

## **Anchor Base**

## FOR DECKING, SHEDS AND GARDEN ROOMS



## **Anchor Base**

Anchor Systems have developed a foundation solution that can be easily installed and is ideal for small to medium sized structures such as sheds and garden rooms. Our system eliminates the need to use a traditional concrete base and the associated draw backs.

The system can be installed with hand tools or lightweight machinery that can be hired or purchased and allows the installer to continue the build without the need for drying times.

## **BENEFITS AND FEATURES**

### Speed

A foundation for an average sized shed or garden room can be completed and made ready in just a couple of hours.

### **Ease of Installation**

Any person with a small amount of DIY knowledge will be able to use this system.

### Cost

The Anchor Base system is more cost effective for these types of structures than using a traditional concrete base. The larger the structure - the larger the saving over concrete.

### **Drying Time**

There isn't any. The installer can continue building without the need to wait for the concrete base to dry and cure, making the whole process guicker and more efficient to erect.

### Mess

There is none. You can drive the Anchor Base without any digging or site disruption.

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### **Waste Materials**

There are none. There will be no wasted aggregate or other wasted building product associated with a traditional concrete base.

### Earth Removal

There is none. No need to pay for costly earth removal from the site.

### Convenience

This system allows you to move the position of your structure if required or remove it all together without the need to break up concrete.

### Green

As concrete isn't being used the Green benefits are obvious. Anchor Bases are manufactured from 60% recycled steel and can be removed and recycled again, if need be. The manufacture and transport of concrete has a large negative environmental impact.

### Access

All parts and equipment are small and lightweight and can be easily carried to the build location, as opposed to a traditional concrete base that would require good access to the site.

### Health & Safety

With the use of normal and relevant PPE, the Anchor Base can be installed safely. There is no airborne dust associated with concrete.

## **Anchor Base - Guidlines**

The table below gives you an understanding of the weight carrying capabilities of each Anchor Base. The weight indicated for each of the three ground conditions are approximate and derived from a series of tests Anchor Systems have carried out.

It is up to the installer to interpret this information and judge how many Anchor Bases are needed for any specific application. Point loading and universal displaced loading should be of some consideration.

There are some examples further on in our brochure. If you're not sure and there are any questions, then please call or email us. We are always happy to help.

Poor Ground Conditions	<b>Medium Ground Conditions</b>	<b>Good Ground Conditions</b>
(Loose Fine Sand; Alluvium; Soft-Firm	(Loose to Medium Dense Fine to Course	(Medium Dense Course Sand & Sandy
Clays; Varied Clays; Fill)	Sand; Firm to Stiff Clays & Silts)	Gravel; Stiff to Very Stiff Silts & clays)
150 kg	200 kg	300 kg







## **Project Report**

John Michaels were looking for a solution for a project they were working on in the back garden of one of their clients. They required a foundation system for a composite decking platform with a steel framed cover on top. The foundation needed to be strong enough to cope with the weight of the decking and the steel frame.

This project was in a back garden with poor access so using concrete as a foundation was unsuitable. The other alternative was to use the Stop Digging ground screw however that would involve waiting for them to be installed and that did not work with the schedule.

### **SOLUTION**

28 Anchor Bases were installed at approx. 1.5m spacings under the large decking framework. Anchor Systems attended the site and trained the John Michaels team on how to install the Anchor Base using handheld equipment. This also allows the installer to easily use the Anchor Base for future projects as they have already had training and no specialist equipment is required for installation.

In under 60 minutes:

- Training was given •
- 28 Anchor Base systems were installed
- The framework was attached and levelled off •

The speed and simplicity of the Anchor Base was a huge benefit to the installer as well as being more cost effective than the alternatives.





## **Decking With Steel Frame Cover**















## **Project Report**

The log store needed to be positioned up against an existing garage that had an oversized concrete base. This allowed the back end of the framework of the log store to be supported on existing concrete. This left a requirement for the 6-metre long front edge of the log store to be supported.

The ground was uneven and was approximately 200-250mm lower than the top edge of the concrete. The Anchor Base was the ideal foundation to use in this case as it could be easily adjusted to make up the varied differences in height.

### **SOLUTION**

Anchor Systems (International) Ltd (ASIL) worked with Chris Leaver Carpentry to provide a rapidly and easily installed alternative to traditional concrete foundations, that required only small and lightweight equipment to be installed, ideal for garden access.

