DURAFLEX
SOLUTIONS GLOBAL

# Duraflex for Soil Stabilization

## Engineered Strength. Sustainable Impact.

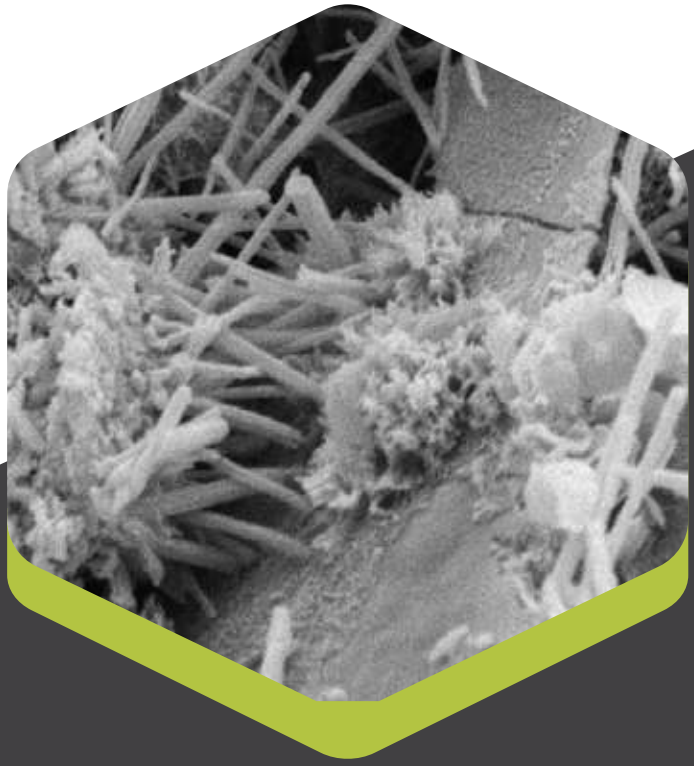
duraflexglobal.com

# What is Duraflex?

Duraflex is a patented, 4th-generation crystalline technology composed entirely of natural minerals and virtually chloride-free. Engineered in Canada, it is designed to improve soil strength, durability, and impermeability when combined with cement.

## Formulation & Functionality

Duraflex modifies the cement hydration process, forming interlocking hexagonal crystalline structures that significantly increase bonding capacity, reduce curing time, and prevent cracking. It can be used with most soil types, including high-plasticity clays and marine soils.



## Applications

- ✓ Road base and haul roads
- ✓ Foundations and industrial yards
- ✓ Tailings dams and embankments
- ✓ Rural and plantation roads
- ✓ Port and terminal subgrades

# Performance & Engineering Benefits

## *Technical Benefits*

- ✓ High unconfined compressive strength (UCS).
- ✓ High load-bearing capacity.
- ✓ Excellent resistance to water, salts, acids, and hydrocarbons.
- ✓ Effective even in extreme temperatures (to -6°C and underwater).
- ✓ Reduces soil settlement and cracking
- ✓ Requires no additional anti-frost or capillary layers.

## *Engineering Efficiency*

- ✓ Compatible with most soils (except highly organic peat).
- ✓ Reduces the need for granular base or imported fill.
- ✓ Enables thinner paving layers, reducing asphalt or concrete volumes.
- ✓ Extended pavement life: over 15 years of durability.

## Competitive Advantage

Unlike calcium-based, polymer, or enzyme stabilization methods, which typically have a lifespan of 3–4 years and limited soil compatibility, Duraflex-treated layers last over 15 years with significantly improved tensile strength and hydraulic resistance. Many alternatives offer minimal waterproofing or sulfate resistance and fail under freeze-thaw conditions. Duraflex is the only CleanTech-certified mineral solution with no VOCs and proven field performance across diverse climates and soil types.

