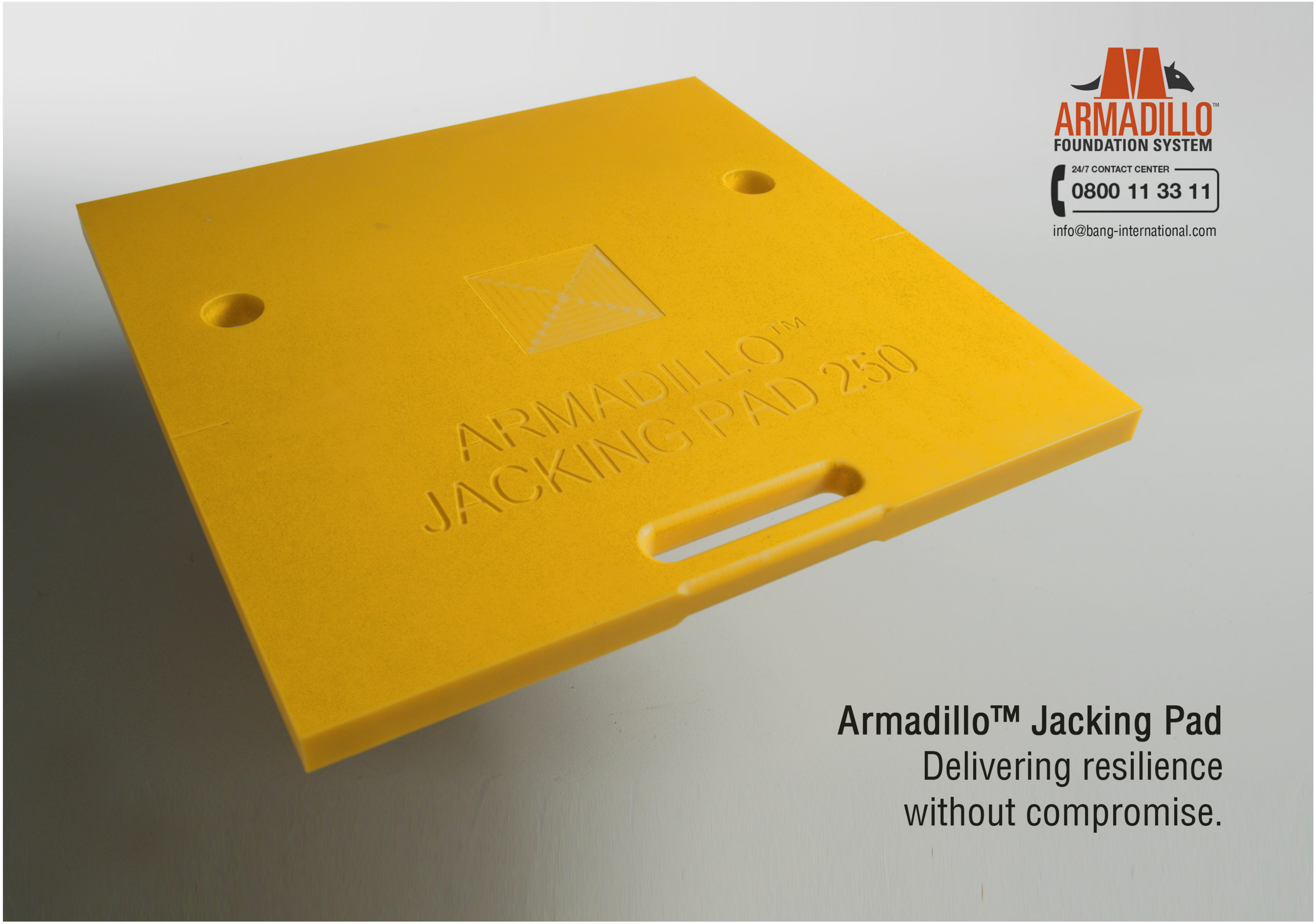

ARMADILLO™
FOUNDATION SYSTEM

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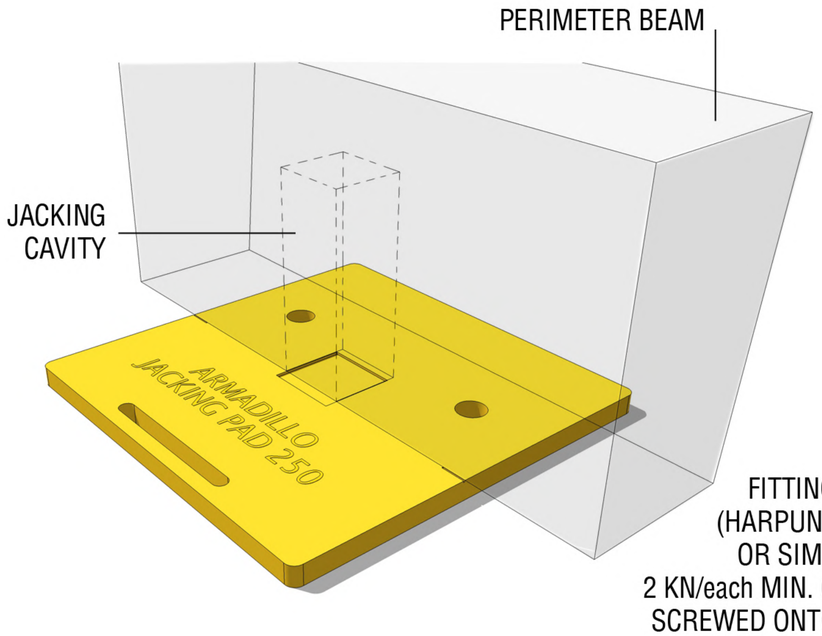
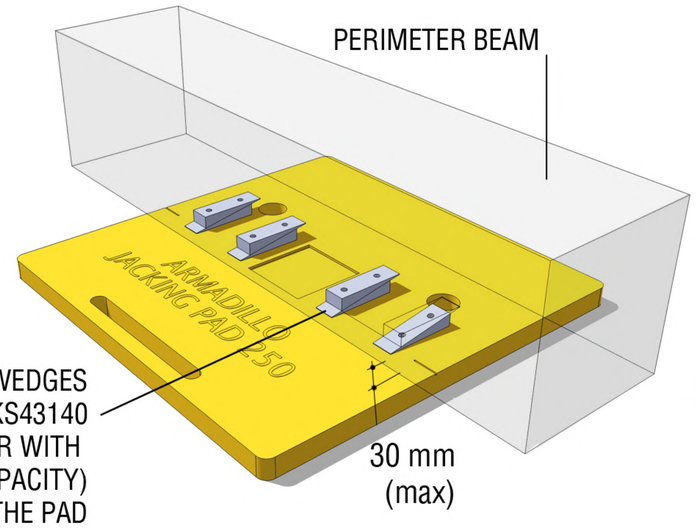
Armadillo™ Jacking Pad
Delivering resilience
without compromise.



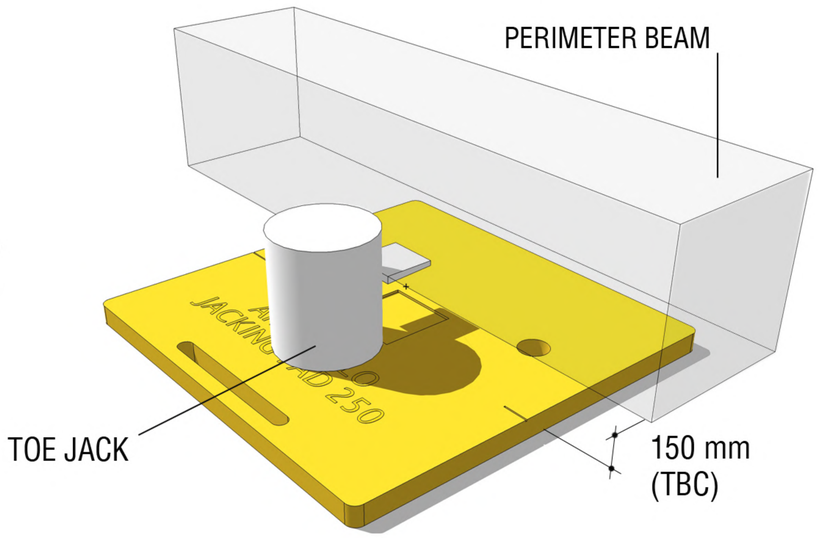
01. NEW FOUNDATIONS

The Armadillo™ Jacking Pads can be used in combination with the Armadillo™ 500R foundation system for easy relevelling if the case need be.
The Armadillo™ Jacking Pads are installed beneath the edge beams typically at 3 m intervals. EPS blocks (usually 150x150x400(H) mm) are placed into the foundation to form preparatory jacking cavities.
Depending on the ground conditions the Armadillo™ Jacking Pads may be placed onto the natural soil or onto a specifically designed compacted granular fill.



