Chembase Treatment System (CTS)

Application and treatment of road shoulder road-base layers

Product: Chembase® C-SSSB1 | Research and development

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

Why road shoulders are sealed

Lower maintenance

Sealing shoulders on two-lane rural roads was introduced to reduce seal-edge and shoulder maintenance costs.

Moisture kept away

It shifts the seasonal edge moisture zone away from the outer wheel path.

Safer, faster travel

The practice has since been found to give road users safety and travel-time benefits.

Paved shoulders in numbers

91.4%

of US state transport departments surveyed use paved shoulders on two-lane roads to some degree

+14.3%

service life on new roads with 0.61 m (2 ft) paved shoulders

+16.7%

initial cost on a new two-lane road (+8.3% on a four-lane road)

+72%

initial cost when added at resurfacing on a two-lane road (+36% on four lanes)

By applying Chembase, the cost of road shoulders is reduced further compared with the normal cost of building them.

Figures from a survey and cost analysis of asphalt paved shoulders, as quoted in the Chembase R&D brochure. The original study is not named.

When 0.61 m paved shoulders pay off

New two-lane roads

Economically justifiable above certain average daily traffic volumes, depending on the road's functional classification and terrain.

Existing two-lane roads

Not economically justifiable for most existing roads.

Four- and six-lane roads

Justifiable for all new roads, and for existing roads above certain average daily traffic volumes.

Based on an economic analysis using the equivalent uniform annual cost method.

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 road surface

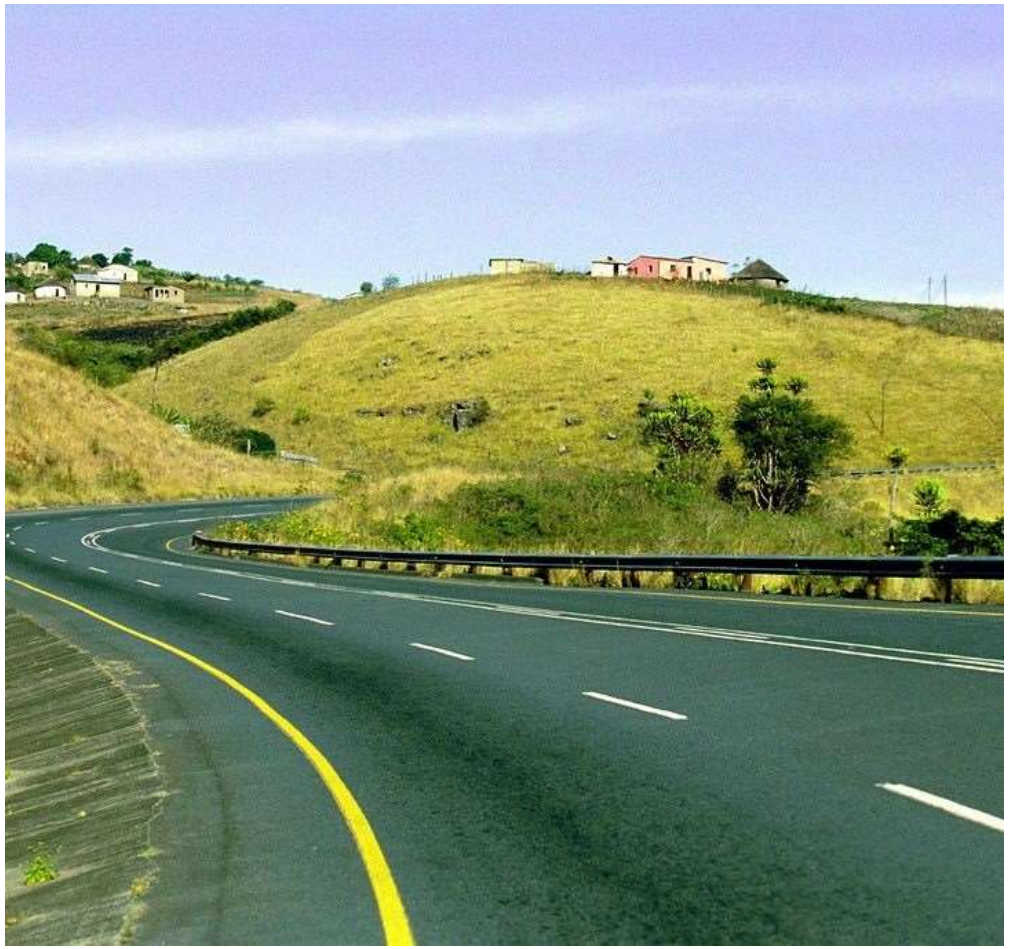
Indicative cross-section

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 road shoulders

Water resistant

CTS makes the shoulder’s road-base layers resistant to water.

Fewer potholes

Treated shoulders develop fewer potholes.

Longer life, lower cost

The treated shoulder lasts longer, with less maintenance and reduced cost.

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

CHEMBASE INTERNATIONAL GROUP

+61 2 8566 3344

info@chembase.com.au

www.chembase.com.au

Chembase International Group Pty Ltd
ABN 98 660 823 316