

Roadstone Recycling

Massive contract moves recycling to the fore

The decision to opt for recycling for the reconstruction of a busy West Country road could be the turning point that brings recycling into the mainstream.

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Road recycling has been available in the UK for nearly 10 years, but recycling specialists still feel they have to prove the technique with every new contract. However, the decision to recycle an 8km section of the A38 in Devon could put an end to that.

The project, which started in September, involves removing 95,000t of base and wearing course and recycling 65,000t of this to form a new cold recycled bound material base layer.

The scheme marks a step change in road recycling, says Gary Cook, Managing Director of specialist contractor Roadstone Recycling: "In terms of tonnage, this is five times larger than anything the Highways Agency has done before and double the amount of recycling we've ever done on one job."

The contract also poses a challenge in terms of speed. The road bypasses the picturesque towns of Buckfastleigh and Ashburton and carries a great deal of holiday traffic, so the Highways Agency has scheduled the work to avoid the main tourist season. As a result, the recycling must be carried out in less than four months.

"What we are doing here is what we do typically in a year with one plant," says Cook. "And the volume we're recycling in October and November is the equivalent of six months' work."

But rather than being daunted by this task, Roadstone Recycling relishes the challenge. "It's what the technology and the plant are designed to do," says Cook. "Once we've proved it here, we will have provided a powerful argument for the Highways Agency as to why it should be done this way in the future."

Roadstone Recycling is planing the road to a depth of approximately 300mm, with the planings then going to the company's recycling plant, set up at one end of the site. "We generally try to find somewhere within 5km," says Cook, "but here it is literally at the end of the job in a local quarry. It could not be better because there are no wagons

going through the local towns or villages."

The ex situ recycling process involves breaking down the road material into its constituent elements and grading them into different sizes (from 28mm down). The new basecourse material is created by blending the recycled aggregate with microfiller and bitumen, which is "foamed" with air and water immediately before being added to the mix.

Roadstone Recycling has designed the A38 recycled asphalt mix to meet the Highways Agency's requirement of a minimum stiffness of 3,100MPa.

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The material is being delivered directly to site for main contractor Tarmac to lay and roll it in the gap left from the planing, achieving a rate of 1,500t of material recycled and laid each day.

Tarmac National Contracting South West's General Manager Nigel Holpin says: "Roadstone Recycling is responsible for milling the existing material, removing it to the location of the recycling, then recycling it and bringing it back on a vehicle for us to pave. Because it is so critical for the programme of events there are only two links in the chain from the material coming up to going down. It reduces any areas of error."

Tarmac is laying the recycled material to

Roadstone Recycling is tackling the Highways Agency's largest recycling scheme thus far, with 65,000t of asphalt to recycle in under four months





(Above and below) Recycled material is being delivered directly to site for Tarmac to lay and roll the new road surface at a rate of 1,500t per day

thicknesses of between 220mm and 280mm, and then topping it with a 100mm layer of binder and surface course.

The contractor, which has already successfully carried out many smaller road recycling contracts, won this job on the basis of a joint quality/price tender. Its involvement in the project - and that of Roadstone Recycling - began more than a year ago, when the Highways Agency and its consultant, Parsons Brinckerhoff, organised a forum for the industry to discuss the scheme. "It was a very enlightened process," says Holpin. "They asked industry experts and main contractors to go to a meeting, where they explained what they wanted to do and asked if it was possible. They gained confidence from that."

Five contractors bid for the work and were invited to another meeting to discuss the project. "It meant that there could be no misunderstanding of the documents, and when we bid for it we knew we were addressing the issues that were of concern to them," says Holpin.

The benefits of that process are now being felt, as the recycling is well under way, with the Highways Agency's targets - both for speed and material performance - being met.

The 8km Peartree to Drybridge stretch of the A38 was first constructed in 1968, and the road is now in need of full replacement. Tarmac's £8M contract includes not only the road reconstruction and resurfacing, but also bridge repairs, replacing kerbs and safety barriers, and installing a concrete drainage channel.

The road is dual carriageway throughout, and the recycling is taking place on a 4km

stretch of the northbound carriageway and 8km of the southbound.

Work has been phased, with the recycling timed to fit in with the bridge repairs - the most complex of which involves rebuilding both ends of the Mardle Viaduct.

The recycling element accounts for approximately £2M of the total contract value, and is expected to save over £300,000 on the cost of conventional reconstruction using non-recycled materials.

