



A look at a new surfacing solution for a variety of waste management sites

Surfaces used in the waste management industry in the past have been of either concrete, block paving or asphalt. There is, however, an alternative to these in the form of a grouted macadam.

To understand the principles of a grouted macadam, you have to look at the conventional materials' strengths and weaknesses. A grouted macadam is a hybrid between concrete and asphalt, combining the best features of both and eliminating or reducing the problems associated with other materials.

Concrete is a great performer but expansion joint failure eventually leads to sub-base erosion, cracking and potential pollution issues. Its rigidity does not lend itself to ground movement. Installation and repair is both time-consuming and costly.

Block paving provides some of the answers, but ground movement and settlement tend to be its undoing.

Asphalt provides the key to speed of installation, ease of repair and flexibility, but its resistance to leachates is low and it oxidises leading to premature failure under high stresses.

Grouted macadam, however, can provide a wide variety of waste

management sites with an alternative. This is a material that can be laid at the speed of an asphaltic material, has a rigid cementitious finish through the use of resins and cross-linked polymers without construction or expansion joints, has a high degree of resistance to leachates and is flexible and easy to repair following damage.

Grouted macadams have been in this country for 40 years or more but have yet to be adopted as a major surfacing solution, despite widespread use abroad. Hardicrete is the best known of the materials in the UK, having been on the market for over 35 years, and is certificated by the British Board of Agrément, the controlling body for these systems where accreditation has been issued.

A grouted macadam is quick to install, between 1000m² to 2000m² per day, and depending on the usage can be opened to traffic within 12 hours. Damaged surface courses can be easily repaired throughout its life and replaced at the end of the intended design life with minimal inconvenience and cost.

A grouted macadam is laid at a nominal 40mm thickness. It can be used as the preferred surface course on a base

of heavy duty bituminous macadams for new build projects or as a maintenance repair material for existing surfaces.

For brownfield sites an added bonus to the speed of installation is that the macadam base layer can be laid at the start of the build process and safely used by vehicles throughout, allowing a clean site during the works, substantially reducing health and safety issues while improving build time and the working environment.

For maintenance and repair purposes a grouted macadam can be used as an overlay or an inlay with minimal preparatory works and fast turnaround.

They can be used on haulage roads for landfill, civic amenity sites, transfer stations and recycling and composting facilities. In summary, these materials form a compromise between cost and performance and, while they are not as "hard" as concrete, they offer better whole life cost. Neither are they as "cheap" as asphalt but their strength and resistance to leachates and deformation are very good. In short, they can play a role in the industry and help to improve site efficiency, reduce health and safety issues and limit downtime. **CIWM**