

Ringway

Ringway aims Foambase at authorities' recycling targets

Ringway is helping local authorities meet their recycling targets using its Foambase process to recycle asphalt planings, glass and in future, tyres.

Highway maintenance contractors are facing the challenge of helping local authorities meet increasing targets for recycling and sustainability. The answer from Ringway is continual improvement and expansion of the options and opportunities available – including recycling a greater range of materials for use in road maintenance.

Ringway currently recycles planings and arisings generated from its individual projects and term maintenance contracts. Some of this material is recycled as Type 1 or Type 2 sub base or in conventional hot mix, but the majority of the arisings are crushed and screened for re-use in Ringway's Foambase recycling process.

A variety of different recycled materials can be used to make Foambase, including crushed glass and concrete as well as asphalt planings and arisings from highway works. In addition, Ringway is currently putting together designs and carrying out

tests using a new recycled material in the Foambase process – rubber from used car tyres, which is often difficult to dispose of or recycle.

Ringway's recycling process was originally brought over to the UK in 1998 from its French parent Eurovia. Since then Ringway has worked in partnership with local authorities to introduce Foambase into their highway maintenance programmes, with significant success.

"Ringway is keen to push forward the importance of recycling and after seeing positive results from projects undertaken with the process, invested in a mobile Foambase plant from Wirtgen in 2004. This has enabled us to produce Foambase at an increasing number of our depots, improving efficiency and enabling the product to become available to more clients," says Ringway Infrastructure Services Foambase Manager Mo Tolba.

The mobile plant blends the recycled

feedstock – after it is crushed and screened to a maximum of 20mm – with Pulverised Fuel Ash and hot bitumen. Then air and water is added to the mix at high pressure to make the bitumen foam. The tiny bubbles of bitumen adhere to the small particles in the mix, giving the mixture stability prior to laying.

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Jan Hemsley

Ringway Infrastructure Services Technical Manager Jan Hemsley explains: "The success of the mix depends on achieving the optimum moisture content within it. Unlike conventional asphalts, Foambase is a granular material which requires compaction to complete the process. Compacting the asphalt after it is laid bursts the tiny bubbles of bitumen within the material and then binds all of the particles together to form the finished asphalt. The amount of moisture in the mix affects how it compacts, so each material is tested and designed individually to ensure the optimum moisture content is achieved."

A number of county councils are using Ringway's Foambase surfacing on a variety of projects and term maintenance

Ringway produces two grades of Foambase: Storage and Structural Grade for heavily trafficked roads





Each of Ringway's local authority clients has a feedstock storage depot which is visited by the company's mobile plant for production of Foambase materials

contracts, including Lincolnshire, Essex, Devon, Kent and Surrey. Worcestershire County Council is the latest to benefit from this recycling process having recently signed a new term maintenance contract with Ringway. The first projects in the county to use Ringway's Foambase were carried out in July this year.

Ringway produces two different grades of Foambase suitable for different situations depending on the use and strength required: Storage and Structural Grade. Storage Grade is 97% recycled material. It has a shelf life of up to six

weeks and is ideal for footway and cycleway works as well as small areas of haunching or patching on lightly trafficked roads.

The strongest of the Foambase mixes is Structural Grade which contains added cement making it suitable for heavily trafficked roads carrying up to 30MSA (Million Standard Axles). Structural Grade has to be mixed as it is needed, as it has a maximum shelf life of six hours. It also contains 95% recycled material compared to traditional hot mix which usually contains no more than 20%.

"Our target is to produce 100,000t of Foambase per year which will provide huge savings on material taken to landfill and dramatically reduce consumption of virgin aggregate," says Mo Tolba. "It also eliminates the fumes and odours associated with laying conventional hot mixes."

Each county using Ringway's Foambase material has its own depot where the feedstock is stored ready for recycling. This reduces the need to transport material over long distances and allows the mobile plant to visit each area to produce the asphalt as and when it's required. Ringway also has its own depot, asphalt plant and laboratory in Dagenham where a large amount of feedstock from each of its clients' areas can be stored and tested.

"Ringway aims to put as much of the material it generates back into the road as possible and Foambase is currently the most favoured process for achieving this," Jan Hemsley says. Testing Foambase asphalt containing recycled rubber is a big step forward for recycling and will enable Ringway to further expand its recycling targets. Trials using rubber are expected to take place within the next 18 months.



Foambase is being used to help highway authorities meet recycling targets in Lincolnshire, Essex, Devon, Kent, Surrey and Worcestershire

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