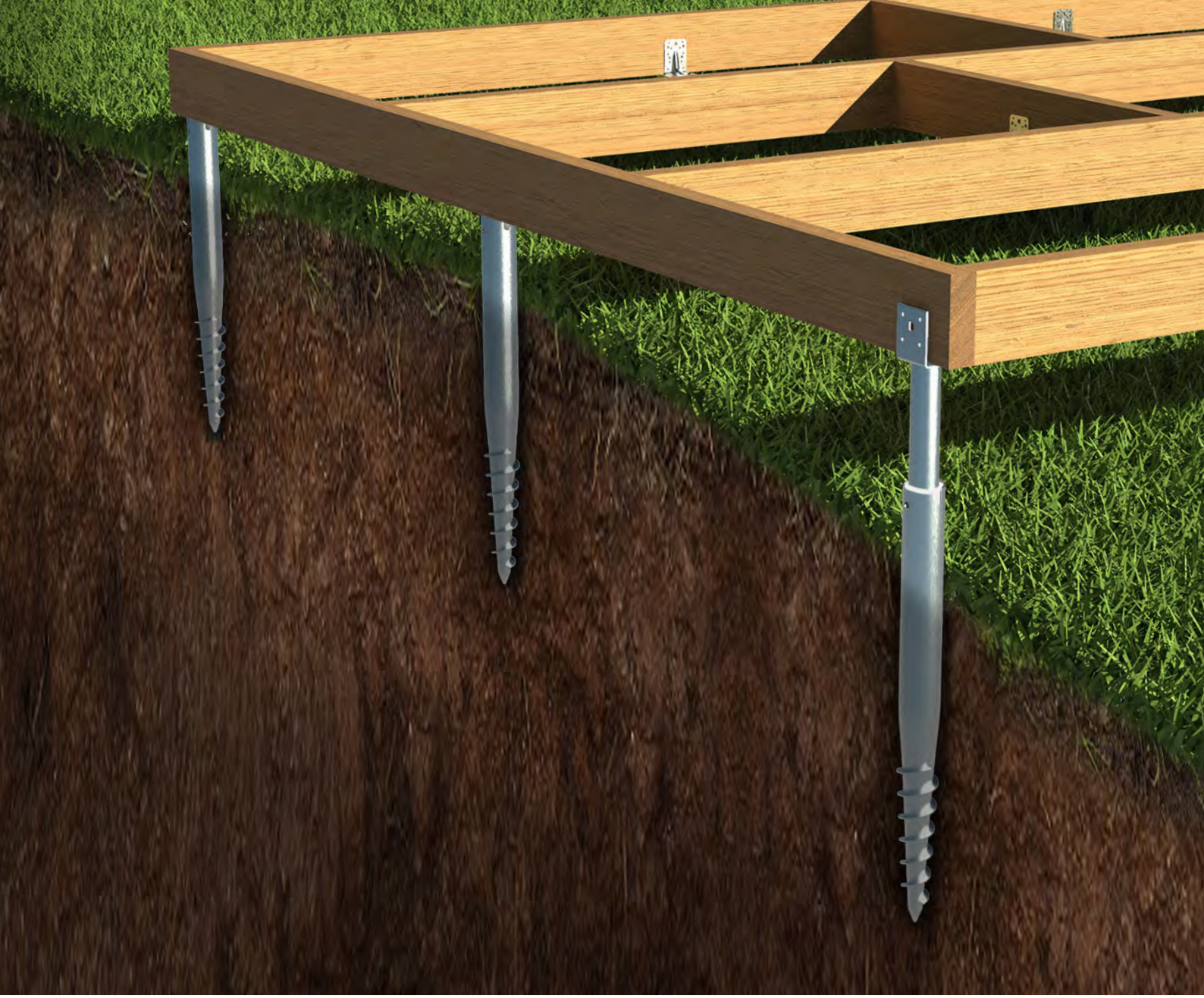
INSTALLATION GUIDE

THE GROUND SCREW CENTRE



SAVING TIME - MONEY - AND THE ENVIRONMENT

- No digging foundations meaning no concrete
- Rapid install / Removal (Temporary or Permanent use)
- Immediately loadable
- Cost effective compared to conventional foundation methods
- Environmentally & Ecologically friendly with no ground contaminates
- Low impact on surrounding area an local wildlife
- Does not interfere with natural watercourses
- Particularly useful in areas of tree root preservation areas
- No spoils to remove or landfill waste
- Fully re-usable

Contents

Applications

There are many great applications our ground screws can be used for:

- Garden Office
- Garden Studios
- Garden Gym
- Log Cabin
- Summerhouses
- Workshops
- Sheds
- Glamping Pods
- Decking
- Pergola Posts
- Crowd Control Barriers
- Solar Lighting
- Festoon Lighting
- Security Fencing
- Signage
- Landscaping
- Polytunnel
- Temporary Structures
- Anchor Points
- Ball Stop Systems
- Flag Poles
- Fishing Platforms



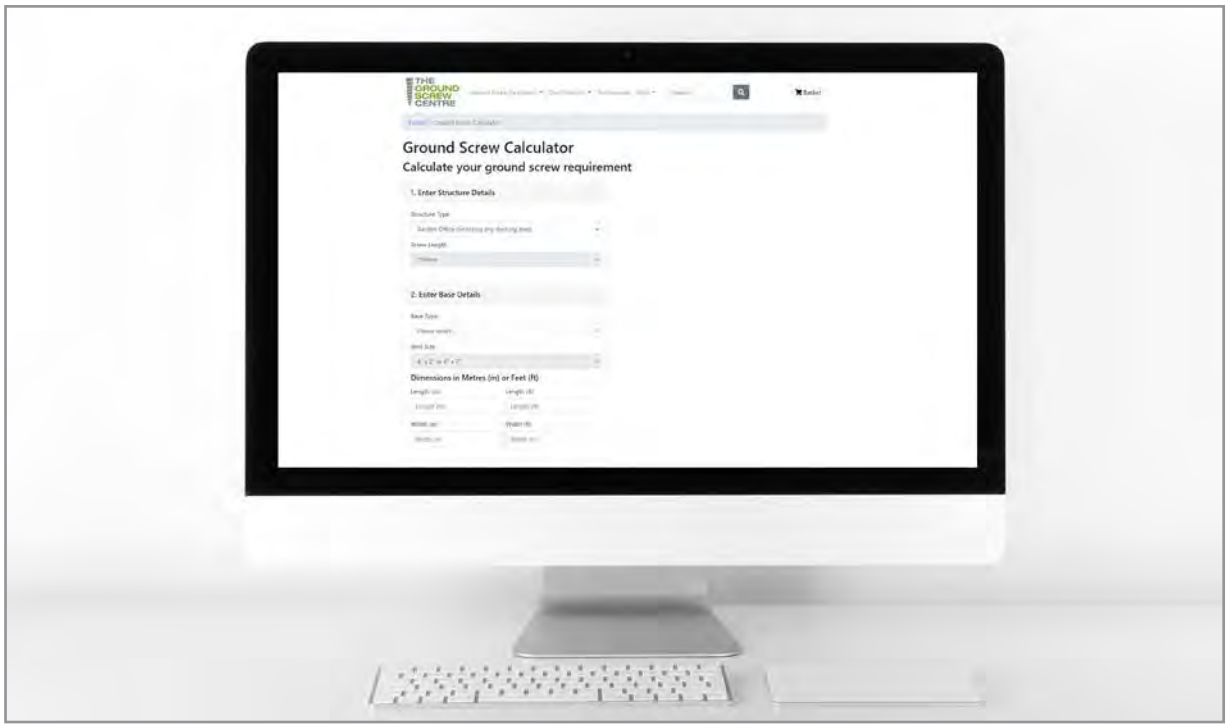



Considerations

1.

- What is your structure type? (e.g. Garden Shed, Office, Gym, Decking, Flag Poles etc.)
- What is your required screw length? (550mm or 750mm Ground Screws)
- Base Dimension Details (Build Length & Width)
- Base Construction / Specification (i.e. Maximum Beam Span)
- Additional Loads – Will your structure hold heavy items? (e.g. Hot Tubs, Gym Equipment etc.)

2.



