



## Word on the street is colour

East London is becoming an increasingly colourful place as asphalt producers respond to growing client demands for a wider range of road surfacing options other than the traditional black.

Colour coded road maps may need to be produced soon for a single stretch of the A13 dubbed Thames Gateway which has so far had red, green and blue applied to various sections – and some black of course. Colours are being used mostly on service areas and bus lanes for safety reasons, and the latest addition to the palette is a blue mastic asphalt used to delineate a realigned pedestrian and cycle underpass under the carriageway in Canning Town.

Pure Asphalt Company provided and laid the blue material, marketed as Pacodye, under subcontract to RMC which has a three year contract to provide all the asphalt surfacing for the Design, Build, Finance, Operate scheme

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for the RMG Construction Consortium, a joint venture between Amec, Alfred McAlpine, Dragados and Kellogg Brown & Root. Some 160,000 tonnes of asphalt will be laid during the three year contract period which started in October 2001.

The overall project is to widen and debottleneck the very heavily trafficked A13, including a great deal of off-line widening and construction of new lanes. Pure

Asphalt's underpass is a small part of that total but underlines the growing interest of clients, in this case Transport for London, in using coloured materials for safety related as well as aesthetic reasons.

Pure Asphalt Company's managing director Ted Holder says interest in coloured material is growing fast. "That was the fourth job we had in a few months, and some of the applications are out of the ordinary. We





Above left, Pure Asphalt used a blue mastic asphalt used to delineate a realigned pedestrian and cycle underpass in Canning Town

Above right, Shell Bitumen worked closely with Pure Asphalt to select the right pigment for the job

have laid about 1,400 square metres on a factory floor for a client in the car industry at Swindon. They wanted a grey asphalt to match the colour of their car showrooms. There is substantial growth in demand for these coloured products. We are starting from a very low base so the quantities are not huge so far, but specifiers increasingly want this sort of product for aesthetic as well as performance reasons so it could grow considerably more."

The alternative would have been block paving, but this is expensive and does not provide a smooth monolithic surface. There is also an increasing risk of damages claims from people alleging injury as a result of an uneven surface.

Pure Asphalt reckons there are only five mastic producers capable of providing coloured mastic. Key to the ability to produce it successfully is using scrupulously clean plant as any contamination from black material will ruin the batch. The other key element is being able to transport the material. "We can keep the mastic warm for 24 hours in our transporters," says Holder. "We brought all the material to London from our plant in Bolton in 12t loads, although we

can do loads of up to 19t. Our transporters deliver the material at 180°C, keeping it hot with their own propane heaters and agitating it constantly during the six hour trip."

The cycleway needed 36 tonnes of material which was delivered in three equal loads. The underpass totals 200m length and is three metres wide. A 25mm layer of mastic asphalt was laid on top of a concrete base. The surface finish is sand rubbed and

Enhanced ageing and other performance characteristics can be achieved by adding SBS polymers. **Simon Banbury**

crimped. "The colour tones in with the tiling used on the walls of the underpass," says Holder.

The binder used was Shell Bitumen's Mexphalte C, which Pure Asphalt has been using for about four years. Shell Bitumen's Simon Banbury says: "It is a colourless, synthetic bitumen which we have made considerable progress with recently. By adding pigments you can have any colour you like and it has the same properties in performance as standard bitumen. We have improved workability by the use of additives

and it can be laid at much lower temperatures as a result, at 180°C as opposed to the normal 200°C. Enhanced ageing and other performance characteristics can be achieved by adding SBS polymers."

The pigment used to colour the material was selected by Pure Asphalt after close consultation with Shell Bitumen. "Bitumen is the key to all our materials," says Holder. "We work closely with Shell Bitumen to ensure that all the materials used are compatible and will produce the required product, in terms of consistency of colour, resistance to UV light and other required performance characteristics."

The pigments are not cheap. Holder says using Mexphalte C allowed considerable savings to be made as a pigment content of only 2% was necessary, compared to a more normal 5% or more. Producing the brighter colours is most expensive of all, about £15 of pigment being needed for a square metre of material.

Pure Asphalt used a light coloured aggregate mix to help keep the need for pigment down. The mix was limestone powder, 10%-11% bitumen and 2%-2.5% pigment with a 6mm gritstone. Laying was designed to minimise the number of joints.