

Bardon Aggregates

The limits of what asphalt can do have been tested on the Millennium Dome project, where coloured material has scored a major success against competition from block paving

Rolling down the red carpet

The red asphalt carpet has been put down for the visit of the Queen to the Millennium Dome in Greenwich, South London, on New Year's Eve. Her Majesty might not know it, but she will be the first Royal to tread on the new generation of coloured asphalts when she walks from the helicopter port in Meridian Gardens adjacent to the site, to the Dome itself for the official opening ceremony.

The fact that the asphalt is red rather than black can hardly escape the Royal notice, and further surprises are in store for the Queen when she tours the site as gold and green asphalt also feature prominently throughout the public areas, which will get a severely hard pounding from heavy vehicles and millions of pairs of feet in the year the Dome is open to the public, and beyond.

Bardon Aggregates is justifiably proud of the use of its Europave 2000 surfacing on this high profile job, having supplied a highly durable product as well as one which meets the architects' specification for something a little out of the ordinary for a very

out of the ordinary major construction project.

The market currently dominated by block paving is the main target for the new generation of coloured asphalts, offering maintenance, cost and durability benefits. An early choice at the Dome was to use a combination of black asphalt, block paving and grassed areas. But later aesthetic considerations swung the argument towards black asphalt with substantial coloured asphalt areas, especially inside the Dome and on the concourse areas outside. Bardon's South East Contracting Division is now working on four contracts within the Dome complex with a total value of £4M, some 5,000 tonnes of coloured Europave and 71,500 tonnes of traditional road base, base course and black wearing course. The bulk of the coloured Europave, around 4,500 tonnes, is being supplied via main contractor John Doyle to the main Dome complex, along with 23,500 tonnes of black material. In addition, some 500 tonnes of Green Europave has been supplied through Edmund Nuttal for use on footpaths linking the main complex with car parks and public transport.

Peter Green, General Manager of Bardon Aggregates' South East Surfacing Division, said: "We provided 17 different colour samples before the choice was made for gold on external areas around the Dome itself. Red was selected for the outer and inner ring roads around the Dome which will be used by service vehicles and other vehicular traffic like mobile cranes. Entrance areas were also surfaced in red, while green was chosen for some pedestrian and vehicle access areas.

"The benefits of coloured asphalt are that it is low maintenance compared to block paving and it eliminates the worry about people tripping over surfaces which can quickly become uneven. The Dome will get a lot of people walking around it once it opens and there has already been a great deal of heavy plant working on construction and the exhibitions which will be inside the Dome. The traffic is more intense than many highways experience, with every type of lifting vehicle you can think of being used on site."

The material already laid has stood up extremely well to some very heavy demands. It has been cleaned once to get construction dirt off, and it has come up looking as good as new. "We are delighted with its performance and confident that it will be a great advertisement for Bardon's Europave 2000," says Green.

Laying the material has been a challenging task

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Peter Green

for Bardon's specialist gangs. The material is easy to work with but the geometry of the site has been difficult. South East Area Manager Ross Kelly has been in charge on site. He explained: "We have tested the limits of what asphalt can do on this contract. We had 10 changes of level to cope with on the area outside the Dome, called the scallop areas. Hand laying was the only way to cope with the lights which have been set into the ground for example, but the material is very versatile.