Once the Anchors were installed, the framework could easily be adjusted to a level position as the Anchor Base is capable of a height variation of 300mm to overcome uneven ground conditions. The installation of the Anchors was completed extremely quickly (4No. Ab installed in 10 minutes percussion driven) and the Anchor Base allowed full load capacity to be achieved immediately, a major practical and time saving advantage compared to the use of wet trades.

Anchor Bases are made form 60% recycled Steel and can be removed and recycled, if need be, without the need to break up concrete, providing a 'Greener' alternative.

The whole construction covered a 6m x 1.3m area framework with a log store installed upon this. The time from start to finish of the project was completed one day, with the base completed in less than half an hour. No wet trades or excavation were required and the Log Store was pre-designed for the space.





## **Log Store Foundation**





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## **Project Report**

Anchor Systems (International) Ltd (ASIL) were approached with a requirement for an easily installed alternative to a concrete or wooden foundation for decking, without the use of heavy machinery due to restricted garden access. The client also wanted to avoid associated mess, excavation and drying times of concrete foundations, also emphasised was the clients' interest in a 'Greener' foundation system.

## SOLUTION

The Anchor Base has been designed by ASIL with consideration to the above challenges faced on site and has been developed to overcome these. Installed using hand-held equipment, access restrictions were not an issue and with zero drying times involved, the Anchor Base was able to reach full load capacity immediately after installation, meaning the decking construction ran smoothly from start to finish, saving on both labour hours and cost.

Anchor Bases are made from 60% recycled Steel and can be removed and recycled, if need be, without the need to break up concrete, providing a 'Greener' alternative.

The Anchor Base levels were achieved using a standard level and once installed, could be adjusted easily across varying ground levels (the Anchor Base allows up to 300mm adjustment). This was noted as a significant advantage over other driven foundations, where levelling typically needs to be achieved as they are driven. The ability to adjust the level of the bearing plate after the anchors were installed made the whole process quick and simple, whilst allowing plenty of flexibility across the uneven ground.

The whole construction covered a 7m x 3m area, using 15 Anchors in total. The anchor installation was completed in under 25 minutes and the entire project was completed in 6 - 8 hours (for a two man install). No wet trades or excavation were required, leaving no mess to remove and the decking could be enjoyed straight away.









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## **Fixtures**

The Anchor Base is available with a variety of optional heads to allow the installer to fix and support the framework in the most suitable places. All heads are available in a range of lengths to allow for uneven ground. Bespoke options are available to specifically suit your requirements. All options allow the framework to be levelled once it is in position on the Anchor Bases







Used for installing 100mm x 100mm posts in a vertical position. Has 8 x 7mm holes to secure posts securely in the upright position.

## **BEAM PLATE**

Used for installing horizontal beams and joists. Has 4 x 7mm fixing holes to secure beams or joists in place. Capable of bearing joists and beams up to 95mm wide. The head is offset to the thread allowing the installer greater flexibility by having the ability to turn the head 180 degrees, giving a larger lateral range.



## ADAPTER PLATE

(NEEDS TO BE SHOWN WITH L BRACKET AND FIXINGS)

This head comes in two parts. The smaller 'L' shaped bracket can be fixed anywhere in position to the main head plate allowing for a greater amount of flexibility when there is a greater need for accuracy.

## Equipment

## MAKITA ELECTRIC BREAKER-HM1812110V

To install the Anchor Base we recommend you using the Makita HM1812 Electric Breaker. This breaker is the correct size to hold our drive rods and will have enough power to install the Anchor Base with ease.

Impact energy		
Blows per minute		
Drive shank Hex		
Vibration: Chiselling		
Vibration K factor		
Noise sound pressure		
Noise sound power		
Noise K factor		
Net weight		
Input Wattage 110v		

72.8 J 870 bpm 1 1/4" " 6.5 m/sec<sup>2</sup> 1.5 m/sec<sup>2</sup> 96 dB(A) 107 dB(A) 3 dB(A) 31.3 kg 1,700 w





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## **Anchor Base**

The design and installation methodology have been specifically designed for lightweight sheds and garden rooms as a quick and cost-effective alternative to traditional installation methods. The Anchor Base installation methodology uses a wooden framework to support the prefabricated floor panel of your shed or garden room.

