Chembase Treatment System (CTS)

Application and treatment of parking lot and driveway sub-base layers

Product: Chembase® C-SSSB1 | Research and development

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

Asphalt or concrete?

Asphalt

About 90% of parking lots are paved with asphalt. The binder dominates pavement performance, and its behaviour changes with temperature and time.

Concrete

A long-life, low-maintenance alternative used for roads, parking, industrial sites and airfields. Rising asphalt prices have made it more competitive.

Concrete parking lots in numbers

6 in

Minimum concrete depth for most parking lots

12 in

Thickness that may be needed around dumpster pads and loading docks

30–40 yrs

Wear and tear a concrete parking lot or driveway can withstand

90%

Share of parking lots paved with asphalt today

The newer ACI 330 standard reduces the cost of materials associated with concrete lots.

Figures as quoted in the Chembase R&D brochure. Original sources are not named.

Four types of rigid pavement

JPCP

Jointed plain concrete pavement.

JRCP

Jointed reinforced concrete pavement.

CRCP

Continuously reinforced concrete pavement.

PCP

Pre-stressed concrete pavement.

Cracking can start below the slab: weak base layers, pumping of the base, and culvert or trench subsidence are common causes.

Types of parking

Angle parking

Cars are parked at an angle.

Perpendicular parking

Common in parking lots for longer stays.

Parallel parking

Cars park in line with the kerb.

Lot parking

Off-street parking in a dedicated lot.

Bay parking

Marked individual bays.

Between vehicles

Parking in the gap between two cars.

Driveway surface options

Concrete

Hard-wearing, with a lifespan of four decades or more. Can be stamped with patterns.

Brick

Looks great at modest cost. Semi-permeable if laid over sand.

Loose gravel

One of the cheapest options, though it can be high maintenance.

Paving stones

Known to last up to a century if properly laid.

Concrete grass pavers

Interlocking pavers that let grass grow through.

Plastic permeable pavers

A low-maintenance permeable option.

Pavers are clean, attractive and naturally level, and are easier to clean and maintain than loose driveway materials.

Starting a parking lot business

1. Find a suitable lot to pave and stripe, or one already in use
2. Get the equipment required
3. Be fully insured
4. Pay your taxes
5. Hire personnel
6. Determine pricing
7. Plan marketing and advertising

A sound base matters from day one: cracked, potholed surfaces are costly to put right.

One product, supplied in two parts

PART A

Polymer-Stabiliser

+

PART B

Activator

Chembase®
C-SSSB1

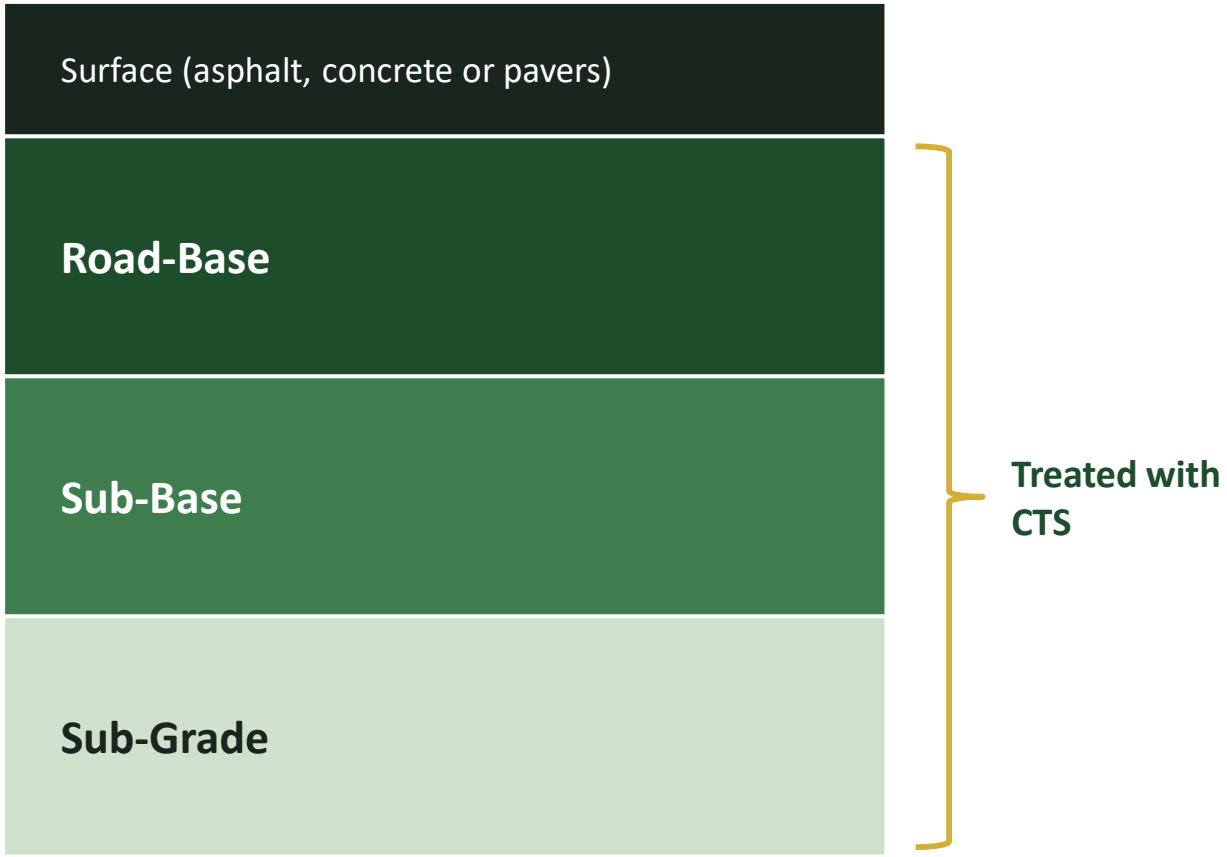
Five characteristics
combined in one product

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 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.

CTS for parking lots and driveways

Water resistance, fewer potholes

CTS saves on foundation construction, with fewer potholes, less maintenance and a longer life.

CBR up to 100

Stabiliser, activator and lime powder can strengthen treated soil to a very high CBR of 100.

CBR 240 in road trials

On road trials in the Northern Territory the CBR was as high as 240.

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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