



FOREST PATHS & WAYS

INTRODUCTION

The benefits of a traffic vial can be improved with chemical stabilizers, which include a wide variety of composites that work on physical and mechanical characteristics of soils. Nanotechnology allows combining properties of conventional formulations with the ability to interact in a molecular level.

There are shown laboratory and field outcomes from a spectrum of chemical stabilizers both organic and inorganic, with an inert action already in the applying phase, modifying physical characteristics of soils (capillarity, retraction and permeability). It elicits to reduce hydric erosion and expansive soils swelling. Furthermore, it increases the resistance to simple compression and generates a matrix whose hardness and final resistance will depend on the hydro-geological characteristics of the native soil and the vehicle circulation.

There exist different reasons to pose the need of stabilize natural paths instead of carrying out its paving. In many cases, it primes the economical criteria of minimizing costs towards conventional alternatives, in the way of allowing vehicles flow in conditions that minimize the impact of problems as footstep formation and dust lift. In other cases, it may appear an esthetical concept of a project conception, in which it seeks to preserve the rustic nature of the roads, but without putting up the capability of a traditional pavement.

In the integral analysis it is framed into the sustainable development criteria, paradigm in engineering of century XXI. It procures to balance the public perception of the natural or “green” as a desirable aim of life quality. Tools that new technologies make available in hands of engineers allow them to specify in the practical of its friendly environmental vision, emphasizing in nanotechnology, which constitutes an increasing substantive innovation in front of the conventional chemical stabilization.



TECHNICAL DESCRIPTION

PHYSICIST STABILIZATION OF SOILS WITH INTEC – SOIL.

Chemical stabilization of soils with the products of INTEC – SOIL consists on the mixture of different compounds with the substratum to improve the capabilities of a traffic vial. This whole is not only the irrigation of the ground, but must exist an interaction between binders of INTEC-SOIL spectrum and distinct material that forms the soil. Effects of these interactions include:

Adhesion: INTEC-SOIL acts as a link with ground particles.

Absorption: INTEC-SOIL catches relative humidity of the atmosphere, reducing the dust emission.

Dilation: dispersion effect of water when de substratum is subjected to vibratory compaction.

Dispersion: INTEC-SOIL separates thin particles ones from others.

Ionic Effects: Action of INTEC-SOIL reverts electrostatics load in some types of soils.

Surfactants: INTEC-SOIL reduces surface tension.

Each type of INTEC-SOIL stabilizer spectrum can act from one to several developments of soil properties, according to the specific type, application conditions and the type of the treated soil.

Generally, stabilization technic of INTEC-SOIL requires a close mixture between the local soil, required aggregates and stabilizers of INTEC-SOIL spectrum, attending to questions like quality and granulometric distribution of the aggregates.

INTEC-SOIL Nanoformulated Stabilizer

Nanotechnology constitutes an increasing innovation with the development of chemical stabilizers when combining properties of conventional formulations with the capacity of interacting in a molecular level of the incorporated nanoparticles. On this greater interaction, derived from the reactive specific surface increment, redound the economical benefit when requiring a smaller amount of additive per volume unit to stabilize, and environmental benefit when minimizing the eventual impact of aggregates not present in the original soil.



INTEC SOIL



Constructive products and solutions for rural paths, lands and large tracts surfaces performance on turnkey basis.

Incorporating our ecological concrete spectrum to the most part of existent materials of tracks, allows to achieve consistent tracts with a lower cost in they life's cycle.

Seeking for faster analysis methods, being both of them selective and sensible is one of the essential aims followed by our physicists, chemists and biotechnologists.

We design, formulate and fabricate ideal products to cover our costumer requirements.

intec-soil.rolling

NON – INVASIVE NOR INTRUSIVE ECO – INNOVATIVE SYSTEM FOR PATHS LAYOUTS, FOREST TRACKS AND OPEN-TO-TRAFFIC SURFACES.



The project uses an inorganic reactive process to create a rolling coat consistent enough, which avoids premature wear and tear due to an intensive traffic.

Climatic contrasts are also a wear and tear factor to the most part of surfaces exposed outdoors.

INTEC – SOIL.ROLLING is protected towards aggressions provoked due to adverse weather conditions. Its effects do not solubilize it. Structural body of **INTEC – SOIL.ROLLING** provides a high range performance:

- Medium resistance to compression: 50 mpa.
- Absolute impermeabilization
- Perspiration
- Flexotraction
- Ecological certification



INTEC-SOIL.ROLLING SAMPLES

INTEC – SOIL.ROLLING

Bio-composed conglomerate for soil stabilization, which tends to physicist anomalies, endowing them of ideal carrying capacity. It improves its initial properties, adapting them to the most demanding applications of use.

ITENC-SOIL.ROLLING is the most economical and sustainable solution for the recomposition of all types of soil.