Calculate your ground screw requirements for your garden structure and/or decking area and select your build type via our online calculator - www.groundscrewcentre.co.uk/products.asp?page=calculator&structuretype

Components Overview

Ground Screws

550mm
Product Code: GS-550

750mm
Product Code: GS-750

Ground Installation Tools

Standard Installation Tool
Product Code: GS-INSTOOL

Professional Ratchet Tool
Product Code: GS-PROTOOL

Standard Brackets

'L' Shaped Connector
Product Code:
GS-STDBR3 / GS-STDBR4

'U' Shaped Connector
Product Code: GS-UBR

Double Joist Bracket
'L' Shaped Connector
Product Code: GS-STDD

Premium & SIPS Brackets

Premium Bracket
Product Code: GS-3X2PREM / GS-4X2PREM

SIPS Panel Support Bracket
Product Code: GS-SIPS

Ground Screw Extension Kit:

Includes: Ground Screw Extension with 'U' Shaped Connector & Heavy Duty Nylon Insert
Only Suitable with 750mm Ground Screw

300mm Ground Screw Extension
Product Code: GS-EXT300

600mm Ground Screw Extension
Product Code: GS-EXT600

Fittings & Accessories

Ground Screw End Cap
Product Code: GS-ENDCAP

SDS 26x450mm Pilot Drill Bit
Product Code: GS-SDS450

Impact ¼" Hex Nut Driver 8mm
Product Code: GS-IMPDR

100 x Carbon steel TEK Screws
Product Code: GS-TEK22

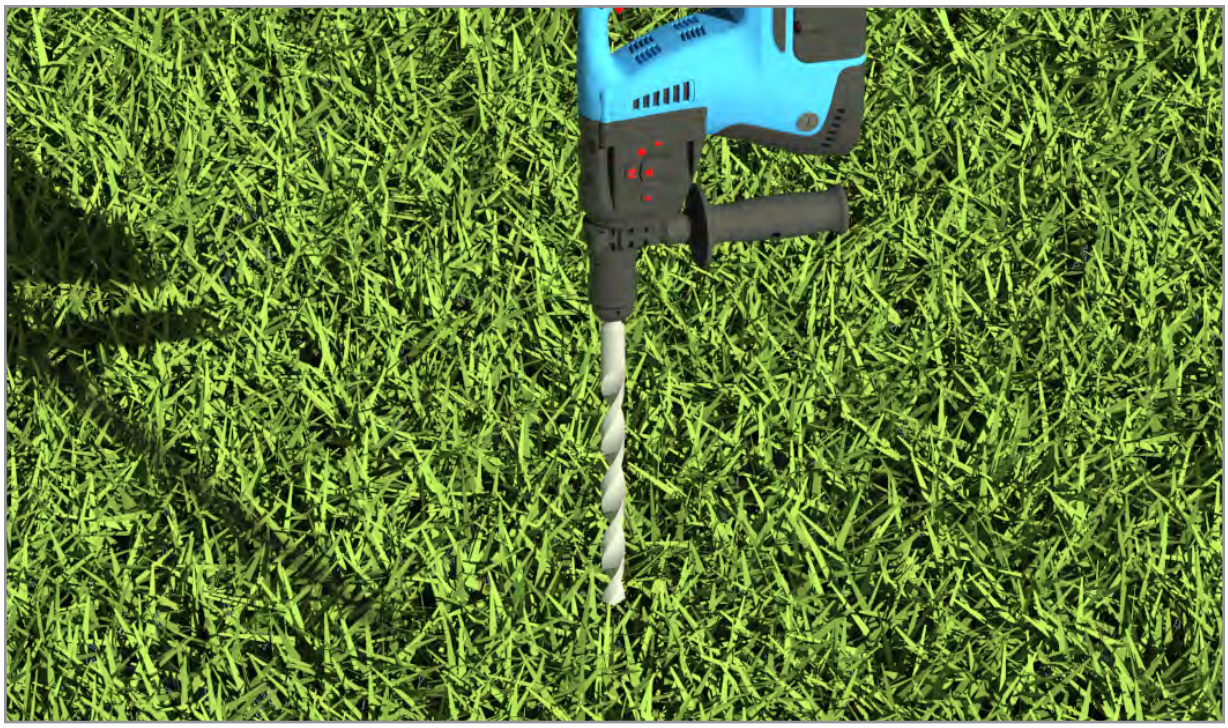
85mm Magnetic Level
Product Code: GS-LEVEL

Installing Ground Screws

1.

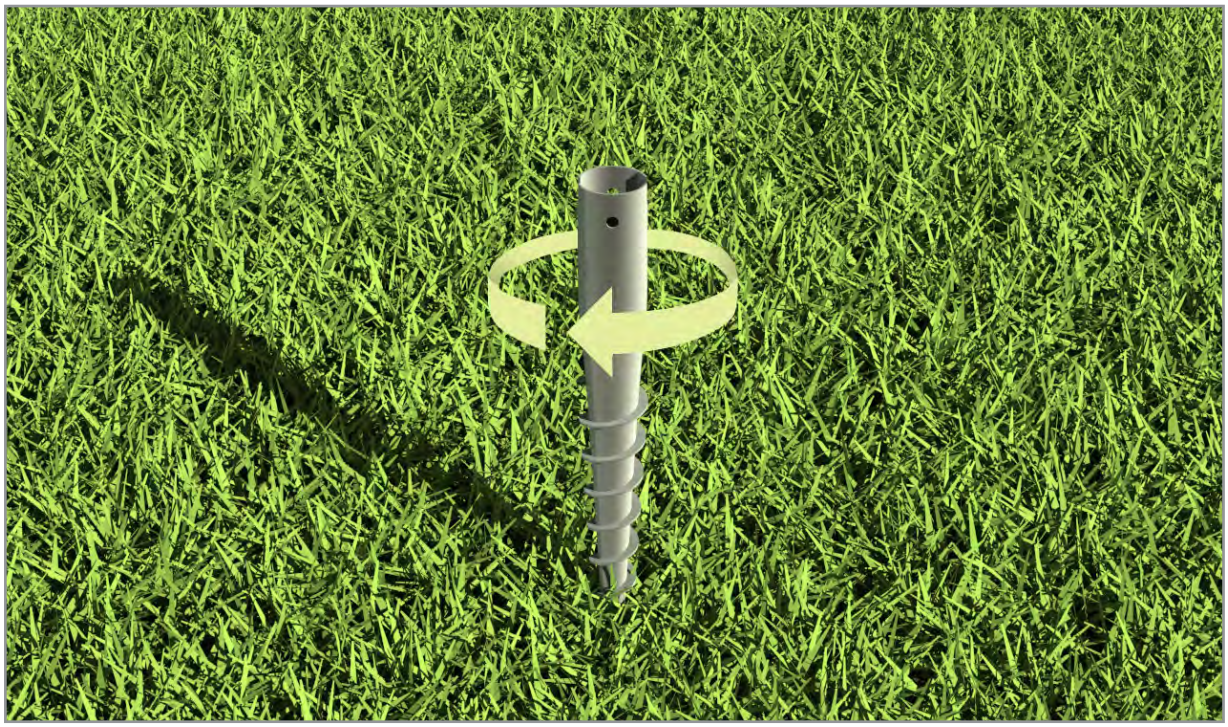
Before installation, survey the area to ensure it is free from underground services such as electricity cables, telecoms, gas pipes and drainage. Always wear appropriate PPE during installation.

2.



