

SYSTEM **R** Stabi[®] **ROAD**

Road - Building **Description**



Business Group
Management & Development Ltd.

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ADDITIONAL QUERIES AND INFORMATION TO BE ADDRESSED TO:

Road-Building
Technology



SYSTEM **R Stabi**[®]
ROAD



Stabilizer **STABI Road**

For strengthening and hardening road surfaces, in the construction of roads, streets and squares.

**Chemical & hydraulic
technology for soil
stabilization**

Alternative for aggregates

The technology used behind ECO Roads System is not only technically advantageous but also a highly economical solution, it guarantees greater road stability in comparison to all other traditional methods used.

EXPERTS ASSOCIATION
OF ECOLOGY



We have been in the market since 2004



European Union



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Innovative Road-Building Technology



The technology, which is being presented here, is not only a new technological method, but also an economic way of building roads which are extremely cost-effective as well as guaranteeing greater durability of road construction. It is an extremely good as well as ecological solution, as well as being quick and easy to realise, whilst building or renovating roads, parking areas, airports (runways and hardstanding areas), embankments and cuttings, flood-prevention earthworks, cycle tracks, forestry tracks, farm roads, and roads in recreational areas, etc.

Stabiliser

The Stabiliser **STABIROAD** is a fluid which improves the physico-chemical characteristics of ground in such a way that when it is optimally thickened, it attains a markedly greater viscosity and endurance than would otherwise be attainable in the natural state. This occurs because of the permanent change in the strength of the bonding of the aqueous molecules in the ground (colloids). The capillary continuity in this case is broken in a wide range. The ground becomes water and frost-resistant, and the load-carrying capability of the road surface is markedly improved to at least $E_2 \geq 200$ MPa, and even $E_2 \geq 450$ MPa.

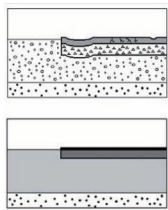
Technology

The stabilisation of the ground, or recycling worn-out road surfaces, is done to a depth of 35 – 40 cm by the use of a „recycler“. And in the case of using the technology to stabilise the ground, additionally with the use of **STABIROAD**, which results in making a monolithic construction layer which:

- Is water and frost-resistant;
- Does not deform;
- Does not have uncontrolled shrinkage or fracturing;

STABIROAD – The use of this material allows for excellent economic solutions in the construction of roads, parking areas, airports, embankments and cuttings, flood prevention barriers, cycle tracks.

This method has the following advantages:

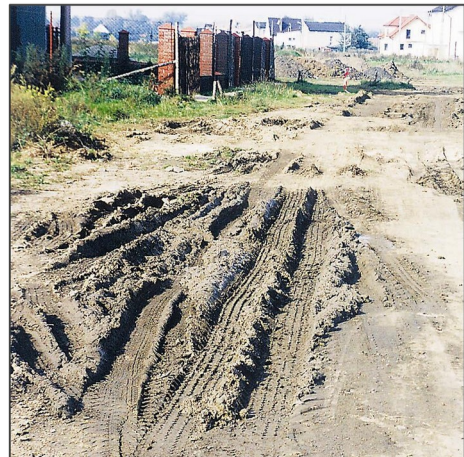


- The possibility of constructing permanent dust-free and rut-resistant un-metalled roads,
- Eliminating problems on swelling and problematic grounds,
- Ground stabilised with cement and **STABIROAD** together results in a more elastic substrate.
- The possibility of making road foundations on problematic and/or swelling ground, which result in improved foundations for roads designed for heavy use,
- The possibility of avoiding building temporary roads.

Stabilising the ground with a mixture of cement and STABIROAD stabiliser is the only technology which allows for the construction of foundations on weak substrates, or supporting new road surfaces on poor soils.

Stabilising the ground with the addition of 3% cement

1. Spread the cement (3% by weight)
2. Mix the cement to a depth of 30cms, using the „recycler“
3. Spray **STABIROAD** (50 ml per m² in a solution with water in the ratio 1:200)
4. Mix everything using the „recycler“
5. Compress using a spiked, vibrating, 10 tonne roller
6. Finish the surface with a smooth roller to a perfectly flat crack-free finish.



REDUCED BY Road Building Costs	50-60%
INCREASED BY Load-Carrying Capability	40-70%
REDUCED BY Road Maintenance Costs	20-60%

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OUR PROPOSAL:

- Permanent stabilisation of difficult ground, especially on swelling clays and unstable sandy soils – essentially terrain normally useless for conventional building purposes;
- Stabilisation of dirt-tracks and un-metalled roads, and improving the usable surfaces by the addition of a resistant but wearable surface, using existing materials as road-building material;
- Renovation of existing bituminous-mineral road surfaces using a deep-recycling technology to a depth of 30-40cms, reusing 100% of the old road-building materials.

ADVANTAGES OF THIS TECHNOLOGY:

- Stabilising dirt-tracks and un-metalled roads by making a hard-wearing surface;
- Permanent stabilisation of swelling ground such as clays, silts and loess;
- Strengthening and improving subsoils to $E2 > 120\text{Mpa}$;
- The realisation of road foundations on soft, native grounds;
- The construction of temporary access roads for construction sites, capable of carrying heavy transports;
- Improving the resistance to water-erosion of roadway hard-shoulders and embankments, as well as flood-prevention embankments;
- Effective neutralisation and integration of terrain polluted by petro-chemicals, petrol and mineral oils;
- Renovation of existing bituminous-mineral road surfaces using a deep-recycling technology to a depth of 30-40cms., to the subsoil;
- The 100% recycling and reuse of materials used to build the existing roadways, without the need to transport or store the materials.

ADDITIONALLY THE USE OF THIS TECHNOLOGY ALLOWS FOR:

1. The reduction or elimination of the requirement to dig trenches, traditional foundations and or use crushed aggregates;
2. The quick construction of a road surface with a resistance of $E2 > 120 - 200\text{Mpa}$, which is frost and rut-resistant, and resistant to fracturing which is characteristic when using only cement as a stabiliser;
3. The use of dirt tracks or unmetalled roads as an eventual foundation for finished metalled roadways;
4. A significant reduction in road building costs, due to the water and frost resistance, as well as increased wear resistance of the treated subsurface, which in turn leads to a reduction in the requirement for construction layers
5. The constructed roadway to be available for use **within 24 hours** of completion.

Another excellent solution is to use this stabilisation technology under the entire building terrain, including beneath buildings. This may significantly reduce the construction layer, as well as stabilise the buildings. Such a solution allows for the speedier construction of the infrastructure on-site, and allows for transport and storage of materials on such a stabilised site, which is especially important during rainy seasons.

THIS TECHNOLOGY GUARANTEES:

- A significant shortening of construction times;
- Reducing the troublesome effects of road works within urban areas;
- A higher quality road surface which is more resistant to ruts, pot-holes and fractures;
- Significant cost-effectiveness
- Very environmentally friendly.

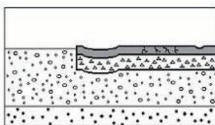


Fig.1 – Traditional Construction Method:

A mineral-bituminous surface, approximately 6 - 8cms thick, upon traditional cementstrengthened foundations - eventually resulting in ruts, pot-holes and fractures.

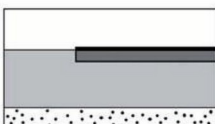


Fig. 2 – The effect of using STABIROAD Technology:

A stable roadway, even as an unmetalled dirt track.

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