

## Innovation Briefing – RoadCem

Cement modifiers to improve soil stabilisation for roads and piling platforms.

### What is it?

A cement modifier. A fine grain sized additive produced from alkali earth metals with synthetic zeolites and a complex activator to alter and improve the way cement binds soils.

RoadCem enhances and increases the flexibility and tensile strength of stabilised soils and improves the overall performance and impermeability of cement bound materials used in construction.

The addition of RoadCem to cement stabilisation prevents problems of shrinkage and cracking and allowing roads, foundations, piling mats and building platforms to be constructed quickly even with very soft or organic soils.

### What can we use it for?

Temporary haul roads for heavy plant (and potentially for permanent access roads), hardstanding areas e.g. for car parks, piling and crane platforms, heavy duty storage areas.

### What are the advantages?

The advantage of this product over conventional lime/cement stabilisation is that it can be used with soils with organic content.

Recycling in-situ soils and materials has sustainability and cost benefits;

- Reductions in the need for aggregates/extraction of primary aggregates
- Reduction in unsuitable on-site materials excavated for removal off-site as waste
- Reduction in lorry movements
- When used for temporary roads or platforms it can be milled to return it back to soil



Picture 1: National Grid temporary Road Trials at Brinkworth, Nr Rotherham by AMEC

### What other considerations are there?

- When returned to soil it is normally pH neutral after ~8 weeks. Before then it would have a higher pH so may not be suitable for <8 week periods in some locations.
- Dust could be an issue (particularly when applied manually) so consider the method of application

### Where has it been used before?

It has been used for roads in Mexico (subject of a UNESCO study), Russia, Africa & Canada. Trials on access roads for National Grid in UK (separate case study). Piling Platforms constructed at Walton-on-Thames in the UK (separate case study being produced). Piling mats for MWH Global at Clay Mills in Derbyshire and heavy duty soil base for Maritime Transport container storage site in Northampton.



Pictures 2 & 3: Creation of piling platform at Walton on Thames Bridge over the river Thames (Costain & Atkins for Surrey CC).



### Where can I get further information?

- More information about PowerCem products can be found on the website at [www.powercem.co.uk](http://www.powercem.co.uk).
- Andy Powell, Innovation Manager has additional Case Study material so please contact: [andrew.powell@environment-](mailto:andrew.powell@environment-)

**This note is for general awareness of product availability and does not constitute an official endorsement by the Environment Agency.**

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