This is for 3 reasons:

- 1. To distribute the weight evenly across the anchors.
- 2. Allows the shed or garden room to sit directly on wood rather than a surface that will promote degradation.
- 3. Allow the installer to finish the look of the shed with consideration to height and aesthetics.

The installation methodology is for an 8ft x 6ft (2400mm x 1800mm) shed. Proposed Anchor positions for other shed sizes and shapes are shown further on.

Note: The positions of the anchors indicated in this documentation are recommendations only and it is the responsibility of the installer to determine the exact positions of the anchors, making sure that the framework is fully supported and that there is no more than 1500mm, centre to centre, between any two anchors. For heavy duty support (i.e. for hot tubs, large beer fridges etc) additional foundations may need to be considered within that are of the structure.

## **TOOLS REQUIRED**

- 6ft level
- Boat level
- Tape measure
- Hand saw
- Pencil
- Screwdriver
- Hammer / Post rammer
- AB1000 Drive Rod
- Marking spray

### **MATERIALS REQUIRED**

(QUANTITY WILL VARY DEPENDING ON THE SIZE OF SHED)

- 4x2 (100mm x 50mm) wood for framework
- Wood screws
- Anchors



## **Installation Method**

Note: This Installation methodology is a based on a 6x8ft shed base, further specific shed base layouts are available from info@anchorsystems.co.uk

- 1. Build the outside framework with due consideration to aesthetics. No internal braces or trimmers should be fitted at this stage, although, you may want to cut as many as is required to size.
- Position the framework exactly where it is required.



3. Using the marking spray, mark the ground on the internal corners of the framework



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### Have any questions? 01342719362

## **Installation Method**

Whilst the framework is still in position, measure 350mm from the outer side of the frame-4. work base and 200mm from the front edge of the framework base and mark with spray. Repeat for two centre points of the framework.



5. Remove framework and place out of the way and you should be left with marks on the ground of 4 'L' shaped marks and 6 spots (depending on the size of shed)



## **Installation Method**

6. Using the correct equipment, start to drive the anchors through the spot marks to the required depth making sure that the anchor is driven for another 5 to 10 seconds after the underside of the circular plate has made contact with the ground and has stopped moving any deeper. This will provide the maximum compression force available from the Anchor Base in your specific ground conditions. Exact methodology for driving anchors is documented below.







7. After all the anchors have been driven to the required depth, place the internal corners of the framework in line with the 'L' shaped marks on the ground.



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### **Hydraulic Breaker**

## **Installation Method**

- 8. Place the wooden trimmers across the centre holes of the anchors making sure your frame doesn't move.
- 9. Screw these trimmers in place to the framework.



- **10.** Add timbers as required for robustness of framework normally every 400mm. This task can also be done after task 13 if preferred.
- 11. Shift the framework slightly to allow access to anchors and place the bearing plates into aperture of the anchors.





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## **Installation Method**

12. Place framework on to the bearing plates and line internal corners with 'L' shaped marks.



**13**. Fix the wooden framework to the bearing plates using wood screws.





## **Installation Method**

14. Check level and adjust bearing plates to achieve a good level in all directions.



**15.** Start your shed build!





## **Anchor Installation**

Depending on the hardness of the ground, you may choose to use a hydraulic breaker to speed up the installation process.

### **FIG 1**.



**FIG 2**.



### FIG 3.





- 1. Position the bottom point of the anchor on top of the spot mark on the ground.
- 2. Insert drive rod. (Fig: 1)
- 3. To establish the drive position lift and force the drive rod down into the aperture of the anchor to force the anchor into the ground. (Fig: 2)
- 4. Repeat until the anchor has a firm establishment into the ground and using the boat level, adjust anchor accordingly. (Fig: 3)
- 5. Repeat action using a maul hammer or post rammer if required, until the flat round plate is fully in contact with the ground and is reasonably level. Exact level is not required. (Fig: 4)
- 6. Repeat for all anchors.

### **FIG 4**.





FOR TECHNICAL ADVICE OR FURTHER INFORMATION PLEASE CONTACT:

> ANCHOR SYSTEMS (INTERNATIONAL) LTD Unit 44 - 46, Rowfant Business Centre, Rowfant, West Sussex RH10 4NQ

> > Tel: +44 (0)1342 719 362 Email: info@anchorsystems.co.uk Web: www.anchorsystems.co.uk





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