02. FOUNDATIONS UNDERPINNING

The Armadillo™ Jacking Pads can be used to increase the footprint (and consequently the bearing capacity) of an existing foundation.
The installation procedure can be completed in a short timeframe since it does not require pouring of any grout/concrete and the excavations are minimal.
Differently than any other underpinning methodology involving the use of concrete pads, the choice of the Armadillo™ Jacking Pads will ensure preservation of the soil from being surcharged with additional loads.



03. FOUNDATIONS RE-LEVELLING

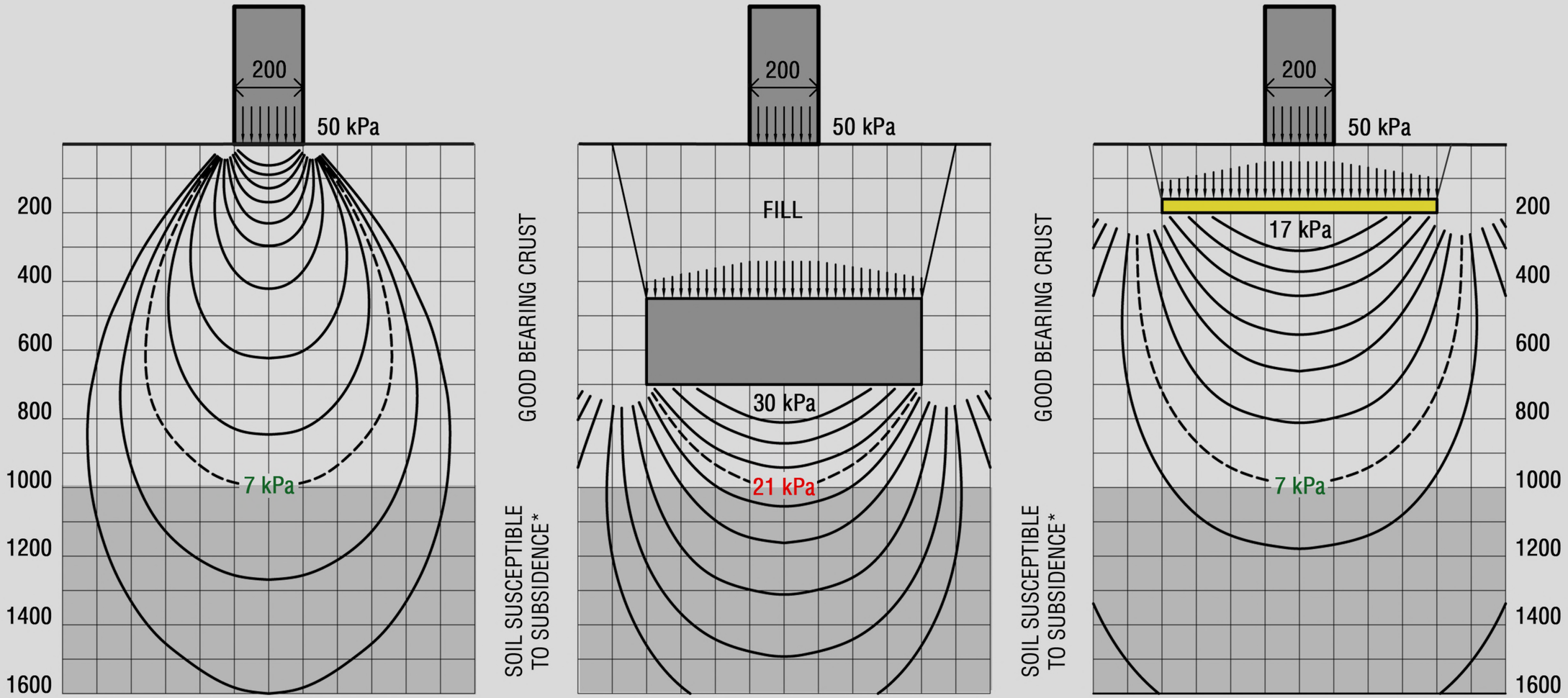
The Armadillo™ Jacking Pads can be effectively used to reinstate the planarity of existing buildings.
The Armadillo™ Jacking Pads ensure a safe contrast for bottle or toe jacks minimizing the amount of excavation, soil disturbing, need of grout and eliminating time consuming works such as steel reinforcing and concrete pouring.
Particularly suitable for sites with a shallow water table, with shallow liquefiable strata or compressible silts/clays over a thin bearing crust.

