



 **PLATIPUS**
EARTH ANCHORING SYSTEMS

Electricity / Communication Transmission & Distribution

Brochure

INTRODUCTION TO PDEA®

Percussion Driven Earth Anchors

Platipus® have over 40 years of experience in the design, manufacture and supply of Percussion Driven Earth Anchors (PDEA®) for a wide variety of market sectors.

Our PDEA® systems outperform conventional methods of stay anchoring and utilise low cost, lightweight, portable installation equipment, most of which is readily available worldwide.

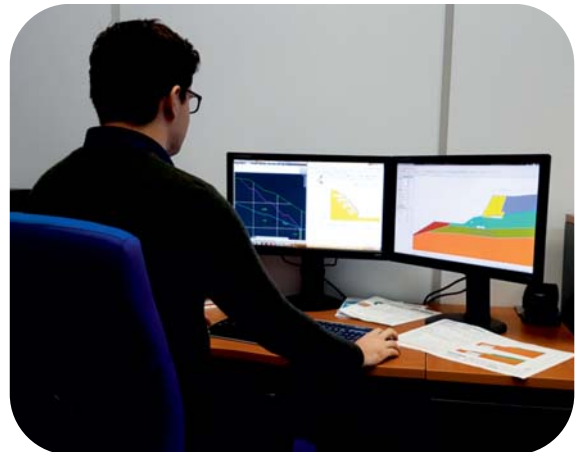
Key Benefits include:

- No excavation, saving time, labour and money.
- No danger of working in deep unshuttered holes.
- The anchor drives directly into undisturbed soil.
- The use of lightweight portable tools means multiple anchor installations can be achieved quickly by a crew of two.
- Every anchor can be proof tested to confirm the actual load.

TECHNICAL GUIDANCE & SUPPORT

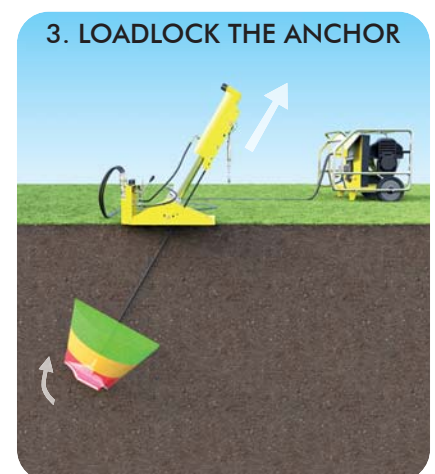
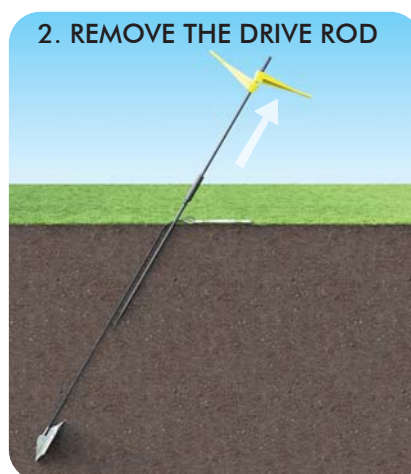
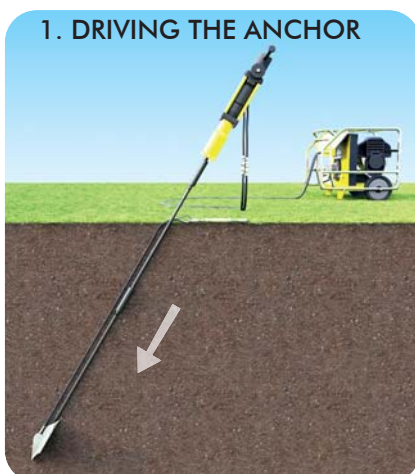
With over 40 years' experience and thousands of successful projects worldwide we offer pre-contract site evaluation and anchor testing together with on-site training and support. In addition, we are able to provide real time technical guidance at all stages of the anchor system design and installation process allowing for greater engineering confidence.

As part of our commitment to offer a complete package, a non-chargeable Conceptual Proposal outlining possible anchoring solutions, suitable for your project, can be provided complying to relevant standards, where applicable.