# Environmental & Economic Advantages

## Environmental Impact

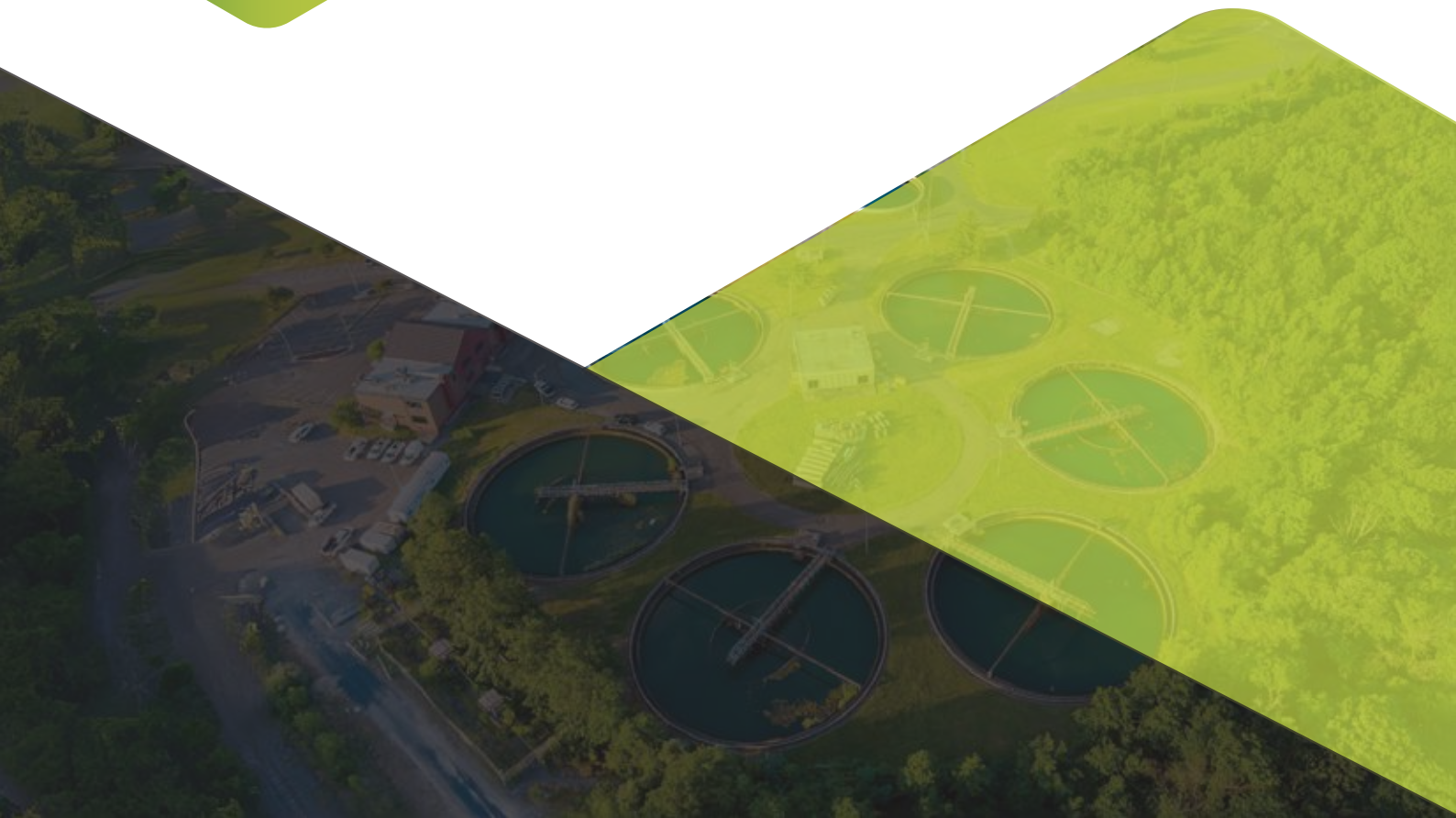
- ✓ Chloride-free and non-toxic: no VOCs.
- ✓ Reduces CO2 emissions by enabling lower cement content.
- ✓ Prevents groundwater contamination through impermeable matrix.
- ✓ Minimizes material transport by allowing native soil use

## Cost Savings

- ✓ Up to 30% cost reduction vs. traditional methods.
- ✓ Fewer materials, fewer truckloads, less labor.
- ✓ Eliminates need for excavation and disposal of unsuitable soils.
- ✓ Decreases maintenance and lifecycle costs.

## Circular Economy Alignment

- ✓ Rehabilitates degraded land using local resources.
- ✓ Supports sustainable infrastructure in mining, oil & gas, energy, and civil projects.



# Field Application & Process

## Simple On-Site Execution:

1. **Soil Preparation –** trafficability, moisture adjustment
2. **Spreading –** DFS and cement evenly distributed
3. **Milling –** integrated using milling machines
4. **Compaction –** 100% DPR using rollers
5. **Leveling –** precise grading with laser equipment
6. **Watering –** for curing initiation

## Quality Assurance:

- ✓ Static and dynamic plate load tests.
- ✓ Core sampling and compression tests.

## Optional Top Layers:

- ✓ Asphalt, chip seal, cobblestone, or "close-to-nature" finish.

# Proven Results & Global Reach

## Validated by Independent

- ✓ Golder Associates.
- ✓ McIntosh Lalani Engineering.
- ✓ SGS (Canada, Peru, USA).

## Proven in Challenging Environmentsing

- ✓ Haul roads in Fort McMurray (Canada).
- ✓ Port infrastructure in Guyana.
- ✓ Mining roads in Indonesia.
- ✓ Tailings projects in Africa.

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**Build stronger, smarter, and greener with Duraflex**


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