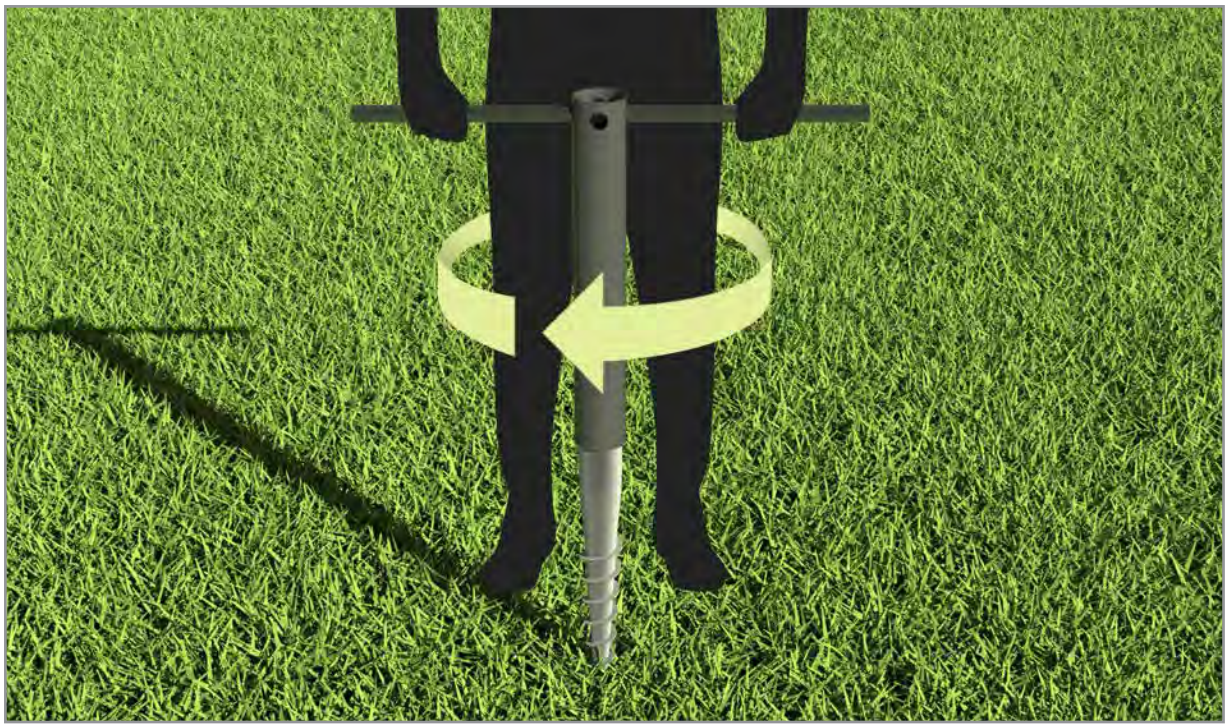
Pre drill your position prior to installing the ground screws using a 25-40mm diameter drill bit. Pre-drilling a pilot hole will help identify any major obstacles below ground such as boulders ect.

3.



To start, screw the ground screw by hand into the ground until it is too hard to turn.

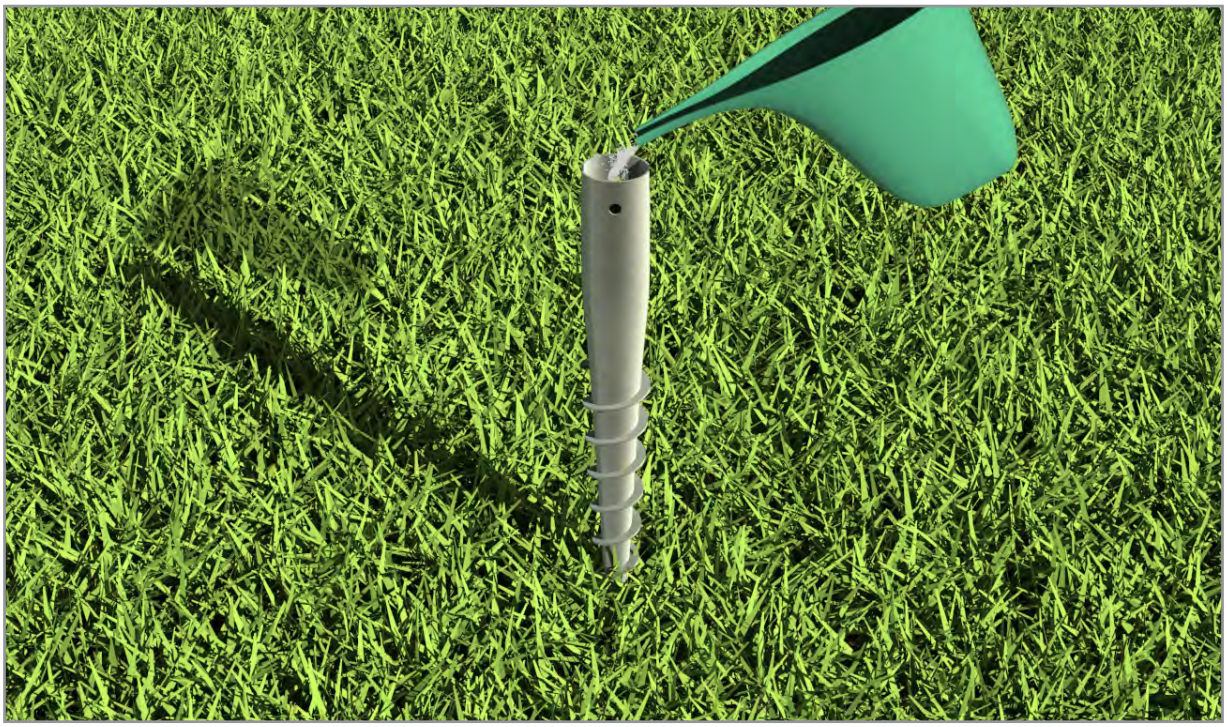
4.



Using the installation tool, turn the ground screw into the ground using a little downward pressure to start. Once the ground screw has been inserted around 100mm it will begin to pull itself into the ground, less downward force is then necessary.

Turn the installation tool until the ground screw is fully installed or until it becomes too difficult to turn. This will depend on ground conditions and the desired level.

5.

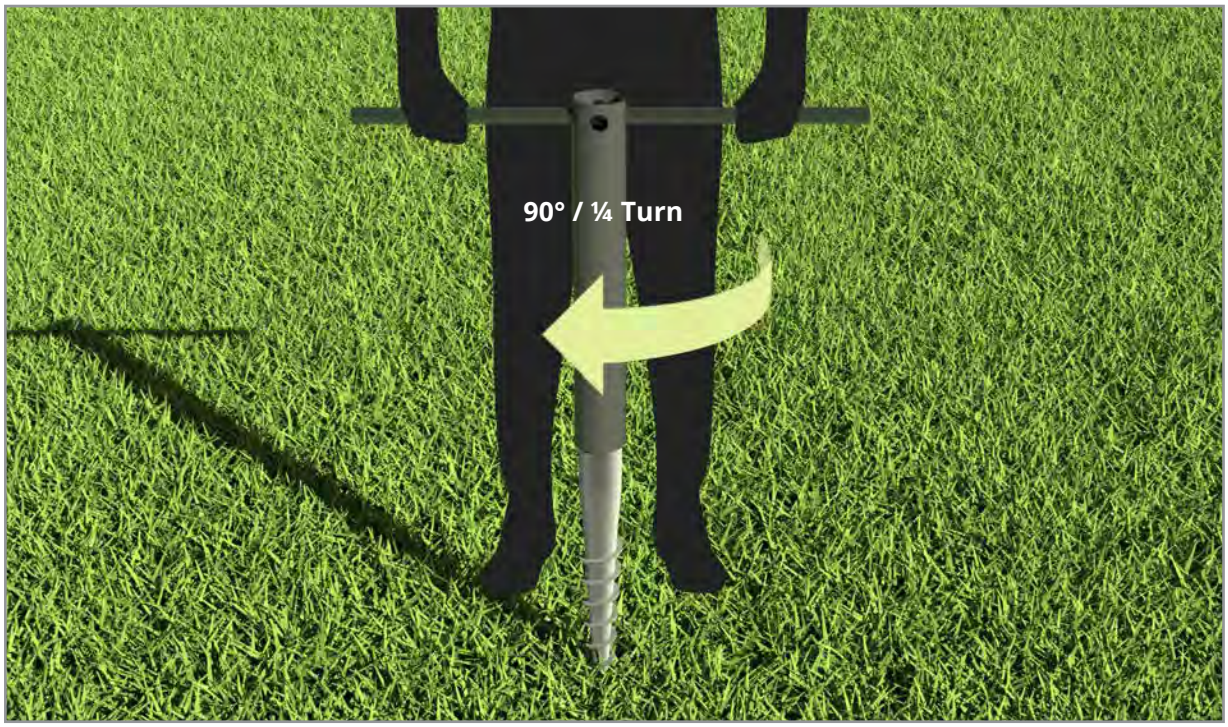


In drier conditions you can pour water in and around the ground screw prior to installation to soften ground. Wait a few minutes for water to disperse through the drain hole at the bottom of the ground screw, then install your ground screw. Only fill the ground screw once.

6.

