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INTRODUCTION

Soil binder is a product that uses water-based polymers to bind soil particles together.

The use of water-based polymers as de-facto standard in the Coatings and Waterproofing was established in 1981 by a company called Romix Industries.

At the time, the standard was solvent-based systems which were not only dangerous to work with, but also hazardous to the environment.

From 1996, a concerted research effort in the use of Water-based Polymers to bind soil particles together was undertaken. This was followed by a series of trials to test the efficacy of the product in varying soil and environmental conditions.

In 1998, the product was finally given a seal of approval by Council for Scientific and Industrial Research (CSIR) Transportek division as a new cost effective solution for road surfacing.

PROPOSAL

Rowmix Soilbinder for 1km Road Construction at Maluti -A- Phofung Local Municipality

Advantages of Soilbinder in Roads Construction are:

- the product is able to resist water more effectively than the de- facto cement and lime stabilizers of the time

- Polymer stabilized base layers in roads is more flexible and less prone to cracking than its traditional opponent products

- The cost of the new technology is less than the traditional methods

- The application of Polymers is easier and quicker that the traditional methods

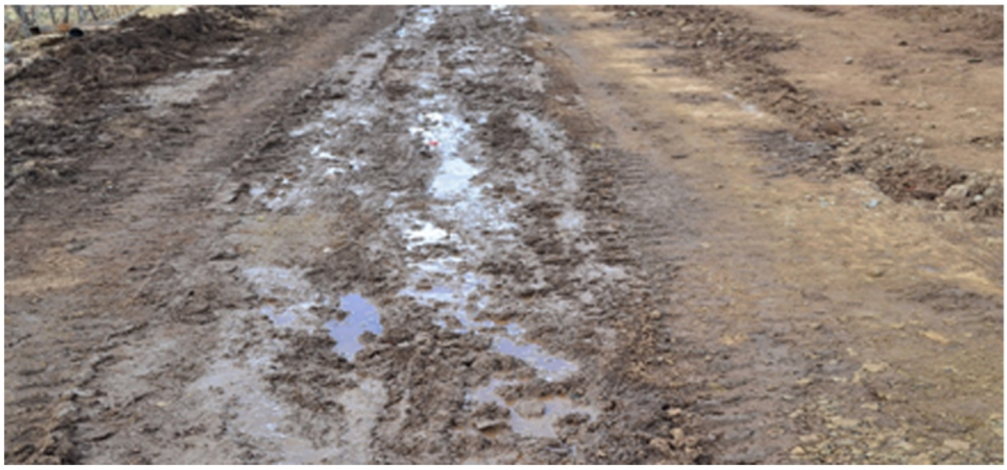
- The Polymer option delivers roads that are not only stronger, but also lasts longer than Cement and Lime base layers

- The product is more environmentally friendly and less damaging to the environment than its peer products

Supplier Credentials

- Romix Industries has exclusively licensed Makgotamishe Plant to be the implementer of the product throughout South Africa.