It exists the capacity of a performance design according to the requests, to compliment demands at any rank.

To achieve the construction of more competitive tracks, INTEC-SOIL.ROLLING has maximized parameters of design, quality of materials and structural engineering.

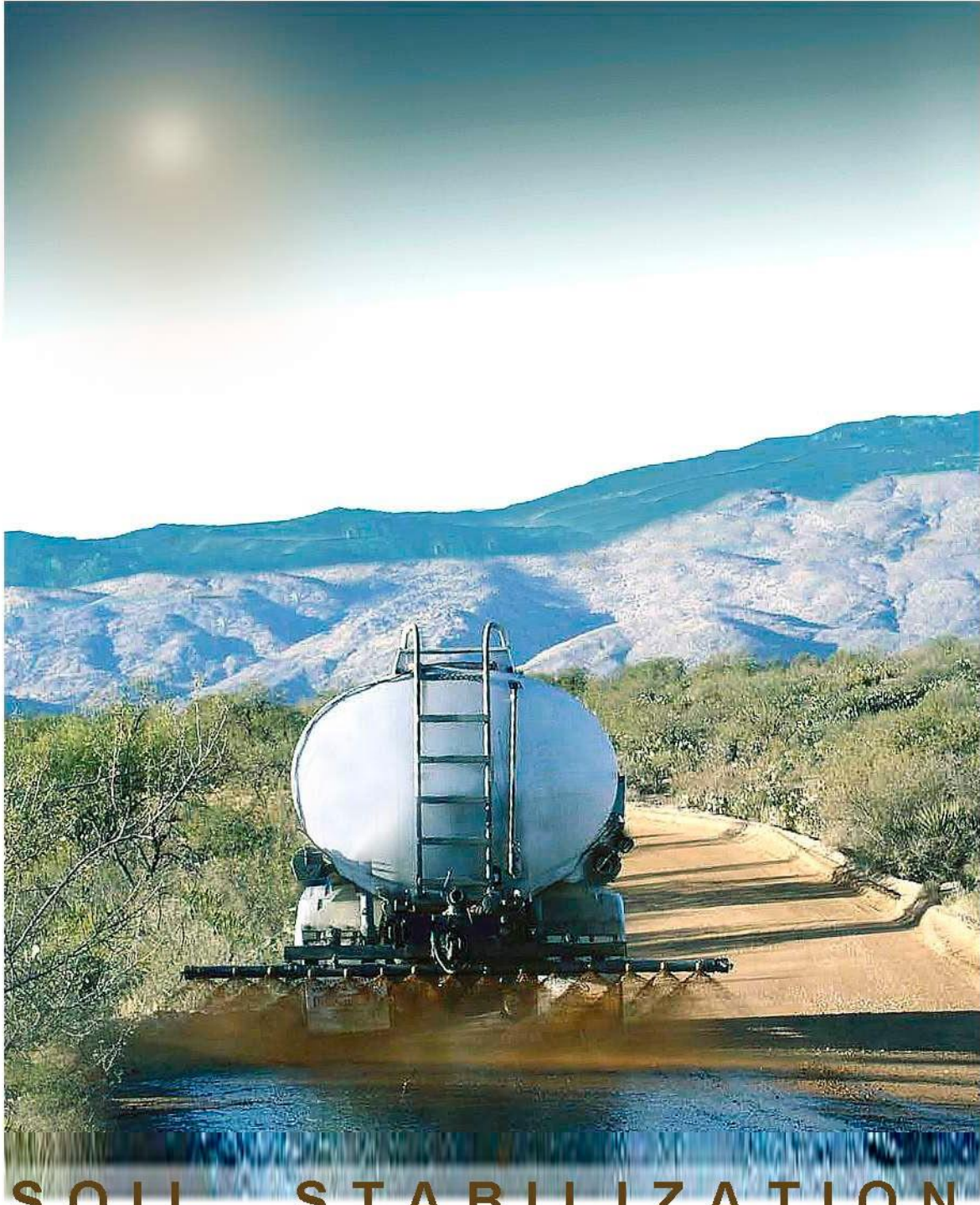
PROPERTIES

- Modulable scrubbing for the reaction of its own components, providing excellent resistance in short term.
- Volumetric constancy, low in conditions of hygrometric variables.
- Lower expansion, weak retraction and major flexibility under certain without cracking.
- Better watertightness towards physical attacks (vibrations, wind, ice-thaw cycle) and chemical (rain, acid salts, etc)
- Better structural watertightness, due to self-cleavage of cracks.
- Ability to maintain the original aspect and firmness, providing greater durability.
- Non-intrusive nor invasive system. Ecological accreditation.
- It can be designed several INTEC-SOIL.ROLLING modalities with a higher mechanical behaviour to compression and flexion.