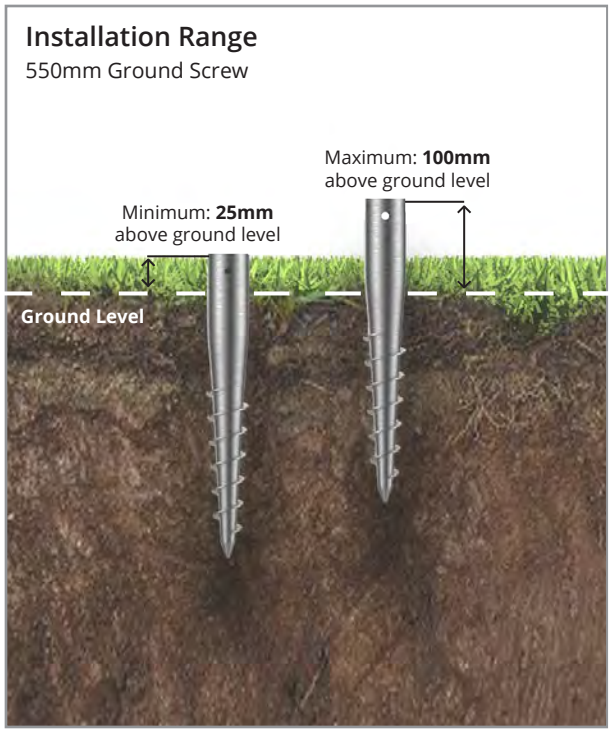
If the ground is particularly dry it may be necessary to have a second person to help turn the installation tool. Each person should pull on either side of the handle until the ground screw is fully installed. You can check the ground screw is vertical by using the magnetic spirit level.

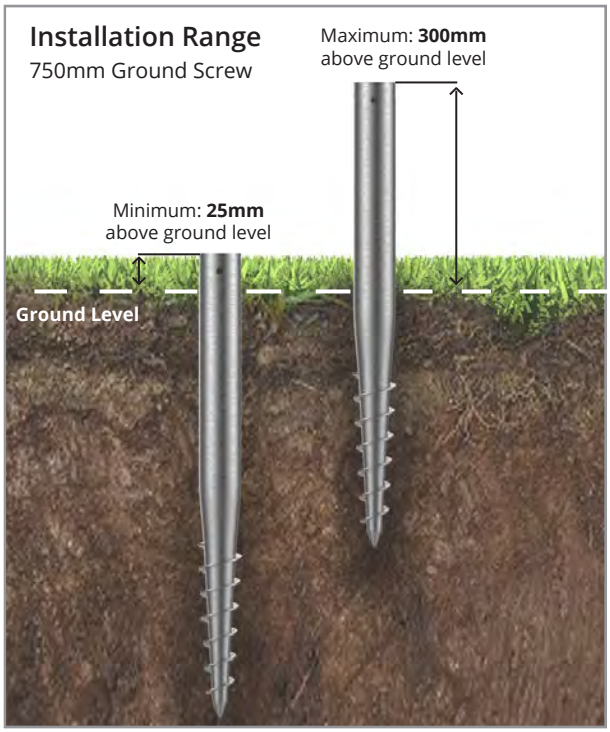
7.



For every ¼ turn of the installation tool the ground screw will move 10mm further into the ground. For every full turn of the installation tool the ground screw will move 40mm into the ground. Repeat this process until all your ground screws are installed.

8.



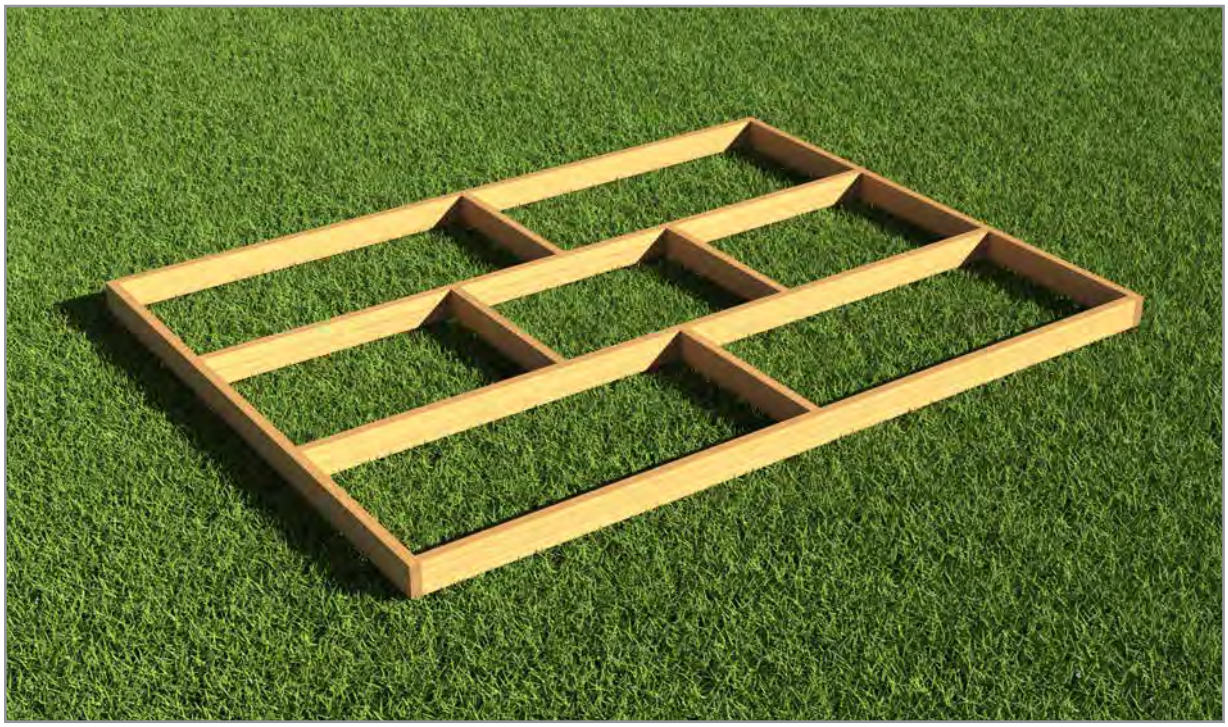


Installation Range:
550mm Ground Screw - Minimum: 25mm to Maximum: 100mm above ground level
750mm Ground Screw - Minimum: 25mm to Maximum: 300mm above ground level.

This creates ventilation to prevent condensation and saturation of the base.

Installing Timber Joist Base

1.

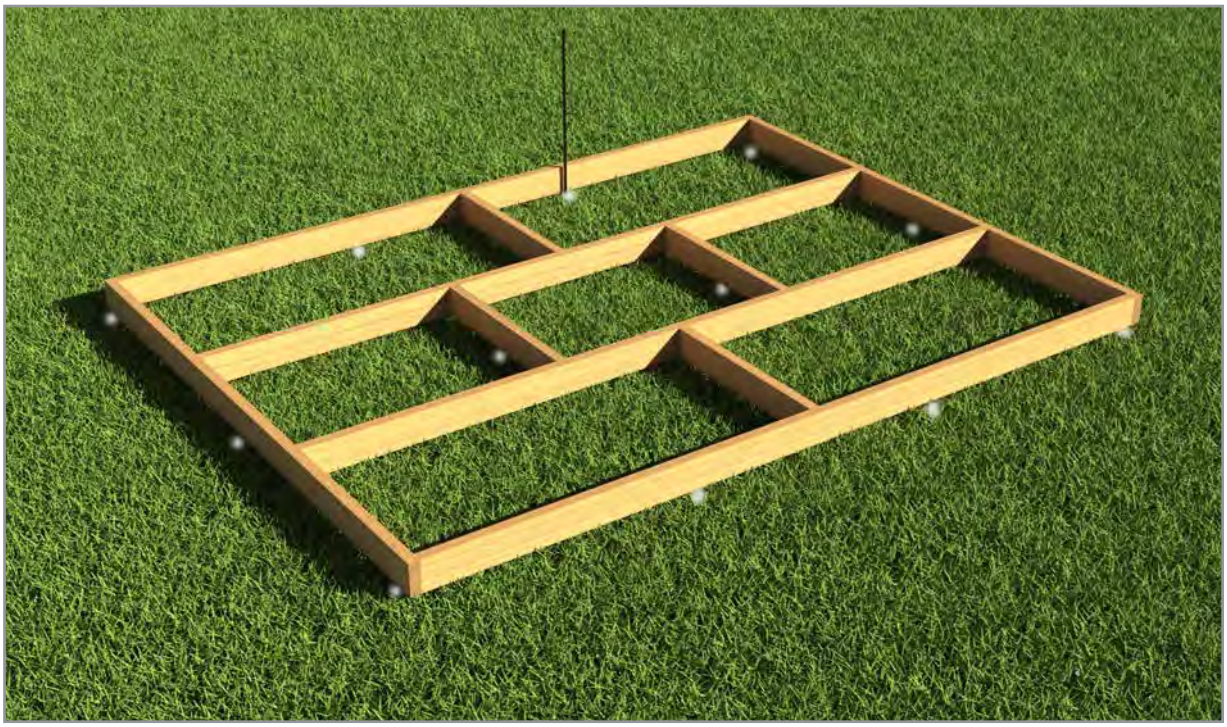


We recommend if you can prebuild the building base structure this will help speed up the installation of the ground screws and will also help position the ground screw brackets.