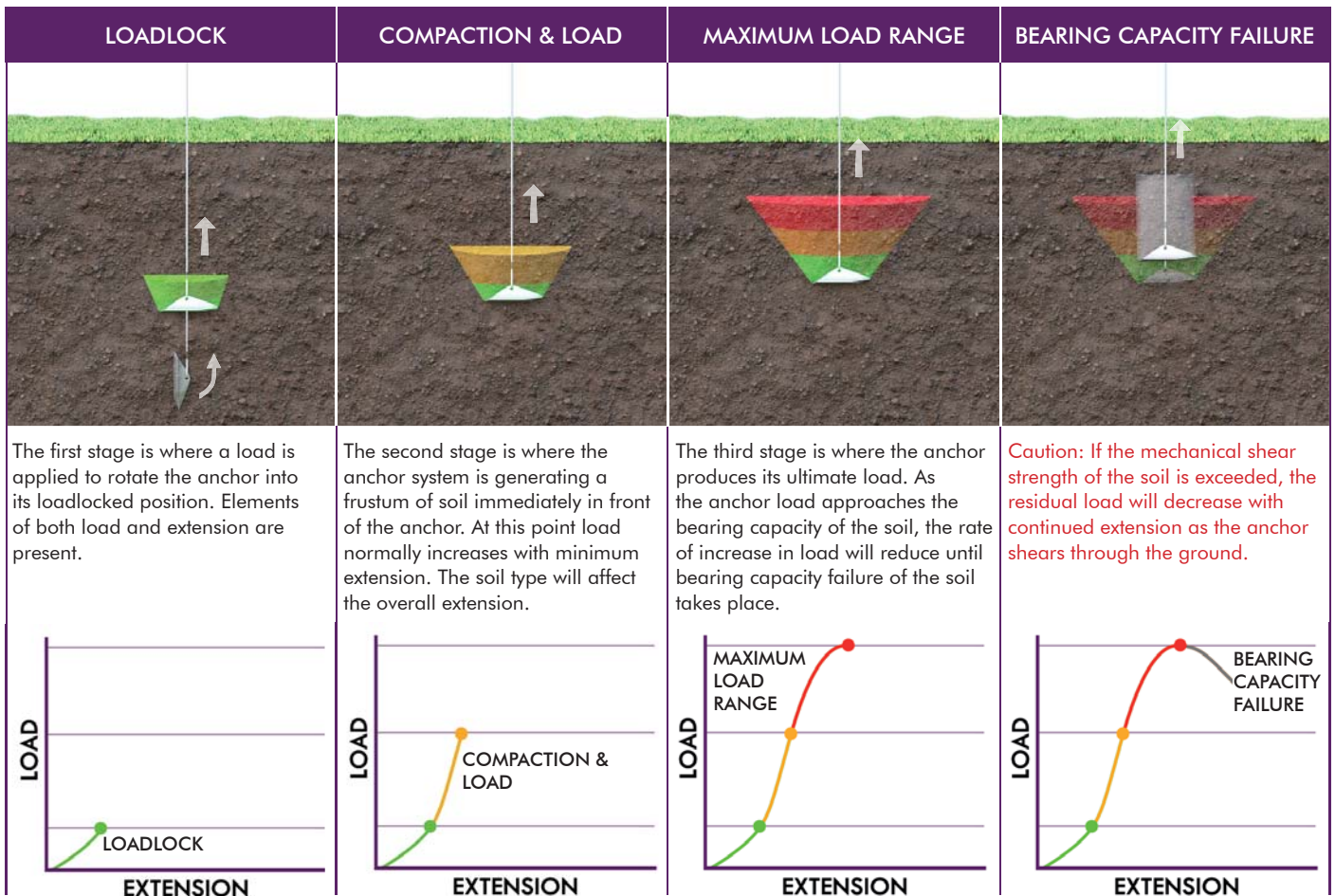


'SIMPLY' HOW A MECHANICAL ANCHOR WORKS

There are three steps to the installation of an anchor system:



TYPICAL ANCHOR BEHAVIOUR



THE ANCHOR SYSTEMS

Platipus have developed a comprehensive range of Percussion Driven Earth Anchors (PDEA[®]) specifically for the transmission and distribution of electricity / communications. The Stealth anchors cover a wide range of lightweight anchoring requirements whereas the Bat anchors have been specifically designed to achieve higher loads and enhance anchoring in soft cohesive soils. Standard solutions are available in materials for short-term temporary use or applications that require up to a 40 year design life.

Anchor Type	Dimensions L x W x H (mm)	Materials	Typical Load Range	Minimum Driven Depth
S8	263 x 90 x 76 (10.3 x 3.5 x 3)	Aluminium Alloy	10 - 40 kN	1.1 - 1.5m
		SG Cast Iron	10 - 70 kN	1.5 - 2m
B4	310 x 110 x 93 (12.2 x 4.3 x 3.6)	SG Cast Iron	20 - 100+kN	1.5 - 2.5m
B6	336 x 206 x 91 (13.2 8.1 x 3.6)	SG Cast Iron	30 - 120+kN	2 - 3m
B8	423 x 259 x 105 (16.6 x 10.2 x 4.1)	SG Cast Iron	50 - 150 kN	3 - 4m
B10	541 x 335 x 110 (21.3 x 13.2 x 4.3)	SG Cast Iron	75 - 200 kN	4 - 5m

ELECTRICITY DISTRIBUTION



Industrial growth, an ever-increasing population and the need to utilise renewable energy have put huge stresses on electricity distribution worldwide. As a result, distribution networks are in constant need of upgrade or refurbishment to handle the demand.

Platipus have specifically engineered a range of PDEA[®] Systems for distribution applications including electricity poles / stays, maintenance and emergency restoration.

All anchor systems can be quickly installed and immediately proof tested to an exact holding capacity using simple portable equipment. They are versatile and extremely useful when anchoring in situations with difficult access (i.e. hedgerows, steep banks, alongside walls) with minimum disturbance to the surroundings and no requirement for shuttering.