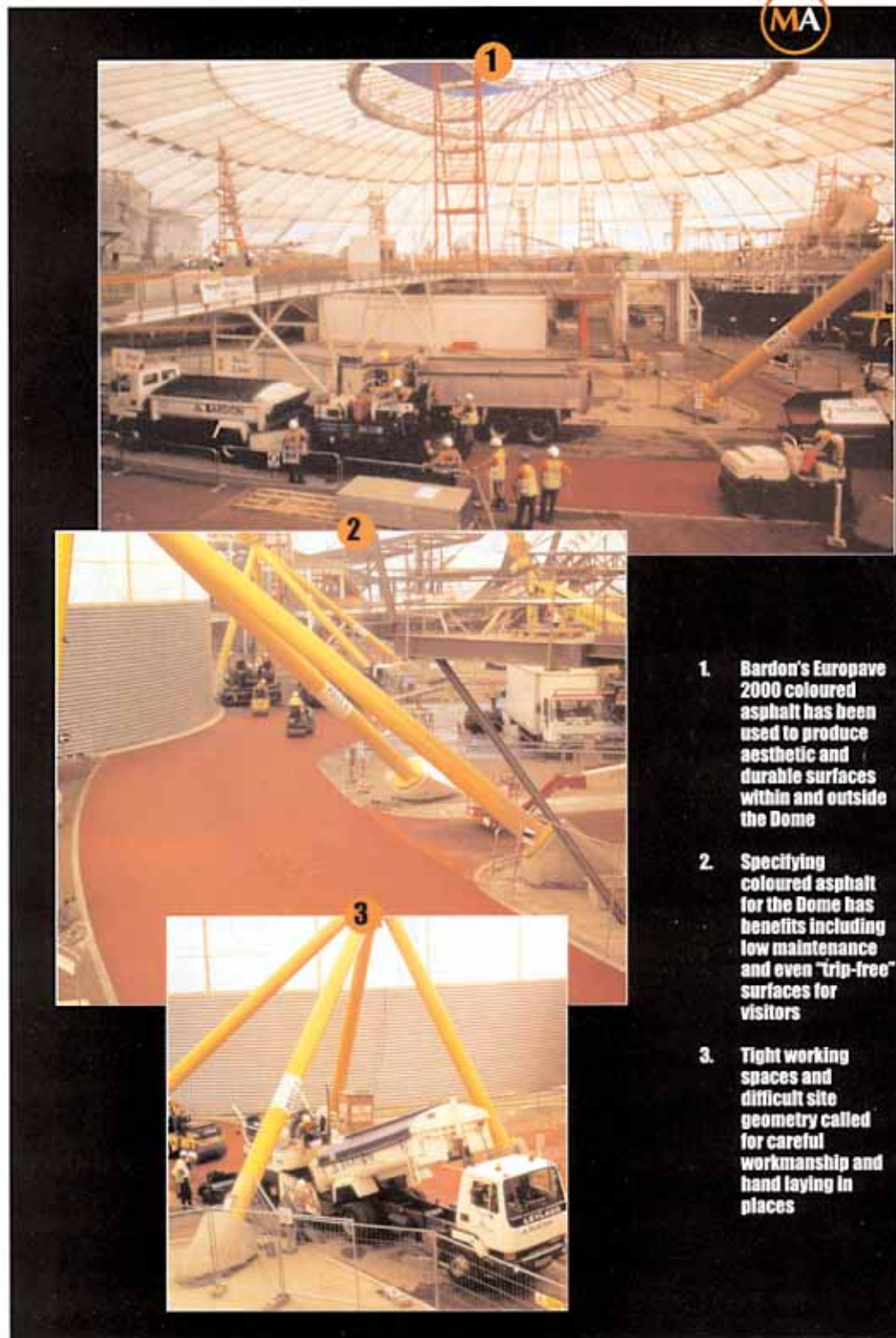
"The interior of the Dome is all asphalted and we had to use hand laying to get into areas under stairways and close up to the exhibits which are in place. Working space is very tight inside the Dome because there is so much construction traffic. It was all laid to exacting vertical profiles and we improvised some tools so we could compact the material properly in some hard to reach areas."

Red asphalt was also used to overlay a concrete ring beam inside the Dome which is part of the foundations for the structure. Kelly says: "The architect wanted to maximise the aesthetic appeal so he specified the same red as is used on the rest of the inside."

A lot of development work and trials went into getting the material just the way the client wanted it for the Dome project. Durability and value for money were the first priorities for them, but consistency of colour also came high on the list.

Bardon Aggregates' Technical Director Paul Phillips said: "We can objectively demonstrate that the colour is consistent because we use spectrophotometers on site and in our Central Development Laboratories. Colours look different in shade and in the open and when they are wet and dry. Therefore we have invested heavily in this equipment so customers can be assured they are getting consistency."

Careful selection of complimentary aggregates



- 1. Bardon's Europave 2000 coloured asphalt has been used to produce aesthetic and durable surfaces within and outside the Dome**
- 2. Specifying coloured asphalt for the Dome has benefits including low maintenance and even "trip-free" surfaces for visitors**
- 3. Tight working spaces and difficult site geometry called for careful workmanship and hand laying in places**

has also been important, to minimise the impact of colour fade. The binder is bitumen based, and although the precise formulation is confidential it is known to contain polymers and resins. The bitumen has a low asphaltene content with the same qualities

as a polymer modified bitumen.

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