2.

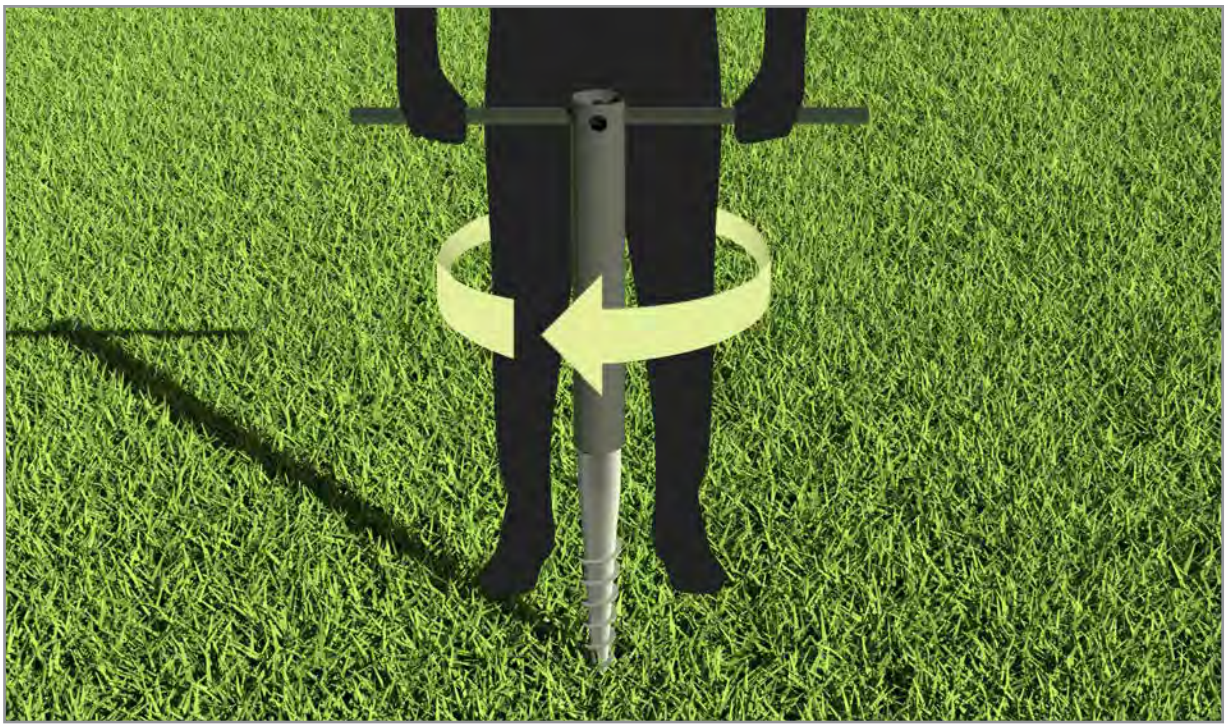
Mark out the positions for your ground screws using spray paint or marker pins. The spacing of each ground screw should be equally spaced across your footprint with a maximum span of 1.5m between each ground screw.

3.



Determine the highest position of the build. This is where the first 'datum' ground screw is going to be installed. This will determine the height of all the other ground screws.

4.



Install your first 'datum' ground screw following the installation process as advised on 'Installing Ground Screws' on Page 8.

5.

Using a spirit level, sit one end on top of the first 'datum' ground screw, screw in the other ground screw until it lines up with the lasered line on the installation tool. This ensures the same height is achieved. A flat joist with a spirit level on top can also be used to achieve the correct height.

6.

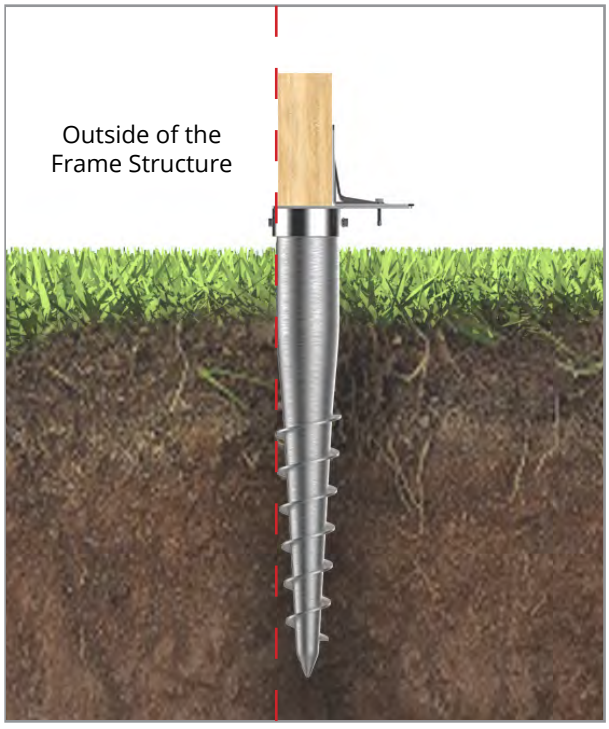
Repeat this process until all your ground screws are installed and double check levels with using a spirit level.

Installing ‘L’ & Double ‘L’ Joist Brackets

1.

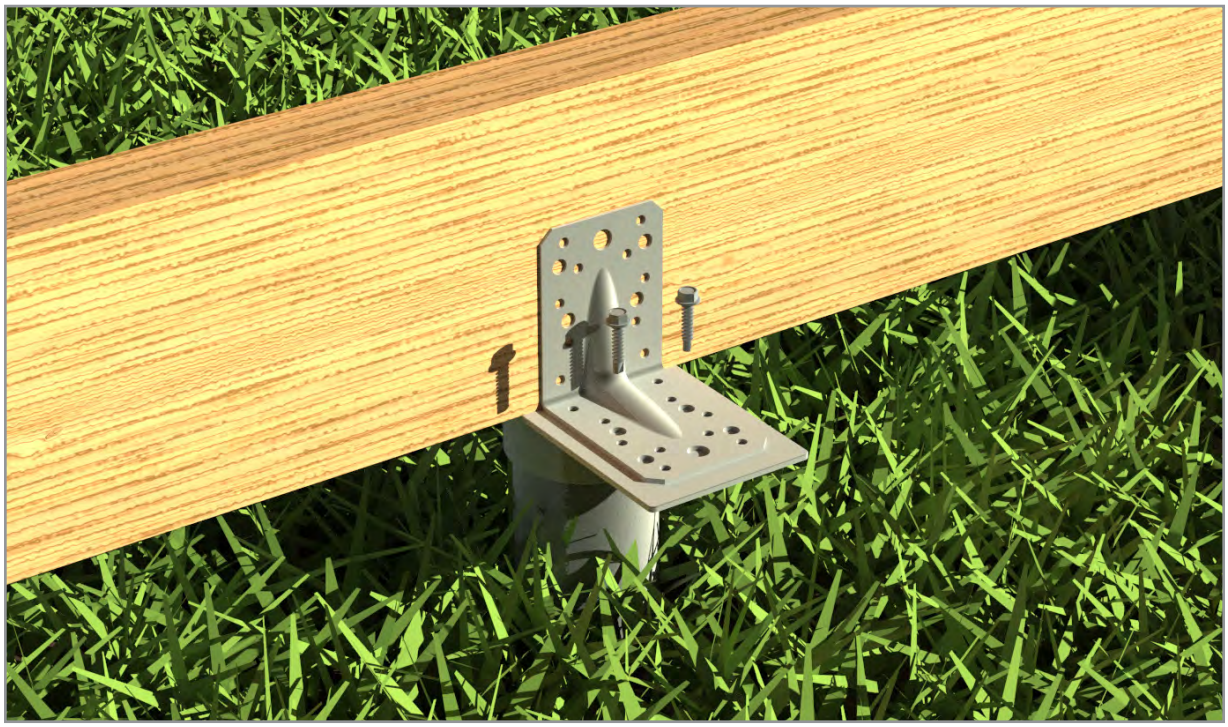
Firstly place the joist seat over the top of the ground screw, rotate so it is perpendicular to the direction your timber will sit, fix using the two self tapping screws supplied.

