

## Course News - Theory and Practice of Lime and Cement Stabilisation

**Chesterfield, 9am to 4.30pm on 15 July 2019**

Are you or your team involved in projects that involve lime and cement stabilisation, such as HS2? Do you need to expand your understanding and skills in earthworks to include soil stabilisation techniques?

If so, or if you are just interested in this area, then this course aimed at practitioners may be ideal for you. It last ran in April 2019 and received excellent reviews.



A detailed course description is provided overleaf but in essence the course is designed to ensure that at the end of it delegates have:

- understood the theoretical basis of how binders affect soil properties and explored a range of applications for treated soil;
- examined how to prepare a mix design programme and considered good site practices, with reference to BS EN 16907-4 (2018) and HA74/07;
- examined key aspects of how soil treatment is included within a wider earthworks specification, including requirements for monitoring, control and reporting.

The course will include discussion of case studies to explore good practices, and time for general discussion of issues / queries raised by delegates.

The course will be delivered by Dr Paul Beetham, who is an ICE appointed Panel Expert advising HS2 on soil stabilisation. Paul has extensive experience of soil stabilisation working both for specialist contractors and as a consultant, and will bring his skills and expertise to help delegates gain as much as possible from the course.

The course will run at Ringwood Hotel and Spa, an award winning venue in Chesterfield, and costs just £250 + VAT per delegate. Numbers are strictly limited to 15 so early booking is advisable. Just contact us using the details below to reserve your place.



<b>Course Title</b>	G19/307: Theory and Practice of Lime and Cement Stabilisation
<b>Duration</b>	1 day
<b>Delivery Mode</b>	Day course
<b>Cost</b>	£250 + VAT per delegate
<b>Delegate Nos.</b>	5 to 15
<b>Intended Audience</b>	Geotechnical engineers, engineering geologists and other engineers with experience of earthworks wanting to expand their understanding and skills to include soil stabilisation with lime and cement.
<b>Objectives</b>	<p>At the end of this course delegates should have:</p> <ul style="list-style-type: none"> <li>• Understood the theoretical basis of how binders affect soil properties and explored a range of applications for treated soil.</li> <li>• Examined how to prepare a mix design programme and considered good site practices, with reference to BS EN 16907-4 (2018) and HA74/07.</li> <li>• Examined key aspects of how soil treatment is included within a wider earthworks specification, including requirements for monitoring, control and reporting.</li> </ul>
<b>Course Description</b>	<p>The treatment of soil with binders such as lime and cement during earthworks can be effective at achieving project strength, stiffness and settlement requirements using materials that would otherwise be unsuitable. This has led to the increasing use of soil stabilisation.</p> <p>Often soil treatments are considered to be 'specialist design', with stabilisation contractors establishing binder combinations to meet performance criteria. This can lead to an imbalance of understanding of this 'black art' between specialists and overall scheme designers, leading to uncertainties such as "is all that cement really necessary" and "could our project fail like the M40?".</p> <p>The reality is that soil stabilisation is not a 'black art' and experienced practitioners should be working through a well-structured approach to designing, executing and validating the treatment. This should align closely with industry guidance (e.g. HA74/07) and the recently published BS EN 16907-4 (2018). This course is aimed at providing practitioners involved in earthworks featuring soil stabilisation with an overall perspective and understanding of some of the design, specification and construction issues.</p> <p>This one-day course will begin by establishing how binders react with soils to change the engineering properties of soils. Delegates will then work through the mix design process to understand how decisions on binder combinations / contents are made to meet the needs of different engineering applications before siteworks commence. This will lead into a practical review of how the treatment is executed on site with consideration of case studies to show how a well-managed treatment leads to successful outcomes. Consideration of failures will be used to signpost the potential pitfalls (e.g. sulphate swell) to watch out for and how risks can be controlled. Throughout the course the requirements of industry specifications and British Standards (e.g. HA74/07 and BS EN 16907-4 (2018)) will be applied in discussions.</p>