UBC	kN						
50	25	50	75	100	-	-	-
100	25	50	75	100	125	150	175
150	25	50	75	100	125	150	175
200	25	50	75	100	125	150	175
250	25	50	75	100	125	150	175
300	25	50	75	100	125	150	175

Table 1 - Recommended Jacking Forces

The Armadillo™ Jacking Pad has been tested to resist under a 250 kN point load on soils with 50 kPa Ultimate Bearing Capacity (UBC). To limit the pad deflection, it is recommended to not exceed the values of the **Table 1** for point loads with a 150 x 150 mm footprint.

200 mm Compacted Granular Fill (AP20) required beneath the Armadillo™ Jacking Pad.
400 mm Compacted Granular Fill (AP40) required beneath the Armadillo™ Jacking Pad.
600 mm Compacted Granular Fill (AP40) required beneath the Armadillo™ Jacking Pad.



(*) Liquefiable sands, compressible clays / silts

BEFORE

The pressures transferred onto the ground by the footings of buildings constructed in compliance with NZS3604 are moderate and they drop to neglibigle values (under 10 kPa) about 1 m below ground level.
Consequently, timber framed buildings are resilient against soil subsidence since a crust with a reduced depth is typically sufficient to mitigate the risk of settlement caused by liquefiable or soft layers.

AFTER (Concrete Pads)

Concrete pads used to jack footings up are often left in place in the belief that they would strengthen the foundation, in anticipation of future re-use or because it is unpractical to remove them.
In reality, this repair methodology may reduce the performance of the building especially when liquefiable or compressible layers are surcharged and punching failure mechanisms may be triggered.

AFTER (Armadillo™ Jacking Pads)

In the figures above the pressure patterns of standard footings underpinned with concrete pads or with Armadillo™ Jacking Pads are compared. Unlike concrete pads, the Armadillo™ Jacking Pads do not transfer building loads to deep soil strata.
To replace heavyweight concrete pads with the Armadillo™ Jacking Pads is, then, a mindful choice to preserve the resilience of timber framed buildings.

TESTED
Successfully passed the severe load tests carried out by the University of Genova. The Armadillo™ Jacking Pad is currentty the sole lightweight pad specifically designed and tested for underpinning and relevelling buildings.

NON INVASIVE
As conventional repairs usually wreck current landscaping by using the Armadillo™ Jacking Pads earthworks are reduced to a minimum and they can be carried out by hand.

TIME EFFECTIVE
Labour intense and time consuming activities such as digging, boxing set up placing reinforcing and concrete pouring are minimized or eliminated, providing a time effective solution for your project.

DURABLE
The superior chemical stability of the resin used to manufacture the pads ensures a lifespan well in excess of 50 yrs.
The Armadillo™ Jacking Pads will maintain their performance unaltered for future use.

REUSABLE
The Armadillo™ Jacking Pads can be re-used multiple times.
Excellent Impact strength, ductility and anti-wearing performace is ensured for the product a long life in any condition of use.

LIGHTWEIGHT
Lightweight for easy handling and installation the Armadillo™ Jacking Pads can be effective on sites where surcharging the soil is advice against.

EXTRA SLIM
The Armadillo™ Jacking Pads provide excellent mechanical performance in a slimline product to preserve the soil crust where present.

SAFE
The Armadillo™ Jacking Pads have been designed to be able to safely flex during re-levelling works reducing the stress induced into foundations.

HEAVY DUTY
Tested up to 300 kN on soft soil The Armadillo™ Jacking Pads can be re-used multiple times under heavy loads *(refer to **table 1**)*.

PATENTED
The innovative use of the Armadillo™ Jacking Pads for re-levelling buildings is protected by NZ Patent n. 618663.

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Bang NZ Limited

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