2.



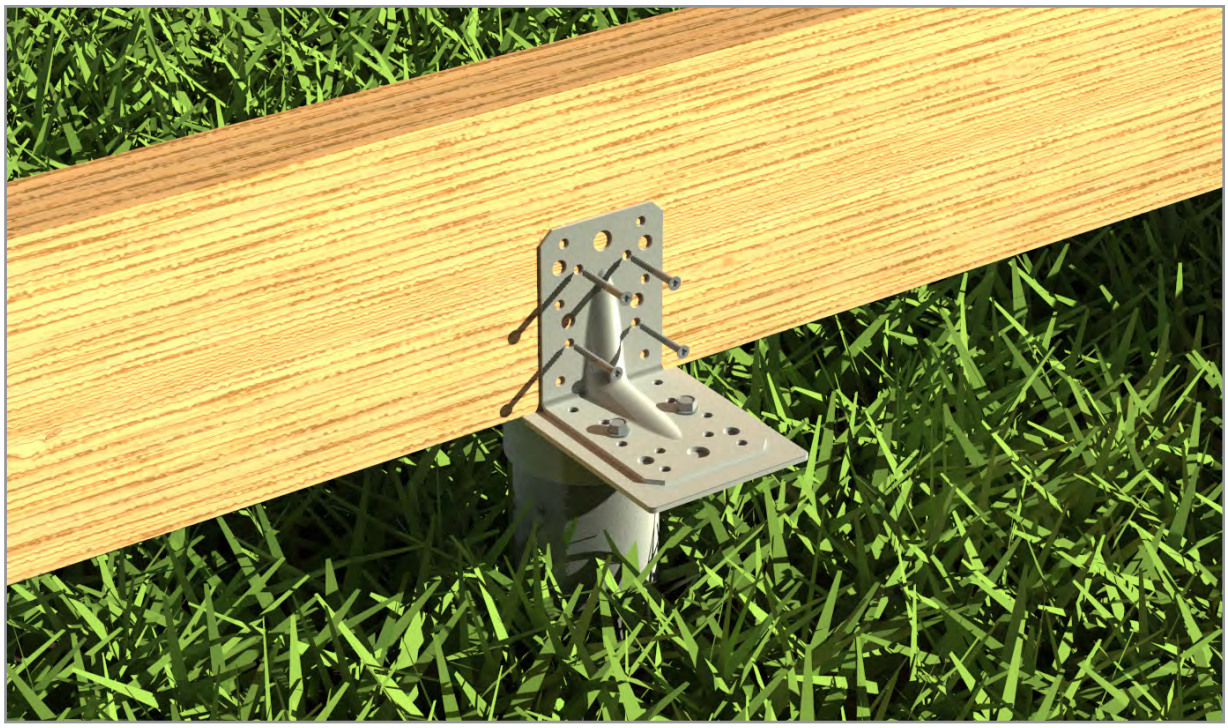
Position your timber deck or timbers so your joists sit directly above the centre of your installed ground screws.

3.



Slide 'L' shaped bracket up against the timber joist. Screw the bottom of the bracket to the joist seat using the two self tapping screws supplied.

4.



Screw the upright section of the 'L' shape bracket to the timber joists using 45mm wood screws.

5.

Repeat for remaining brackets to secure the whole building base structure.

Installing ‘U’ Brackets

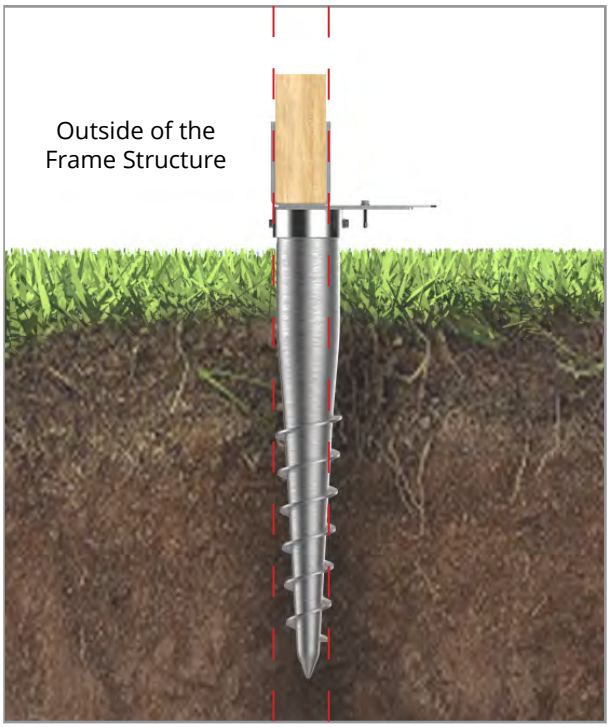
1.

Firstly place the joist seat over the top of the ground screw, rotate so it is perpendicular to the direction your timber will sit, fix using the two self tapping screws supplied.

2.

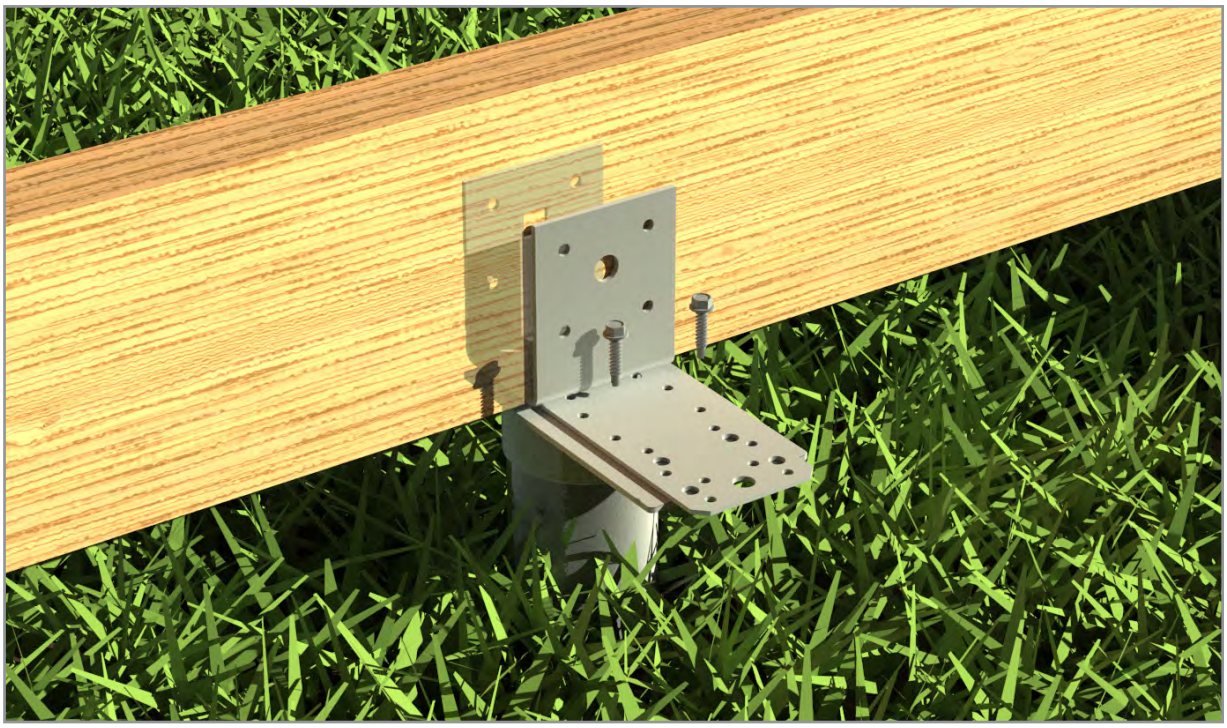
Position your ‘U’ shape brackets on top of the centre of your installed ground screws.

3.



