

RoadCem is a very fine grain sized powder that consists of several components including alkali minerals, synthetic zeolites along with a complex activator.

Without RoadCem shrinking and debonding of the cement bound soil stabilisation creates very small micro annuli allowing moisture to enter. An evaluation of conventional cement stabilisation on the nano scale from 1 – 100 nm reveals that the chemical bond between components is relatively brittle.

RoadCem is an active nanotechnology with proven commercial track record that has been specifically developed for the construction industry.

The measured values from the investigation at molecule level reveal that cement mixed with RoadCem patented active nanotechnology provides unique properties.

The crystallization process of the cement at a scale of 1 -100 nanometers shows that elements cross-link and create long needle crystalline structures that interlock, block the capillary pores, enhancing the dynamics and chemistry of the cement hydration process.

As a result, the molecule structure changes with hydrogen bridges in stable, locked position. It is important to recognize that the mechanical properties of a cement bound material are determined during the first hours of the binding and during the first 48 hours of the hardening stage.

Test data shows higher bending forces from the nano enhanced cement as well as significantly stronger values for compressive strength with higher dynamic elastic modulus, energy absorption and chemical resistance.

These factors all contribute the long term maintenance free durability of RoadCem cement soil stabilisation.