

Substantially longer life at an affordable cost

Surface dressing is a cost effective way of maintaining your highway pavements and making sure they are safe for road users, says Total Bitumen which is promoting its Emulsis range.

The entire highways management supply chain is now being challenged like never before on the principles of best value, innovation, sustainability and most prudent use of diminished budgets.

Total Bitumen has recognised that however tight the budget, local government's duty to maintain highways networks to a better than basic standard for skid resistance is always going to be necessary to keep the public safe and avoid claims. The key as a supplier is to come up with the most cost effective way of achieving this.

For Total Bitumen it was clear that there had to be a trend towards favouring premium surface dressings to restore performance in areas previously considered for a more costly thin surfacing overlay. There is also a perception that some thin surfacing applications are not going to last as long as originally expected, either through poor material design or through

inappropriate applications. Total Bitumen says that these surfacings could be enhanced or maintained with a planned surface dressing programme throughout the material's life cycle.

Over the years many pavements have become evolved constructions rather than

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Rick Ashton

intelligently designed ones. The key to avoiding a deterioration of such pavements is intervention at key points in time.

Surface dressing applied throughout a pavement's life cycle with diligence and correct design procedures can seal the surface, restore skid resistance and inhibit

the formation of potholes before more expensive, deeper and obtrusive repair work is required. “It is intervention at the correct point which is the golden rule,” says Total Bitumen UK Market Development Manager Rick Ashton.

This should be before structural failure, with surface dressing used as a planned preventative maintenance treatment not as a quick remedy to cover serious fatigue issues. “Simply allowing roads to disintegrate to reconstruction stage is like driving a car around without changing the oil occasionally – I would rather buy oil than engines,” he says.

Highways clients are now reviewing their perceptions of ‘cheap and cheerful’ short term surface dressings and are demanding long term durability through the implementation of Sector Scheme 13, RSTA Codes of Conduct, Road note 39. Most importantly, they are insisting that trained and competent personnel are involved in the installation of the products. CE Marking by 2013 is the next stage of this increased risk transfer.

Total Bitumen has developed polymerised surface dressing binders such as its Emulsis range. The company's National Sales & Marketing Manager John Tuite says “Market research in recent years pointed to opportunities for further product development and the time was right to develop this range. Emulsis is an economic and durable binder with high performance. We intend to push the advantages of Emulsis for the surface dressing sector in the years to come.”

Total Bitumen's Emulsis range has been developed to incorporate specific polymer levels. Performance enhancing additives have been developed to answer the



Highways clients are beginning to overcome their perceptions of surface dressing as ‘cheap and cheerful’



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challenges the supply chain is now faced with. The Emulsis range incorporates three grades tailored to specific applications and budgets – Ultra, Satis and Supreme.

Clients can procure the product best suited to their end use in terms of value engineering, site stresses, historical wear and previous failure modes, thereby balancing initial cost against the expected life cycle. “It is the principle of using the correct ‘horse for the course’ that underpins the range,” Ashton explains.

The last issue of Modern Asphalts described Total’s Styrelf range of polymer modified binders typically used in thin surfacing applications. The 19 year Swiss Lavoc study clearly demonstrated that not all PMBs are the same.

“It is the same principle with Emulsis surface dressing binders,” Mr Ashton adds. “Having Ultra, Satis and Supreme in the Emulsis portfolio gives clients the choice of Emulsis technology at an appropriate level to suit any applications or performance level required.”

The Emulsis polymerised product behaves in a more elastic manner than traditional grade emulsions, Mr Ashton explains. “The polymer modification levels in the Emulsis range give clear benefits in terms of adhesion, flexibility and resistance to extremes of temperature,” he says. “This makes the product less likely to ‘black up’ chippings at high ambient temperatures, reducing

commercial risk to the client and safety risks to the travelling public.

“There is a big push to seal and protect road surfaces to prevent a recurrence of last winter’s pothole problems,” adds Mr Ashton.

One major surface dressing contractor that has used Total Bitumen’s Emulsis Ultra and Satis throughout the season is Kiely Bros. A spokesman for the contractor said: “We have used large volumes of Ultra and Satis this year and we are very pleased with the performance. The Emulsis range of products is reliable and of good quality.”

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Lower spray temperatures save time, money and carbon

Traditional site practice is to spray emulsions in the temperature range of 80 - 90°C. This can involve having to reheat the emulsions during the working day to maintain spraying temperature and achieve a satisfactory viscosity for adequate spread rates and aggregate wetting.

It typically takes 25 minutes to heat emulsion by 10°C in a tanker, burning one litre of heating fuel per minute. This constant

heating inevitably leads to delays to the surfacing operations and downtime as the surfacing crew stand waiting for emulsion to reach the correct temperature. Ultimately this affects how many square metres of road a crew can dress per shift.

The Emulsis range addresses this issue by dropping the permitted working temperature to 65°C. This gives a greater working temperature window and so potentially

more square metres surfaced per shift.

Consequently, significant efficiencies and carbon reductions can be derived. “Lower temperature spraying with Emulsis can add an extra week’s surfacing for a typical crew in a 90 day season” says Total Bitumen’s Market Development Manager Rick Ashton. “Using our model we can provide interested parties with further information on operational savings and carbon reductions.”