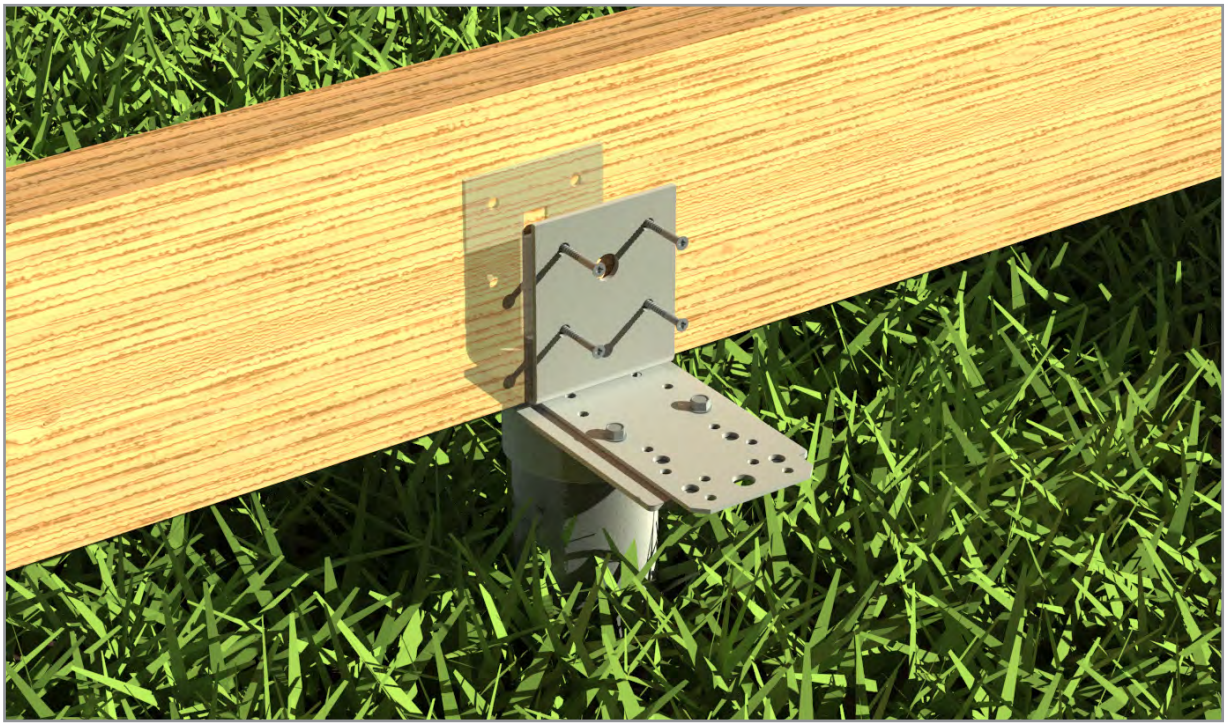
Position your timber deck so your joists sit directly above the centre of your installed ground screws.

4.



Screw your 'U' shape bracket to the joist seat using the self tapping screws supplied.

5.



Screw the upright sections of the 'U' shape bracket to the timber joists using 45mm wood screws.

6.

Repeat for remaining brackets to secure the whole building base structure.

Installing Premium Brackets

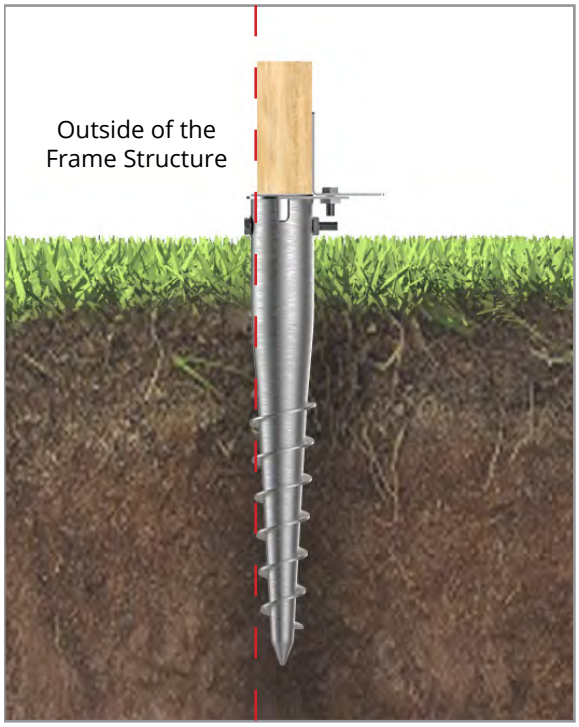
1.

Firstly place the joist seat over the top of the ground screw, rotate and insert so the overhang section faces the inside of your joist deck. Insert the 80mm x 10mm hex bolt through the 2 holes and hand tighten nylock nut.

2.

Repeat for remaining brackets.

3.

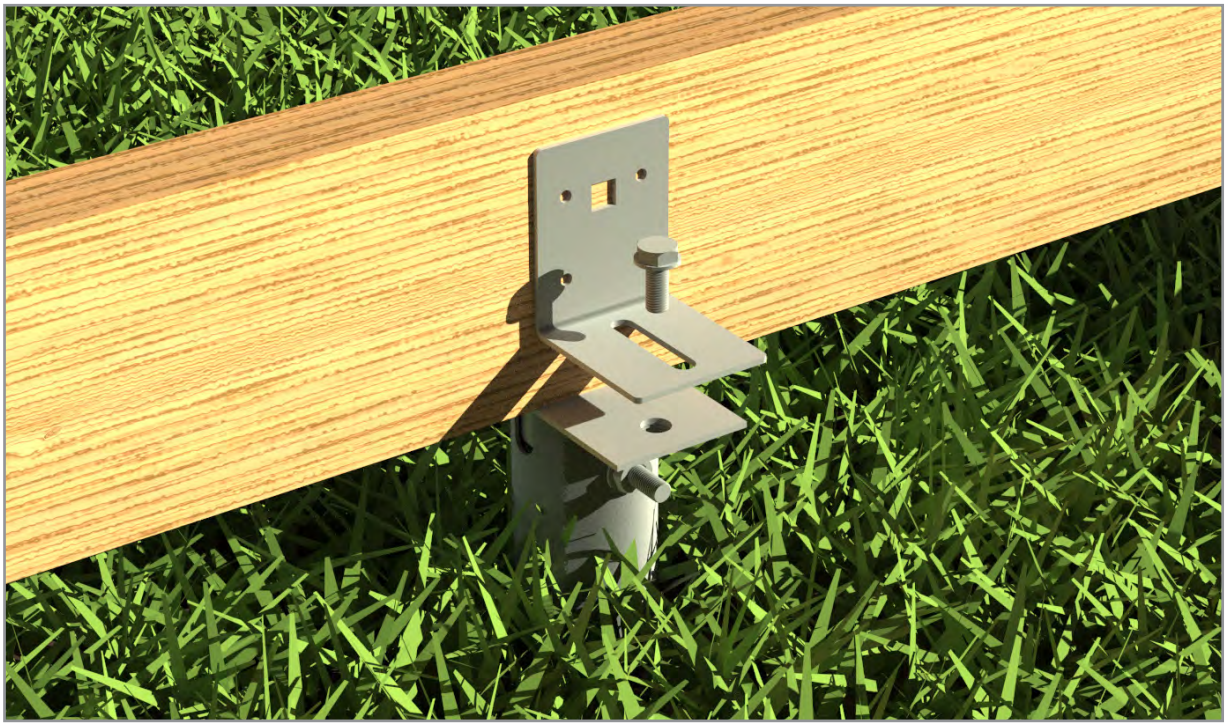


Position your timber deck so your joists sit directly above the centre of your installed ground screws.

4.

