



Sustainable Technology

Controlled Modulus Columns (CMC®)

Controlled Modulus Columns (CMC®), formed by rotary augers, have undergone development by Austress Menard in recent times and represent a significant refinement of the traditional displacement pile, with the outcome that CMC® have achieved the optimisation of the rotary displacement technique.

Traditional displacement piles retain that description because essentially they abide by the traditional piling concept: that is, to transfer a surface loading to a competent layer of high bearing capacity at depth, thereby bridging less competent material and effectively eliminating settlement as a risk.

CMC recognise the penetration limitations into stiff soils and rocks of the displacement auger and in contrast to displacement piles, seek to enhance the engineering properties of the less competent soils, through which they are installed, in particular the global moduli of those soils, and thereby, control and contain the settlement characteristics of the otherwise incompetent soil strata within acceptable limits. CMC are particularly suited to supporting large uniform dead or live loads, such as occur under, respectively, road embankments, storage tanks and warehouses.

Advantages of CMC:

- Economic means of improving the strength properties and modulus of the in-situ soil
- Provides uniform support to slabs on grade, reducing slab thicknesses and reinforcement quantities.
- Virtually no spoil disposal required, particularly beneficial for installation in contaminated soils
- Well suited to high surface loading conditions and strict settlement criteria





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Objectives:

- Provision of cost effective soil improvement
- Maximisation of benefits of rotary displacement method
- Minimise differential settlement and control, by design, total settlement

High capacity installation equipment is essential for CMC installation, the forces required for the lateral displacement of soil dictate the need for both high torque and high crowd force to be delivered from the installation rig.

CONTROLLED MODULUS COLUMNS