



Rapid impact compaction (RIC)

A technology ideal for bulk fill and shallow compaction works, and faster and more economical than conventional methods.

Geotechnical solutions for the construction industry



Rapid impact compaction (RIC)

Rapid impact compaction densifies shallow granular soils, using a hydraulic hammer, which repeatedly strikes an impact plate on the ground surface.

It is commonly used to:

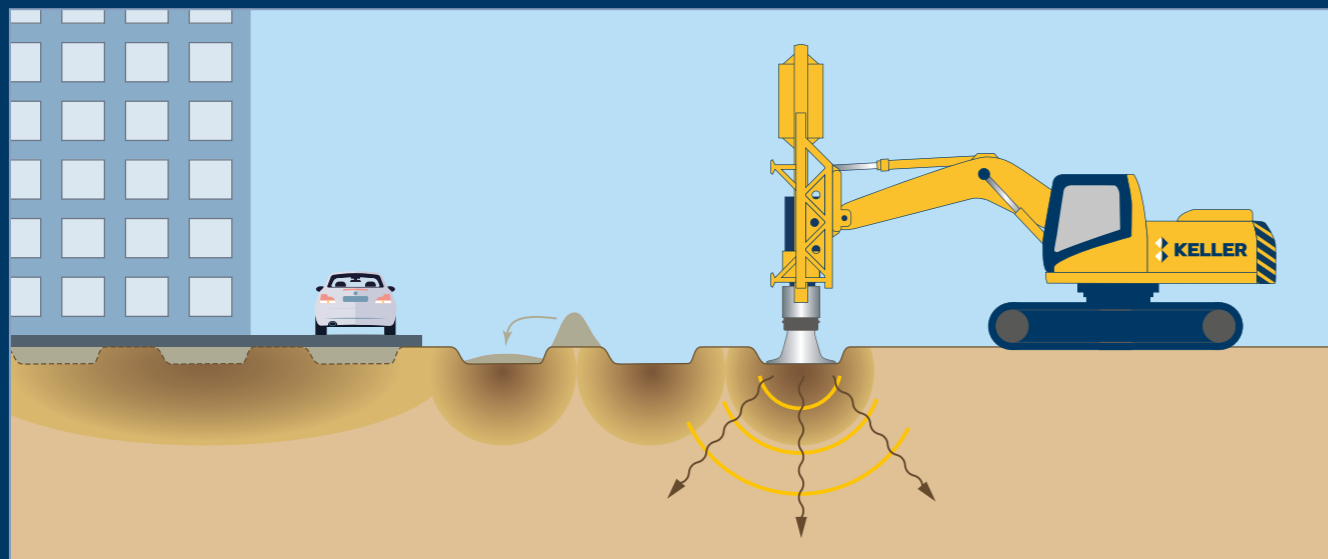
- increase bearing capacity
- increase stiffness
- mitigate risk of liquefaction

Rapid impact compaction is effective for compacting existing soil that would otherwise have to be excavated and compacted using a

conventional roller compactor, in layers of 15cm to 30cm. It can densify up to 4-5m of soils without excavation, adding water or dewatering. It can also be used for fill compaction - inserting bulk fill and compacting it without adding any water. It is the best approach for large infrastructure developments due to its speed of execution, making it much more cost effective than alternatives.

Process

Energy is transferred to the underlying loose granular soils, rearranging the particles into a denser formation. The points of impact are typically located on a grid pattern, with spacing determined by the subsurface conditions and foundation loading and geometry.



Advantages

- Treated granular soils and fills have increased density, friction angle and stiffness
- Low cost treatment of soils up to 4-5m in depth
- Enables shallow foundations to be used opposed to deeper and more expensive solutions
- Quick start as no excavation, adding water, or dewatering as required
- Construction can start immediately after RIC work is completed as it leaves the site clean and free from debris

Quality assurance: Why our way is better

The energy and deflection of the soil is monitored and recorded at each location which allows the geotechnical engineer to determine when treatment is complete. It also enables the engineer to identify weak zones or areas with debris throughout the pad, reducing the chance that remedial action will be required, and therefore saving additional costs.





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