Chembase Treatment System (CTS)

Application and treatment of farm and agriculture sub-base layers

Product: Chembase® C-SSSB1 | Research and development

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

Where CTS is applied on farms

Farm roads

Connect rural and agricultural areas to market towns.

Cattle feedlots

Confined yards where stock are fed.

Farm dams

Water for irrigation and livestock.

General farming

Wherever soil stabilisation is required.

Why farm ground fails

Roads and tracks

Erosion in heavy rain
Farm roads and tracks can erode badly and quickly become untrafficable or unsafe.

Poor design
The erosion is usually due to poor design, or none at all.

Market access
Farm roads bring crops to market quickly and affordably, but only if they work well.

Paddocks

Trampling
Cattle break up soil aggregates, which compacts the soil. Heavy clays suffer more than sandy soils.

Pugging
On wet soil, hooves can sink up to 15 cm, leaving a dense layer that restricts water, air and roots.

Lost pasture
Pugging significantly reduces pasture growth.

Building and maintaining a farm road

1. Analyse the land, starting with a topographical map
2. Create the roadway
3. Lay the foundation
4. Grade the slope
5. Lay the road surface
6. Cut drainage ditches
7. Maintain the road
8. Streamline maintenance with a grader

Eight rules for good farm roads

1. Get water away from the road
2. Build a firm foundation
3. Use the best soils available
4. Compact soils well
5. Design for winter maintenance
6. Build for traffic loads and volumes
7. Pave only well-built roads
8. Build from the bottom up

Farm dams for irrigation and livestock

- Provide essential water for stock, irrigation and gardens
- Give a secure annual supply that improves farm viability
- Offer wildlife habitat and water for fire protection
- Need a cut-off trench at least 600 mm into impervious soil
- Are expensive to build, and more expensive to build twice
- In NSW, can capture 10% of average regional run-off

Volume (m^3) = surface area (m^2) × maximum depth (m) × 0.4

Protecting farm soil from erosion

Buffer zones

Vegetation strips between fields and waterways hold soil and filter run-off.

Fencing

Keep livestock out of healthy forest and waterways.

No-till and terracing

Farming systems that disturb less soil.

Afforestation

Planting new trees, plants and shelterbelts.

Crop rotation

Changing crops to protect the soil.

Dams and embankments

Structures that control the flow of water.

One product, supplied in two parts

PART A

Polymer-Stabiliser

+

PART B

Activator

Chembase®
C-SSSB1

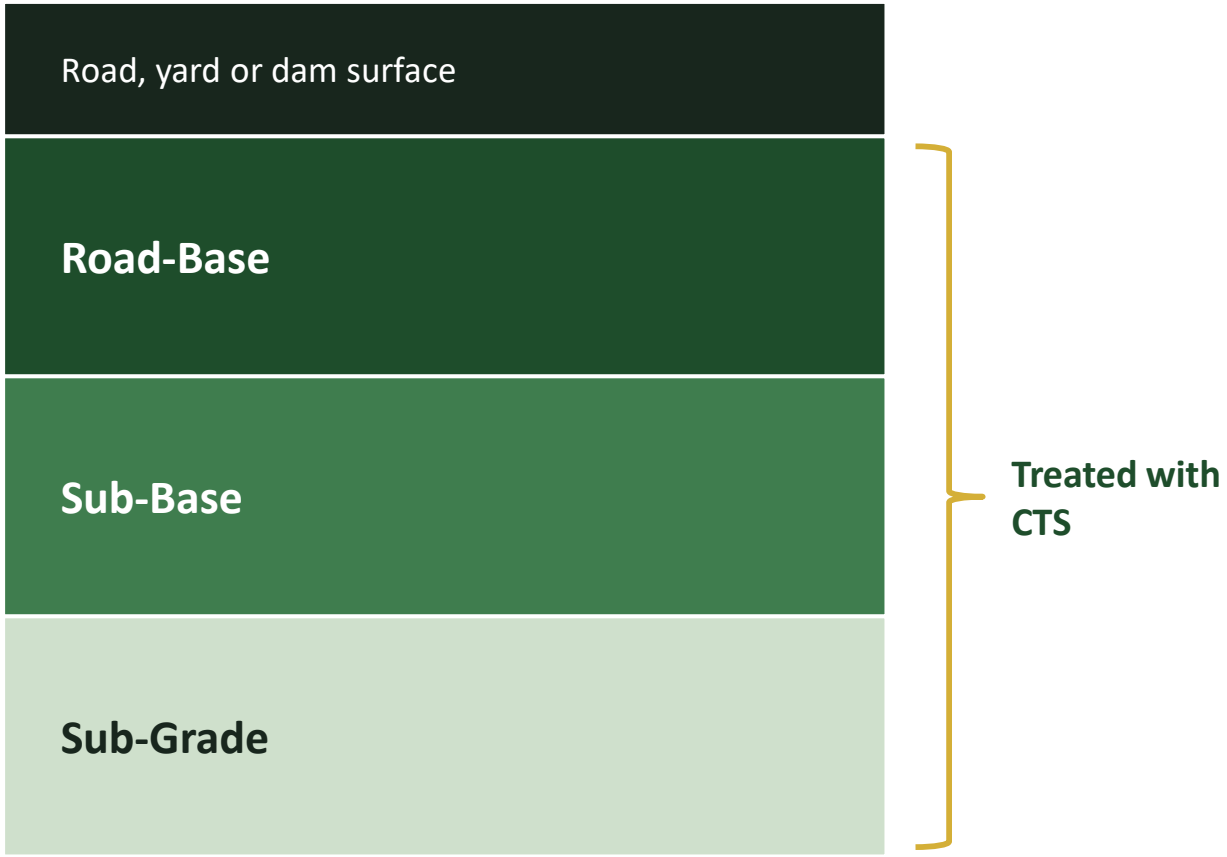
Five characteristics
combined in one product

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: the base layers



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 farms

Stabiliser, activator and lime

Farm road sub-base layers are built with CTS Stabiliser and Activator and the right amount of lime powder.

Longevity and water resistance

Longer-lasting, water-resistant, lower-cost farm road sub-base layers.

Feedlots and stock areas

The same treatment applies to the base layers of cattle feedlots and farm dams.

WORKS WITH GRAVEL AND CRUSHED STONE FOR

Driveways

Roads

Walkways

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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