

Piling Equipment Specialists

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ABI Equipment Ltd have supplied an ABI Mobilram TM 13/16 SL piling rig and a TM 14/17 V piling rig, both coupled with Delmag D19-52 diesel hammers for rapid impact compaction work a number of times recently.

When brown-field sites are being redeveloped for new construction projects the nature of these sites mean that some form of ground improvement works are usually required to stabilise the soil. This is because this type of ground has not had the time to settle and compact as it would naturally, and therefore will not be as strong or have the same physical properties as a virgin location. In order to avoid adverse site settlement once the load of the new structure is added to the site, ground improvements are a crucial part of the construction process. Without this work, exaggerated settlement or ground subsidence may occur, which could in turn compromise the structural integrity of the new buildings.

Rapid Impact Compaction is a ground improvement technique used predominantly for reclaimed or made ground, and it involves a

Rapid Impact Compaction for Ground Improvement

Equipment used:

ABI Mobilram TM 13/16 SL + Delmag D19-52
and

ABI Mobilram TM 14/17 V + Delmag D19-52

pattern of controlled, dynamic blows across the site in order to densify the ground material. The blows are made from a low height, at a fast rate, using a heavy piston hammer for maximum effect. Executed correctly this procedure will serve to stabilise an entire area of land thoroughly and efficiently. In the image below you can see the resulting pattern of compactions, each measuring 1500mm in diameter and approx. 600mm in depth.

The impact equipment – in this instance one of the agile and versatile Mobilram rigs, paired with a Delmag D19/52 diesel hammer – makes a number of passes over the area to be stabilised, ensuring that by the end of the operation the entire area has been treated.



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Each hammer blow compacts the soil at the immediate point of impact, as well as radiating the force through the surrounding ground. This forms a network of overlapping impact zones that strengthen the area as a whole.

Our client has been able to halve the times they had initially scheduled for these phases of the projects – and without a doubt the main factor in the overwhelming success of these projects was the selection of the correct equipment for the job.

The TM 13/16 SL and TM 14/17 V machines offer a very compact solution for this type of work, with a high degree of manoeuvrability. A number of compaction points can be tackled from one standing position due to the range of movements available – reach, slew and mast articulation.

The Delmag diesel hammer is ideal for this type of work – it is both rugged and reliable, with four energy output settings to suit the prevailing ground conditions.



Here at ABI Equipment Ltd we pride ourselves on our all-round professional service - every rig for hire has it's own operator, and we also have a team of factory trained technicians should they be required.

If you need advice concerning the most suitable equipment for your next groundwork project, please call the office where a member of the team will be happy to help.

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