



Warehouse developments

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Ground improvement solutions

Whether it is for a new warehouse or a commercial facility development, a stable foundation is at the core of every successful construction project. Menard has a proven track record of handling ground improvement works for industrial and commercial buildings, providing great beginnings through strong floor support systems.



Warehouse structures are typically located within poor soil areas and have a requirement for differential and total settlement across ground floor slabs.

Ground improvement techniques are particularly well suited to load bearing structures (slabs, and columns supported on pads) in buildings, and more particularly industrial, wholesale, retail and logistics facilities. These types of developments require rigorous organisation to manage scheduling and interfaces among a large number of project participants on the worksite. Rapid execution and on-time delivery are crucial to make these projects successful.

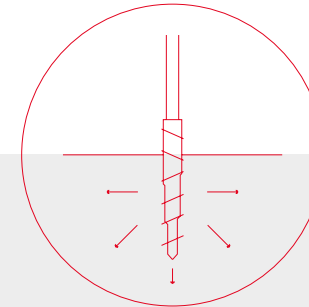
Menard offers a variety of ground improvement technologies adapted to warehouse developments, such as CMC Rigid Inclusions, dynamic compaction/replacement, vibro stone columns, and wick drains - among others. Our broad range of techniques combined with our strong experience make us a reliable partner, able to determine the best suited solution to your geotechnical challenge.



Steelforce Warehouse –Brisbane, QLD
3,000 CMC Rigid Inclusions installed
Area treated: 25,000m²

Menard has developed ground reinforcement systems that cause little disruption (waste, noise, vibrations, etc.), can be rapidly implemented and are well suited to these challenges.

Our solutions are also used to create safe and cost-effective surface foundations for these structures without direct mechanical connection between the foundations and the structure. This simplifies, accelerates construction while reducing the cost of the structure compared to conventional solutions using deep foundations.



Focus on CMC Rigid Inclusions

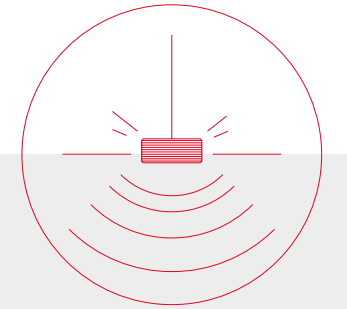
CMC Rigid Inclusions are a cost-effective approach to support lightly to heavily loaded foundations and serve as an alternative to traditional piling systems in soft/loose soils where settlement poses a potential concern. CMC Rigid Inclusions share the load with the surrounding soils, resulting in less stringent design constraints than typical pile systems that take on the entire load of the structure.

Advantages

- + Well adapted to high uniform surface loading with strict settlement criteria
- + Virtually no spoil generated
- + Vibration free
- + Provides uniform support to slabs-on-grade reducing slab thickness and reinforcement quantities



Webb Dock East,
Port of Melbourne
- VIC, Australia



Focus on Dynamic compaction

Dynamic Compaction (DC) is a method of ground improvement invented and developed by Menard more than 50 years ago, for the treatment of loose granular soils and fills, using steel weights. It is applied by dropping a heavy pounder (15 to 40 tonnes) from a significant height (10-30 m) multiple times on a grid of points.

Advantages

- + Compacts large areas of loose granular fills
- + Reduces the volume of landfill waste
- + Increases in-situ density and collapses voids
- + Allows for a higher bearing capacity
- + Reduces post-construction settlements



Dynamic compaction for a warehouse development
In Erskine Park, Sydney - NSW, Australia

Ground improvement for warehouses considers optimisation of the in-situ ground properties to achieve settlement criteria, this then removes the need to bridge poor soil conditions with structural piles and a thick structural slab. In this instance, structural designers can consider slab on grade design, founded on Menard's ground improvement solutions.

Ground improvement solutions for warehouse developments

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Need help with your next industrial project? Contact one of our experts today!

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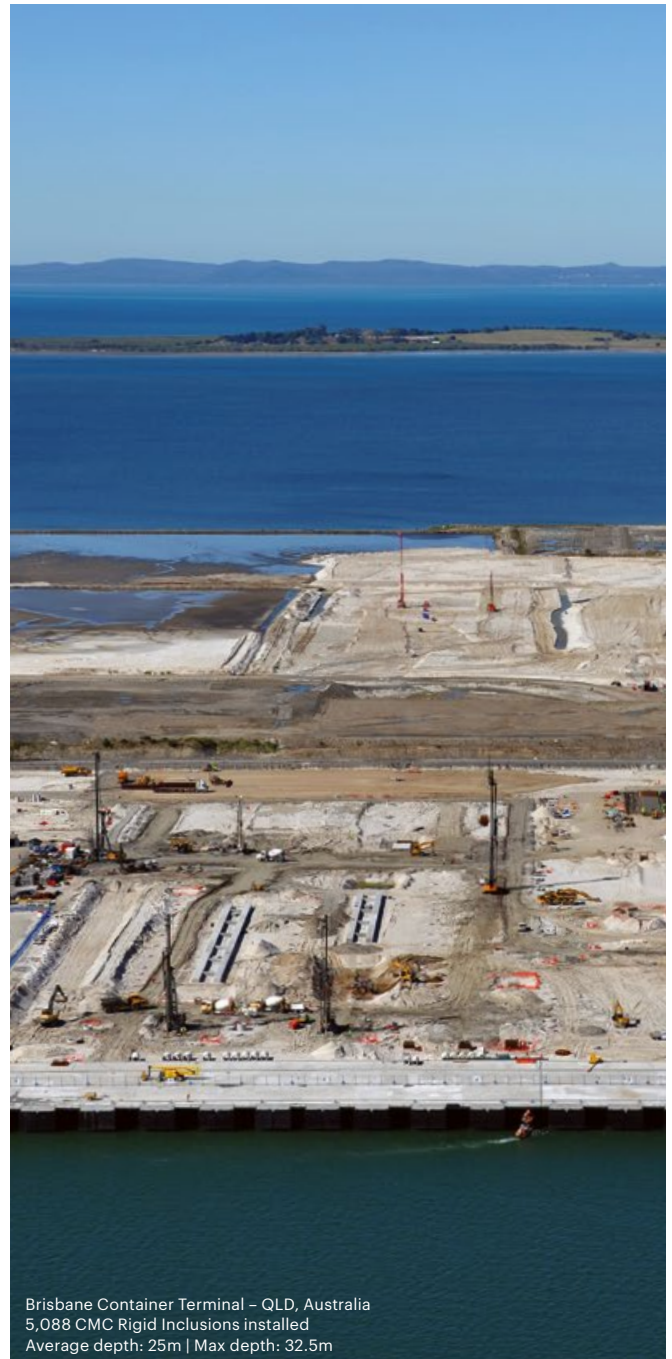
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About Menard Oceania

Menard Oceania is a design and construct specialist geotechnical contractor offering expertise in ground improvement for sites with poor soils. In other words, we treat the ground and make it strong so that builders and developers can undertake their construction projects on solid foundations.

By combining value engineering and innovative techniques, Menard delivers practical, sustainable solutions that can be attractive alternatives to deep foundations. As part of an international network of geotechnical resources and expertise, our team brings in-depth knowledge and creative problem solving to every project.

Menard Oceania is the Australian subsidiary of Menard and part of Soletanche Freyssinet Group, who are world leaders in geotechnical and civil engineering construction.



Brisbane Container Terminal – QLD, Australia
5,088 CMC Rigid Inclusions installed
Average depth: 25m | Max depth: 32.5m

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