

Performance of a lifetime

Lifetime guarantees are likely to be the future for trunk road and motorway pavement industry. RMC in particular is already striving to develop new products in readiness to meet these demands.



The UK's highway surfacing industry is constantly aiming to set new standards through continual performance improvements, both in terms of products and techniques, and RMC is no exception.

The company has gained HAPAS approval for Viapave, its newest thin surfacing product, and RMC hopes that this latest addition to its product line up will help meet future demands.

Lifetime guarantees should feature in future highway specifications according to a report published recently by the National Audit Office (NAO). Nonetheless, RMC Aggregates' Divisional Technical Manager Gordon Lemon is confident that the company's products, including Viapave, will be able to meet these new higher standards.

guaranteed defect free for two years and the willingness of suppliers to meet this criteria shows increasing confidence in their products. Lifetime guarantees, based on fixed volumes of traffic, are a natural progression to ameliorate rising costs."

Viapave is the latest product to join the ranks of RMC's HAPAS approved surfacing armoury and its parentage lies within the well established Viatex range. Many thousands of tonnes of Viatex has been laid during the six years since RMC launched the material. "It's been a tremendous success," observes Lemon.

"Viatex uses penetration grade bitumen reinforced with cellulose fibres and 14mm aggregate to form a dense asphalt mix. When

Viatex and Viapave can both produce a smooth and even high performance surface even when the surface which it is being laid over is in poor condition. Gordon Lemon

"The NAO report contains a wealth of information which could either be used to deliver praise or condemnation of the Highways Agency (HA) but overall it indicates that the condition of the network has improved," says Lemon. "The report raises too many issues to discuss each in detail but there are two which I feel are particularly relevant. These are the rising cost of highway reconstruction and the need for lifetime guarantees."

According to Lemon, increasing maintenance costs are due to ever more frequent use of high quality materials which are more expensive. "But these materials have a greater lifespan and therefore offer better value in the long term," he says. "At the moment thin surfacings have to be

laid at 30mm or thicker the material has a texture which provides good skid resistance. But while thinner layers of Viatex can achieve a smooth durable surface, the texture depth is less and results in a lower skid resistance" says Lemon.

"We developed Viapave to offer the same properties as Viatex but to allow these to be achieved in thinner layers when required. This means that the product can still exhibit high texture even when it is laid as thin as 18mm. Viapave uses a polymer modified bitumen binder to achieve and retain the specified texture depth and skid resistance performance."

Both Viatex and Viapave can be used as a surface course or as an overlay and use high quality aggregates specially selected not just

RMC launched Viatex six years ago and Viapave has been developed from the same technology



Viapave offers the same properties as Viatex but from thinner layers

for their polished stone value (PSV) but also their resistance to crushing, abrasion and shape.

According to Lemon, it is as overlays that both products come into their own. "Viatex and Viapave can both produce a smooth and even high performance surface even when the surface which it is being laid over is in poor condition," he says. "Use of the products in this situation can dramatically prolong the lifespan of the existing pavement."

Viapave was laid at test sites in East Anglia and Essex four years ago and has stood up well to the test of time



DESIGNED FOR LIFE

All of RMC's proprietary thin surfacings are designed using the company's specially developed methods which take account of the bitumen binder and aggregates being used. The technique helps RMC's engineers to derive the right bitumen content to achieve the desired void content which Lemon says is vital for achieving good skid resistance.

"The HAPAS approval process is very thorough and helps engineers assess a material's suitability for a site but it doesn't actually require void content to be specified," says Lemon. "Void content is directly

RMC began trialling Viapave around four years ago and the test sites in East Anglia and Essex have stood up well to the test of time. Analysis of a stretch of Viapave showed

related to texture depth – the higher the bitumen content, the lower the void content and vice versa."

If the bitumen content of a mix is too high, texture depth will be lower than anticipated. In hot weather the bitumen will expand and the lack of voids may lead to complete loss of texture and reduced skid resistance properties.

"Design is critical to both short and long term performance," says Lemon. "Get one element wrong and it can impact on the performance of the whole pavement."

texture depth of the untrafficked surface to be 1.8mm and only to have dropped to 1.4mm after 28 months of use.

Results from these initial trials were used to successfully gain HA approval but further test sites in North Lincolnshire were treated with Viapave to gain the necessary results for HAPAS approval.

Viapave gained its HAPAS accreditation late last year and discussions are already under way for use of the new material on several sites in Scotland over the next few months. "Addition of Viapave to our range means that we can offer the optimum solution to suit every site," says Lemon. "This capability will become increasingly important when – not if – lifetime guarantees are introduced by the HA."

email hotline: info@modernasphalts.com