Chembase Treatment System (CTS)

Application and treatment of drill rig site sub-base layers

Product: Chembase® C-SSSB1 | Research and development

“It costs you nothing to find out how much you can save.”

What is a drilling rig?

An integrated system

A rig drills wells, such as oil or water wells, into the earth's subsurface.

From permanent to mobile

Early oil rigs were semi-permanent, with derricks built on site and left in place.

Onshore or offshore

Rigs are categorised as onshore (land) or offshore (marine).

TWO BASIC TYPES OF LARGE RIG

Percussion: an up-and-down motion

Rotary: turns the drilling tools

Land drilling methods that work with CTS

Auger

A rotating screw lifts soil to the surface.

Rotary air blast

Percussion drilling with compressed air.

Air core

Hollow bits cut a core lifted by air.

Cable tool

A heavy bit is raised and dropped.

Reverse circulation

Cuttings return inside dual-wall rods.

Diamond core

A diamond bit cuts a solid core.

Direct push

Tools are pushed in without rotation.

Hydraulic rotary

A rotating bit with drilling fluid.

Types of drilling

Conventional

Wells are drilled vertically, straight down to the pay zone.

Horizontal

A sharp turn lets the drill run along a thin pay zone.

Slant

The well is drilled at an angle from the surface.

Directional

The well path is steered towards a target.

One product, supplied in two parts

PART A

Polymer-Stabiliser

+

PART B

Activator

Chembase®
C-SSSB1

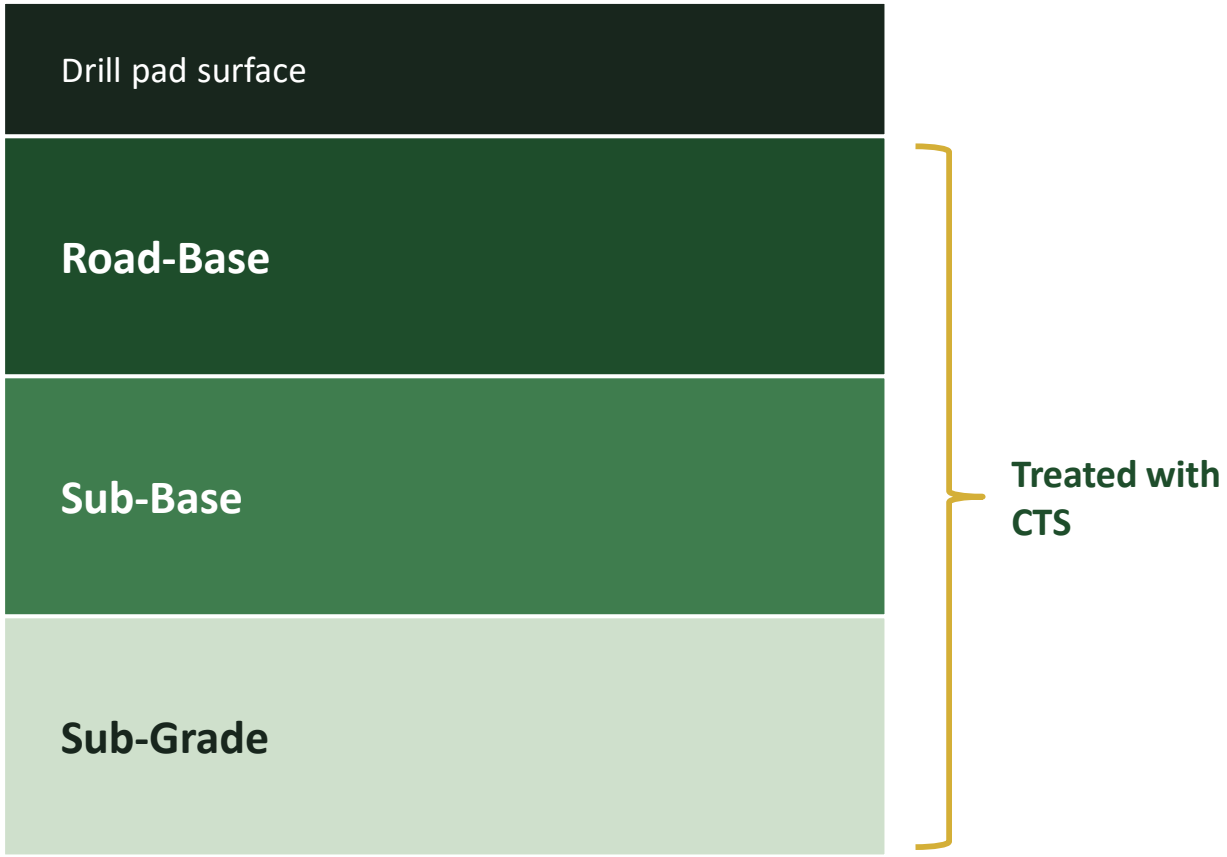
Five characteristics
combined in one product

A simplified range

- Five different chemistry characteristics are now combined into a single Chembase product.
- The application and treatment methods stay the same.
- The same characteristics, benefits and advantages are retained.

Naming: CTS stands for Chembase Treatment System. Chembase is also known as Chembase International and Chembase International Group.

Where CTS works: beneath the drill pad



Indicative cross-section

CTS modifies the properties of the existing soil to improve performance and durability.

- **Greater strength**
- **Higher load-bearing capacity**
- **Resistance to moisture-related issues**

Chembase and conventional road construction work together.

From stabilised layers to lower costs

1. **Stabilised base layers**
   CTS stabilises the road-base, sub-base and sub-grade.

2. **Less water, fewer potholes**
   Water leakage and potholes are reduced in the treated area.

3. **Less maintenance**
   The treated area needs less ongoing repair.

4. **Lower cost, longer life**
   Reduced costs and greater longevity for the treated area.

Performance benefits of treated layers

CBR increase

Raises the California Bearing Ratio (CBR), a standard measure of soil strength.

Water resistance

Treated layers resist water, limiting moisture-related damage.

Liquefaction resistant

Treated soil resists liquefaction, the loss of strength in saturated ground.

Freezing-condition tolerance

Tolerates freezing conditions.

Oil and petroleum barrier

Prevents oil and petroleum penetrating the treated soil.

Longevity

A long service life for the treated area.

Practical and environmental benefits

On site

Workable in any weather
Application is not held up by conditions.

Stable once diluted
The diluted product will not oxidise.

Re-compactable
Treated soil can be re-compacted (20 years).

Savings
Less maintenance and reduced costs.

Safety and sustainability

Safe to use
Product-safe and environmentally safe.

Waste plastic and glass
Shredded plastic or stained glass added to treated soil increases CBR.

Ash waste
Ash added to treated soil increases CBR.

Saltwater
Saltwater can replace fresh water, and increases CBR.

Brick pavements
Can be used in brick pavement manufacturing.

What CTS does for drill rig sites

Stabiliser, activator and lime

The site is treated with the appropriate amounts of Chembase Stabiliser, Chembase Activator and lime powder.

Water resistant, fewer potholes

The treated area resists water and develops fewer potholes.

Lower cost, longer life

Less maintenance and lower construction cost, leading to a longer-lasting drill site sub-base.

It costs you nothing to find out how much you can save

Talk to Chembase about treating your road-base, sub-base and sub-grade layers.

INDEPENDENT UNIVERSITY REPORTS

Reports from The University of Sydney and UNSW (University of New South Wales) are available at www.chembase.com.au

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