

New advanced road stabiliser designed specifically for red soil earthworks is now on the market - Titan by RST Solutions

RST Solutions launches new chemical road stabiliser Titan designed specifically for the construction and maintenance of unsealed roads and pavements built with red soils



Gold Coast, Queensland Mar 17, 2023 ([Issuewire.com](https://www.issuewire.com)) - Leading fine particle specialist [RST Solutions](#) has designed advanced soil stabiliser [Titan](#) to improve the performance and condition of unsealed road pavements constructed with red soils.

Red soils are known for being soft and moisture sensitive, with a high potential for collapse if untreated. Classed as silty sand, which is mostly sand with small amounts of silt or clay, red soils require specialised treatment when used in the construction of roads and other infrastructure.

RST Solutions [Research and Development team](#), led by the company's Operations and Technical Director David Handel, designed Titan for binding and stabilising red earth to increase the strength and strain of this specific type of material, particularly Pindan and red soils.

"Pindan soil and other red earth are a challenge for road builders due to the variability and difficulties in quality control, as it typically has high void ratio and low density which increases the potential for collapse when used in construction," Mr. Handel said.

"Pindan soils are a type of soil found in the Pilbara region of Western Australia, characterised by their reddish colour and high iron content. Similar soils are found in other parts of the world, such as the red soils of Africa, the red soils of China, and the terra rossa soils of Mediterranean regions, however, the

specific characteristics of any soil depend on factors such as climate, geology, and vegetation in the area.

“Red soil has low plasticity because it holds very little moisture content, which makes it very vulnerable to erosion in the wet and dust when dry. If used as a primary material for construction without specialised treatment, red soil will cause all sorts of structural issues.

“We developed Titan specifically for red soils to increase structural strength from the base course up through the subgrades to the binding of unsealed surfaces, and in water cart applications for ongoing surface maintenance.

“Titan increases surface resistance to water and minimises the capacity for water ingress that will cause structural weaknesses. Applying Titan at the base course and throughout earthworks stabilises the red soil, improves pavement structure, and prevents the deformation of subgrade structures for roads and hardstand areas.

“This offers added economic benefits by increasing the lifetime of all types of roads and pavements, whether sealed or unsealed, and furthermore it is a high-quality alternative to using bitumen or cement.”

Titan is a polymer stabiliser that improves soil mechanical properties through internal waterproofing achieved by coating the aggregate with a polymer film that strengthens and bonds the soil particles.

Benefits of using Titan to treat red soil include high resistance to water and significant improvements to physical properties including packing density, elastic modulus, hardness, cohesion, and fracture toughness.

Titan is an advanced treatment for red soils proven to support roads and pavements under extreme conditions, including flooding and high volumes of heavy vehicle traffic.

Immediate results have been reported as “remarkable”, with Titan’s unique ability to form mechanically high-resistant road pavements that remain flexible and in good condition, even in extreme wet weather, helping keep unsealed roads safe and open to traffic during wet seasons.

RST Solutions offers a suite of high-performance products that target a variety of issues associated with fine particle management in response to companies seeking more project optimisation strategies for a range of projects.

Advanced technology developed by RST Solutions for the construction of quality unsealed roads and pavements assists companies in achieving higher levels of dust control and strengthening against rain and wind erosion.

By adjusting the chemistry to target the specific materials being used on site - which could be anything from high plastic clays to very low plastic silt - the whole road construction process is significantly improved, resulting in more durable, weather-resistant roads and pavements that keep productivity at optimum.

After selecting the most appropriate methods, RST Solutions adjusts the chemistry for compatibility with site-specific material types, infrastructure forms, and seasonal changes to assist in managing unexpected material qualities, construction types, and shifts in weather patterns.

By taking into consideration a site's application equipment and systems, as well as construction processes, RST Solutions customises its range of advanced technologies to solve site-specific issues caused by all types of fine particle issues from dust to mud, silt to sediment.

This expertise comes from three decades of experience gained from developing solutions for the many various fine particle challenges presented across numerous industries, processes, and material types.

RST Solutions is an Australian business operating internationally, with presence and projects currently in the United States of America, China, India, Africa, the United Arab Emirates, Canada, Panama, Mexico, Colombia, Chile, Brazil, Peru, Argentina, Papua New Guinea, New Caledonia, New Zealand, Indonesia, The Philippines, Malaysia, Croatia, Lithuania, and Mongolia.

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