METHODOLOGY OF APPLYING SOILBINDER



1. The road as it was before treatment

2. Ripping of the in-situ material to enable the penetration of prepared slurry

3. Dumping of road layer uncrushed G6 material

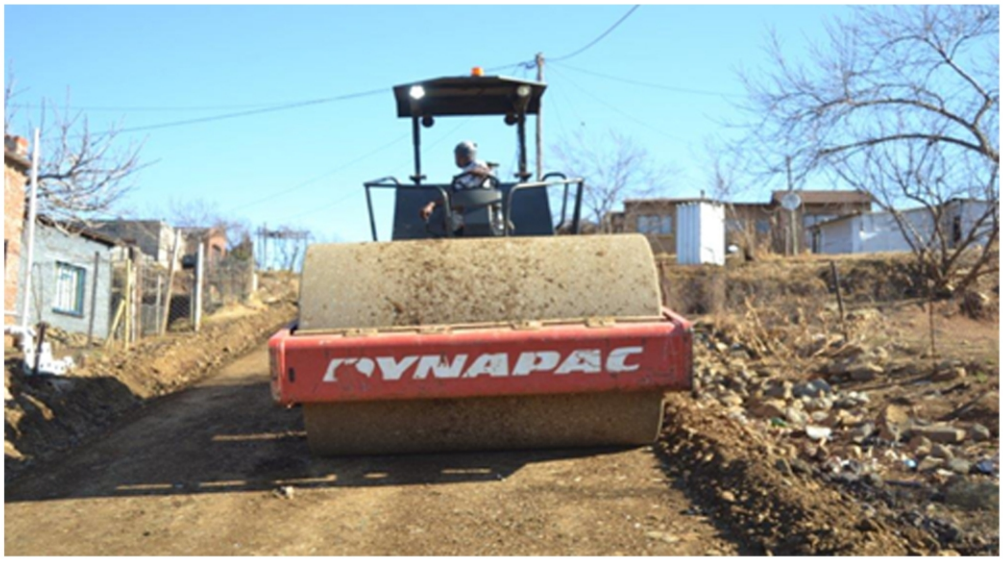
METHODOLOGY OF APPLYING SOILBINDER

4. Spreading of road layer uncrushed G6 Material

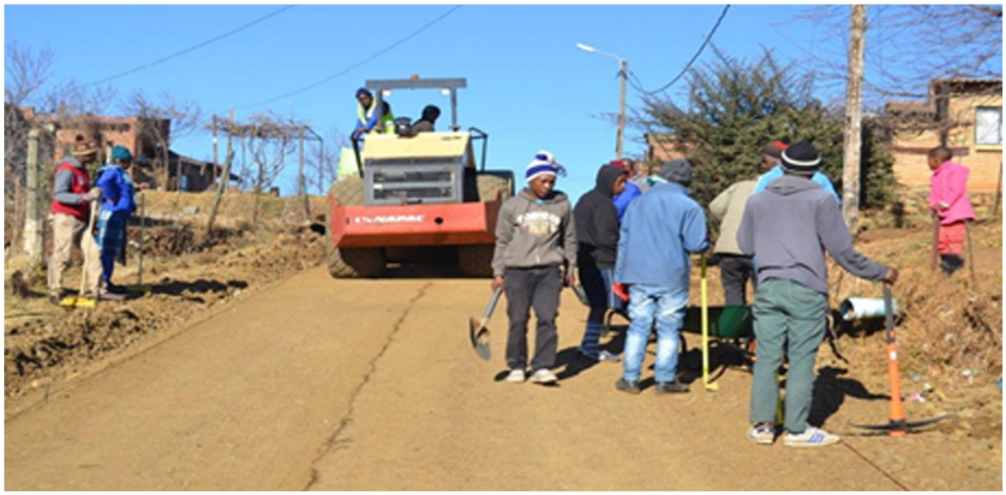
5. Stabilisation by pouring soil binder mix on the road surface

6. Mixing of crushed G6 road laying material with soil binde

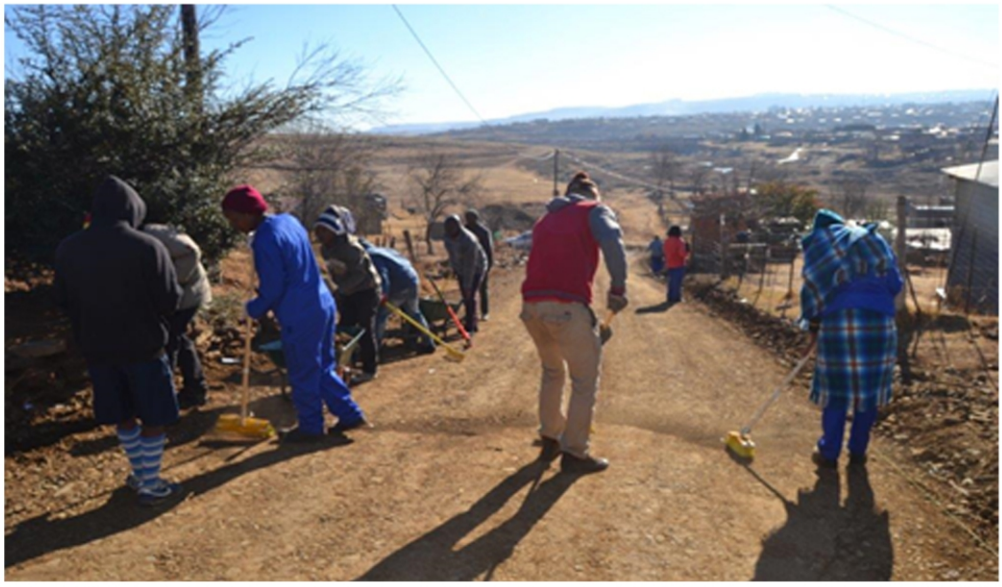
METHODOLOGY OF APPLYING SOILBINDER



7. Screening (Preparation of the final level) through removal of loose materials by sweeping the road surface



8. Final Compaction (Preparation of the final level)



9. Preparation for the casting of the slurry by sweeping off loose material on the road surface

METHODOLOGY OF APPLYING SOILBINDER

10. Application of Black Top Asphalt (BTA) bitumen

11. Mixing of BTA and -0.4 millimetre of crusher dust

12. Application of the slurry

13. Complete soil binder surfaced road

BENEFITS OF SOILBINDER SYSTEM

Environmentally safe – certified

Reduced Co2 emissions – 50 times less than cement (Ergomax Report)

Single layer application – saving cost on time, material import and equipment use
Use of in-situ materials – conserves natural gravel resources

Downward Migration properties – product gives additional strength tosub-layers without extra cost or intervention

Quick application – one kilometer completed in 10 days including Asphalt seal (5 days for bitumen chip & spray)

Vast reduction in cost – up to 60% less than traditional methods

Reduced routine maintenance – saves on maintenance budget

Strong and long lasting – CBR up to 350

Local (South African) manufacture and technical support

Variety of wearing course seals can be applied

No need for crusher run base layer – saving on cost

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