APPLICATIONS

INTEC-SOIL.ROLLING is basically designed to rural, agricultural and forestall paths; tracks; thermo-solar and aeolic power plants; gardens; campsites; cycling roads; equine centres and any other type of esplanade or dirt track.

INTEC-LIGNOSOIL



SOIL STABILIZATION
AND DUST CONTROL

FEATURES AND ADVANTAGES

- Fast absorption of the product, allowing the road to be active in a short period.
- Non hygroscopic
- Creation of secure roads and optimal driving conditions.
- Reduction of dust resulting to a healthier atmosphere
- Environmental safety for sensitive areas

USES AND APPLICATIONS

INTEC -- LIGNOSOIL is associated with dust control and stabilization for road surfaces. It is used as a binding, diffusing, emulsifier and absorbent substance of endless components that integrate the substratum.

INTEC – LIGNOSOIL can be used on the next surfaces:

- Roads
- Parks and gardens
- Construction of drag roads
- Forest drag roads
- Mines
- Military roads
- Agricultural roads
- Car parks
- Vivariums
- Orchards
- Rural and particular roads
- Airfields

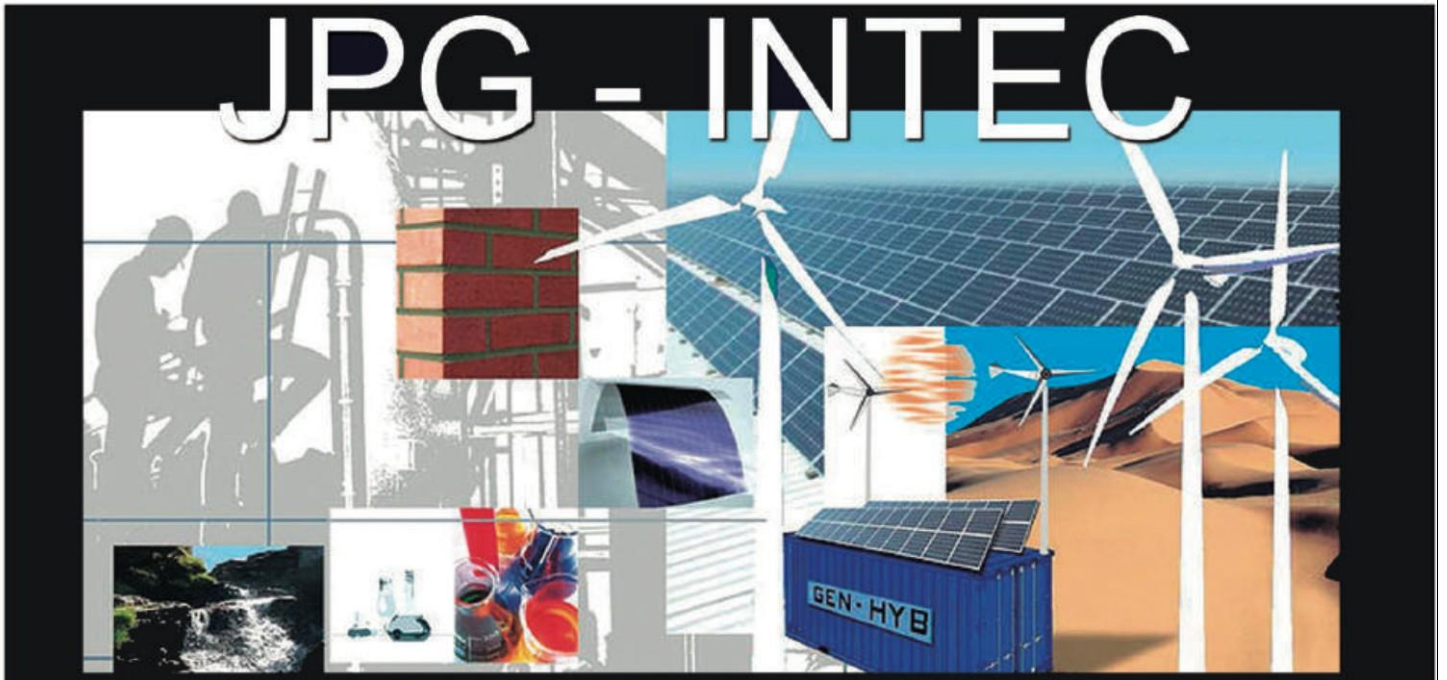
YIELD

Thorough studies have been performed to evaluate INTEC-LIGNOSOIL effects on environment. Results show absolutely no effect in plants metabolism, animals or aquatic life when it is properly applied, following the designed protocol.

When it is a sedimentation product, INTEC-LIGNOSOIL stays totally insoluble. This phenomenon has been resolved due to solar radiation.



JPG - INTEC



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