SOIL STABILISATION SOLUTIONS
With the capacity to produce 10 million tonnes of limestone and lime products a year and over 30 years of reserves, Tarmac Lime and Powders is the UK’s leading producer of lime, powders and chemical stone.
Everyone knows that diamonds are
the world’s most precious stones, but in many ways lime
is even more valuable. Our products play a vital role in water
purification, land remediation and electricity generation. They are
also used in the production of essential materials ranging from construction
products, iron, steel, plastics, and glass, to pharmaceuticals, animal feed and
toothpaste. Life simply wouldn’t be the same without them. The reason Tarmac’s Lime
and Powders are so sought after can be summed up in one word – quality. The
products produced at our Tunstead quarry in Buxton are renowned across the
globe for their purity and consistency. To ensure the highest standards are
maintained all of our lime products are produced in compliance with ISO
9001 and rigorously tested by our own in-house team of chemists
and technicians using the very latest analytical techniques.
These include X-ray Fluorescence (XRF), Atomic Absorption
Spectrometry (AAS), Automatic carbon/sulphur analysis,
automatic thermo gravimetric analysis, ion selective
electrode and classical wet chemistry methods.
The results speak for themselves. Our Buxton
quarry is the industry benchmark for
quality and innovation, whilst our
products are the materials of choice
for leading organisations across
the UK and throughout the
world, from Northern
Europe to Central
America, South
Africa to the
Middle
East.
In many parts of the UK, large areas of land are unsuitable for construction because the soil is too wet, too cohesive or simply too weak to provide a stable base.

For many years, it was common practice to remove unsuitable soil and replace it with new material. However, this is an increasingly costly approach, and construction companies are also under increasing pressure to use more sustainable construction methods.

Soil stabilisation is a well-established technique for use on difficult construction sites. Wet conditions and weak clay soils are stabilised by rotovating specially formulated quicklime into the soil.

Once treated and conditioned, clay soil can be further strengthened with the addition of cement combined with sustainable materials such as Ground Granulated Blastfurnace Slag (GGBS), Pulverised Fly Ash (PFA) and recycled aggregates, producing a highly effective and economical foundation.

These processes enable contractors to maximise the use of all site materials and obtain the properties that they need without removing unsuitable material from site and importing aggregates, reducing overall cost, as well as waste, transport movements and carbon emissions.
Our soil stabilisation products have been proven on major projects including the Channel Tunnel Rail Link, Terminal 5 at Heathrow Airport, Stratford Box Station and numerous retail and industrial parks across the UK.

We work closely with customers from the outset of each project, providing unrivalled logistic capabilities alongside ongoing technical information and support.

With over 30 years of experience in researching and developing soil stabilisation. Tarmac Lime and Powders can offer expert advice on the selection of the most appropriate grade of lime for any application with full product details and specifications.
Our soil stabilisation products have been proven on major projects including the Channel Tunnel Rail Link and Stratford Box Station.
Tarmac Lime and Powders supplied high quality Limbase products to stabilise an area spanning over 750,000m$^2$ for the construction of Heathrow’s new £4 billion terminal building.
Our quicklime products are capable of absorbing up to 32% of their own weight in water from surrounding soil. The chemical reaction that is created when they are mixed with soil also generates heat, which reduces plasticity and results in more water being lost via evaporation.

In clay soils a further reaction, known as ‘cation exchange’, takes place. This produces a permanent change in the properties of the stabilised material, characterised by a reduction in plasticity and increase in optimum moisture content.

This produces a material which can be compacted to optimal densities to provide a stable load bearing platform.

Further treatment with cement, PFA or GGBS can provide rapid additional strength to the treated material.
“The service from Tarmac from initial quotes to product delivery was exemplary. The products performed technically as expected and throughout the contract the deliveries were on time and Tarmac were flexible with changed or late orders. I would recommend using Tarmac for lime and cement binders in soil stabilisation”

Steve Dunn, Director, Geofirma Ltd.
Plans to build a new £30m aerospace research facility on the outskirts of Coventry required construction to take place on a site with a three metre deep foundation of soft clays. By treating the ground with Limbase 60 Quicklime and cement, groundwork specialists Geofirma Ltd were able to achieve the specified stiffness modulus of 50MN/m² without mass excavation or removing materials offsite.

As a result both costs and transport movements were significantly reduced.
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