# MICRO-TRENCH REINSTATEMENT

**WE OFFER:**

- **A complete Grout Pump Platform built as per custom specification**
- **Grout Mixing and Pumping Unit**
- **TRENCHFILL GROUT Mix**

Fibre to the Kerb (FTTK) or Fibre to the Home (FTTH) initiatives in many countries around the world have created the requirement to install extensive fibre optic networks in order to make high speed broadband (up to 100Mbps) widely available.

However, in order to install such large networks in an economic and timely manner, and with minimal disruption to traffic and residents, the requirement for new techniques for laying ducts into roadway infrastructure has emerged. The most popular alternative to traditional open trench excavation is the use of micro-trenching as it is up to thirty times faster and only 20% of the cost of traditional trenching.

**MICRO-TRENCH** – narrow trench or slot cut in the road or footpath surface to accept the fibre duct.
**REINSTATEMENT** – Infilling and repairing the road or footpath surface to its original level and condition.

Once the ducts are laid down in the micro trench, the backfilling unit goes into action. It consists of a driving unit with hydraulic progress pulling on a speed controlled backfilling tool, and a cement mixer containing compacted cement materials.

As the requirement for reinstating micro-trenches has evolved, various materials have been tried with varying degrees of success, including cement grouts, epoxy resins, hot asphalt mixes, hot applied bitumen, cold lay asphalt and pothole repair materials. However, each of these has limitations depending on the circumstances.

**THE SOLUTION FOR REINSTATING MICRO-TRENCHES**
The solution for micro-trench reinstatement therefore is a material that can be prepared on site for use, but has been factory batched beforehand in order to achieve quality consistency. A material that is mixed cold will enable multi-skilled installer teams to install the product with the minimum of plant and equipment and without $CO_2$ generation and the health and safety risks associated with hot materials.

A free flowing material will allow full depth penetration into the micro-trench without requiring additional compaction – this will ensure the trench is completely filled and will enable much faster reinstatement speeds than trying to pack and compact a stiffer material like asphalt.

**TRENCHFILL GROUT** from **LBT POWER SA** is a prebagged cement base mix which produces light, pumpable, aerated mortar with high stability and cohesion. This product was specifically designed

for micro trench reinstatement and ground cuts after laying pipes. It works well for any type of soil or road foundation layers achieving the following essential requirements:

- Bonds to the foundation materials
- Free flowing and self-compacting into the trench or cut (no additional compaction required)
- Seals against water ingress
- Penetrates and completely fills the whole trench depth with no risk of secondary compaction
- Provides a dimensionally stable running surface
- Provides appropriate skid resistance for the road condition
- Rapid 4 hours cure to enable same day road re-opening
    - Resistant to being 'trafficked out' of the micro-trench
    - Prevents the bleeding of water that usually occurs when loose earth is used for fill
    - Safe to use (no hot materials)
    - Simple to use for installer teams

Because of its ability to entrain air in the form of spherical micro bubbles, TRENCHFILL GROUT produces light mortar with controlled flow properties and high stability (absence of segregation).

Due to the high adhesion properties of TRENCHFILL GROUT, once cured provides high support to the saw cut edges of the asphalt. It adheres perfectly to the wall of the cut and is as solid as the surrounding ground, preventing the settling that occurs when cuts are filled with gravel or conventional cement mixes, along with the resulting cracks in the bituminous road surface.

TRENCHFILL GROUT enables the excavation site to be reopened quickly to traffic. On average, only 4 hours after pouring, the mortar reaches a resistance to deformation equal to that of compacted soil, and after 24 hours reaches the performance level of a cemented mix. The final 28 days compressive strength of mortar is between 3 and 4 MPA that allows its easy removal thereafter if necessary.

TRENCHFILL GROUT is supplied in 25kg bags for ease of handling. It can be used with any high speed mixer operating on speeds over 200rpm to ensure high air entraining action.

The density and fluidity of the wet mix can be controlled by the amount of water used. We recommend using between 5 and 6 litres of water per 25 kg bag.

A layer of hot asphalt or a special bitumen sealant can be applied on top of TRENCHFILL GROUT to ensure perfect tightness, waterproofing and seamless astatic aspect.