

Concrete Slab Stabilisation by Vacuum Void Grouting



Estate and main roads can be treated quickly restoring ride quality

Extending the life of rigid pavements

Vacuum Void Grouting is specifically designed to enable the controlled introduction of resin grout to fill small voids beneath the joints of rigid pavements thus stabilising and supporting the construction.

It is now over 20 years since the first feasibility trial was conducted on Western Avenue, (A40), East Acton, London, during a night closure on 10 January 1977, and in the intervening years, numerous successful contracts have been undertaken throughout the UK.

The process involves drilling an area extending 2m either side of the joint on a nominal 1m grid. Vacuum ducts are then placed parallel to the joint over alternate lines of holes.

A polythene shroud is then sealed over the whole area, and a vacuum source is applied to create an airflow.

Introduction of resin grout to individually isolated holes between the vacuum ducts is carried out until refusal, or until resin is drawn to the holes beneath the vacuum ducts. The equipment is then removed and the holes can be reinstated.

Vacuum Void Grouting provides an efficient and cost effective method of reinstating slab support and stabilising voided or rocking slabs.

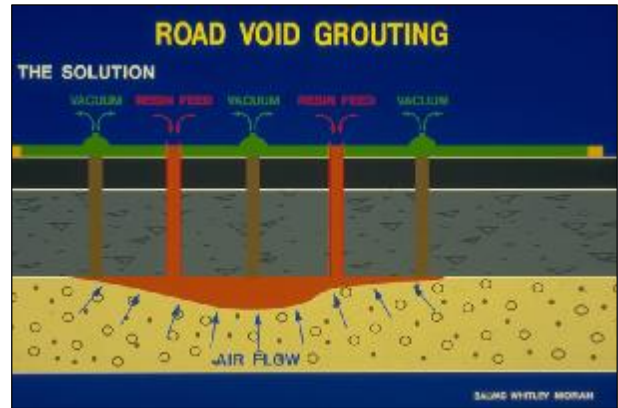


Diagram of the process

Advantages of the Technique

- Controlled resin flow is created by the use of vacuum minimising the potential for damage to underground services.
- No unwanted lifting forces are generated, so there is no need to cease injection before the void is filled.
- All year round operations are ensured by utilising different grades of resin grout.
- Rapid curing of the grout enables the road to be opened to traffic within an hour.



- The specialist plant is highly mobile allowing maximum utilisation of lane closures between peak traffic flows and full use of the carriageway during busy periods or in an emergency.
- A recognised and accepted procedure (see the Department of Transport Advice Note HA6/80) with a proven track record to attest to the integrity and durability of the repair.