We offer a full range of equipment to install and loadlock all anchor systems. We have an extensive range of single or multi-piece drive rods to suit all applications and most breakers. All our tools have been tried and tested over many years. A full twelve-month warranty is offered (subject to inspection) should any tools fail during a normal installation process.

Installation equipment and tools can be purchased directly from Platipus. Most installation equipment is also available worldwide from plant hire companies.

MAINTENANCE & EMERGENCY RESTORATION



EMERGENCY RESTORATION

A reliable supply is the number one priority for any transmission network. Overhead lines can be exposed to natural disasters and extreme weather conditions which can often lead to failures. The inconvenience and disruption this can cause to customers means it is essential to restore power as quickly as possible. Platipus has designed a range of anchoring solutions that can provide support to the Emergency Restoration Systems (ERS) used to reinstate transmission lines, quickly and efficiently, in difficult locations.

POWER LINE CROSSING

Overhead transmission lines that cross roads, railways or watercourses will eventually need to be refurbished or replaced. For this to be completed power line protection scaffolding with safety netting must be erected to safeguard the public and infrastructure. Historically these large scaffold structures have been supported using traditional kentledge which can be challenging to get into difficult locations. Platipus has developed a number of low cost, lightweight anchor systems that can be installed and proof tested in minutes using simple tools. A typical 2kg anchor can provide up to 4 tonnes of equivalent kentledge.



CONDUCTOR RESTRINGING

Maintenance of overhead transmission lines is essential. High voltage towers are frequently in remote locations. During the restringing process, when the redundant conductors are removed, it is sometimes necessary to balance the load exerted by the remaining conductors to prevent the tower from overturning. Anchors driven into the ground provide this support on a temporary basis until the new conductors are installed. Anchor performance can be proved by completing a suitability test at each tower location, if required.



COMMUNICATION

The need to communicate 24/7 is now an essential part of everyday life. Whether it is by telephone, data or radio transmission we use all types of equipment to stay in touch wherever we are in the world.

Platipus offers a range of standard anchor systems that can be used to secure a variety of communication equipment including telecom poles, mobile satellites, antennas and masts. Their simplicity and speed of installation make them perfect in a temporary or permanent capacity.



RENEWABLE ENERGY - PHOTOVOLTAIC

GROUND MOUNTED

While rooftop solar arrays are the most common, there are many reasons to consider a ground mounted solar panel system. They are easy to place on open land; can be set at the perfect angle to optimize energy production and are extremely easy to access for cleaning and maintenance. To ensure ground mounted systems are secure and protected from uplift Platipus has developed a range of standard anchoring solutions for most frame designs and are suitable for small (kW) arrays and large (MW) solar parks.



RETRO-FIT

In situations where traditional foundation solutions have failed or are failing, due to incorrect installation or unsuitable ground conditions, a selection of bespoke wire stay solutions are available to help stabilize the array and provide additional support to uplift. These standard retro-fit systems can quickly connect the array to a Platipus anchor. This typically consists of a stainless steel wire tendon and a simple tensioner which can be tailored to suit most frames, soil conditions and design life.



OFF-GRID

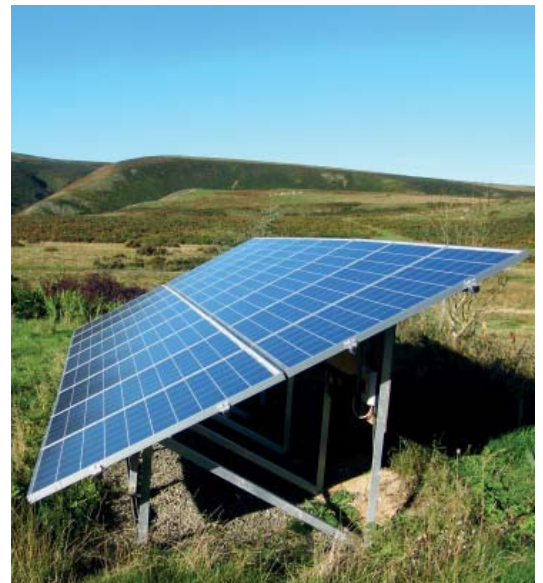
Platipus ground anchors are perfectly suited for most off-grid and standalone systems. The anchors can be easily installed by hand with simple tools and unskilled labour, removing the need for specialised equipment. The anchors are available in a range of system configurations to suit temporary and permanent applications. As the anchor system and installation equipment are lightweight and compact, transportation costs are also greatly reduced.



FLOATING SOLAR

Floating solar arrays are a direct response to the lack of space. They preserve valuable land and represent a serious alternative to ground mounted PV systems. As directional change of solar panels can reduce electricity production it is critical that a floating solar array has some form of directional control mooring system to remain in a parked position. Platipus can provide bespoke anchoring systems that secure any size of floating array to the shoreline or bed and are adaptable to many potential floating solar applications like hydroelectric dams, water-treatment plants, irrigation ponds and quarry lakes.





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