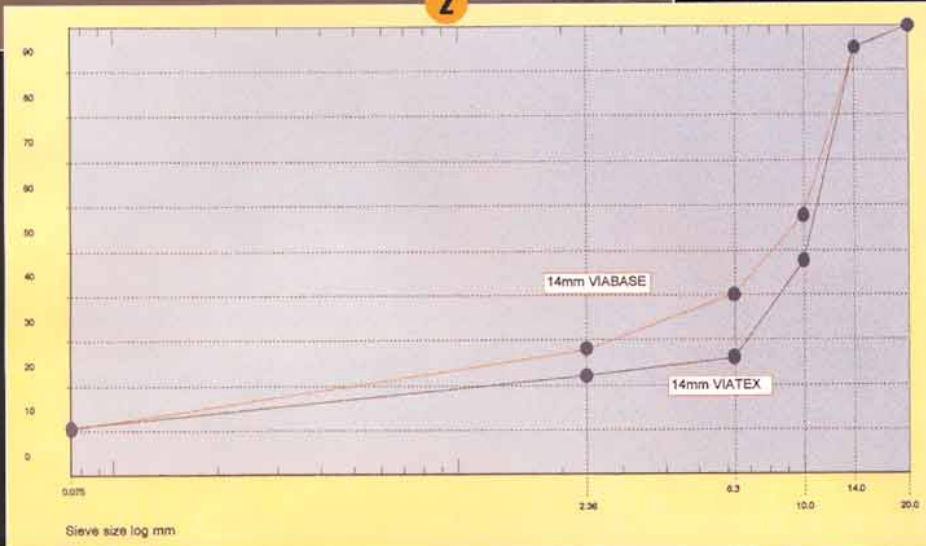


THE VIABASE CONCEPT IS FOUNDED on the same technology as is used for the design of thin wearing course systems, but uses different design criteria. For example, there is no requirement for a surface texture.

The thin surfacing design process has therefore been modified to produce an asphalt mixture with additional middle sizes to remove the gap grading normally required for the provision of texture. A typical Viabase mixture would therefore consist of limestone coarse aggregate complying with the Highways Agency specification for aggregate used in bituminous mixtures, limestone fine aggregate, filler and 50 penetration grade bitumen. A small amount of fibre is also added in order to prevent binder migration.

The mix design method used includes laboratory compaction trials to produce a mixture with low air voids and wheel tracking tests to ensure that the Viabase is rut resistant. A typical grading curve comparing Viabase and RMC's Viatex thin surfacing and wheel tracking test results is seen in 2.

Viabase with a thickness of 30mm of Viatex thin surfacing as the wearing course. On another contract in Killamarsh, Derbyshire, Viabase has successfully been used as a regulating course on a tie in between new and existing construction.



without full commitment to increased funding, the need is pressing for a superior, cost effective solution like Viabase combined with a thin surfacing."

Viabase is based on a thin surfacing type formula, but uses a lower specification aggregate than thin surfacings.

There is no texture requirement for it so it is designed to be voidless when compacted, and impermeable. Only conventional plant is needed to lay the material.

"In any circumstances in which a road needs to

be regulated with low deformation base course, Viabase could be the answer," Lemon says. "It will be particularly useful on bridge decks which are having carriageways reconstructed as it can be laid in thicknesses from as thin as 10mm up to 60mm when 20mm nominal size aggregate is used."

Contracts where Viabase has successfully been laid so far include on the M1 between junctions 38-39 where it was chosen as a rut resistant base course. On this contract the 50mm thickness resurfacing requirement was met by laying 20mm of