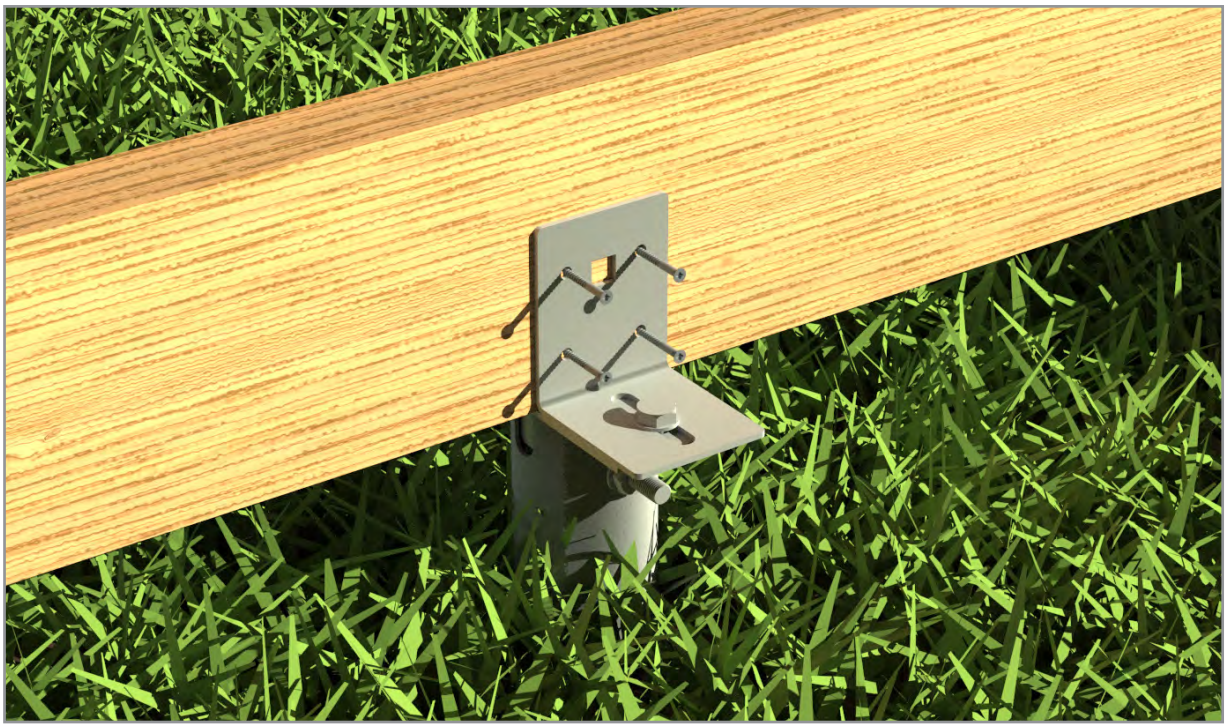
Tighten the bottom 80mm x 10mm hex bolts and nylock nut using 17mm spanners or sockets.

5.



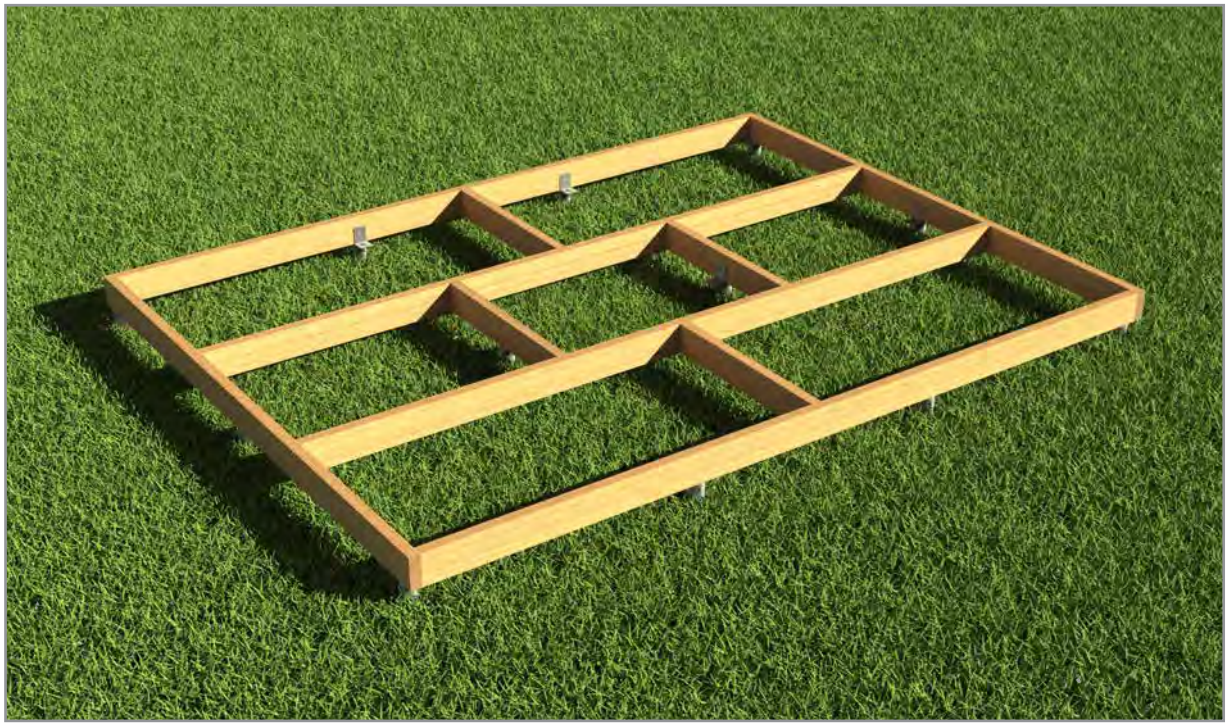
Place the 'L' shape bracket on top of the joist seat and loosely screw the M10 bolt with M10 washer through the slot provided.

6.



Screw the upright sections of the 'L' shape bracket to the timber joists using 45mm wood screws.

7.



Repeat for remaining brackets to secure the whole building base structure.

Installing SIPS Brackets

1.

Firstly place the SIPS floor bracket over the top of the installed ground screw. Rotate the SIPS bracket so it spans across the joins of the modular panels.

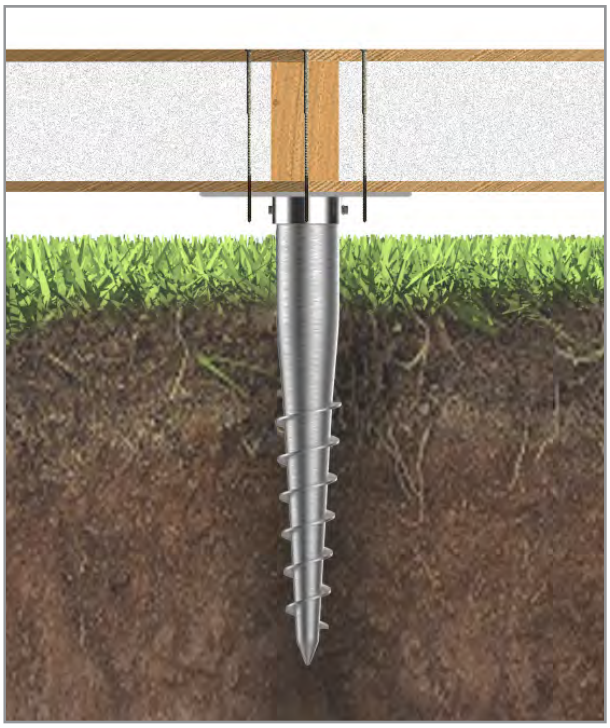
2.

Screw the SIPS bracket to the ground screw using the two self tapping screws supplied.

3.

Position the SIPS floor panels on the SIPS floor brackets while ensuring the joists run directly over the centre of the installed ground screws.

4.



Secure SIPS flooring in place by using 120mm self-tapping screws through SIPS floor panel into the top of the SIPS bracket. Add TEK screw down the centre and two either side more central.

Installing Ground Extensions

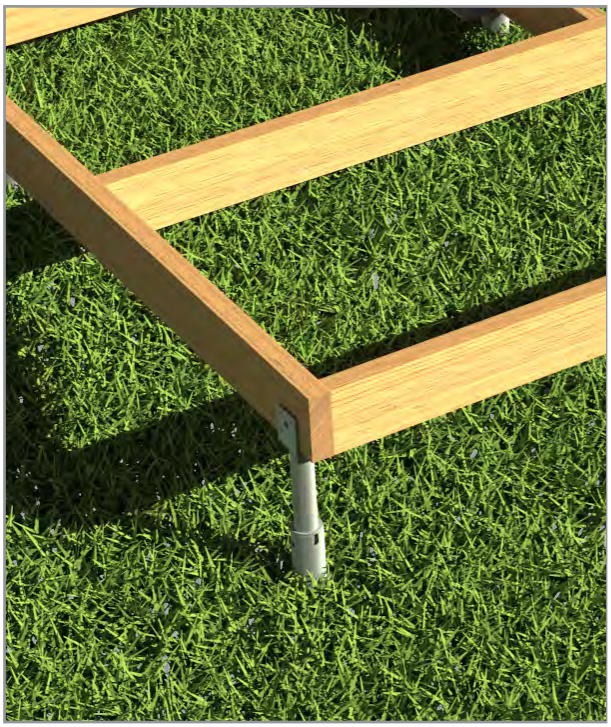
1.

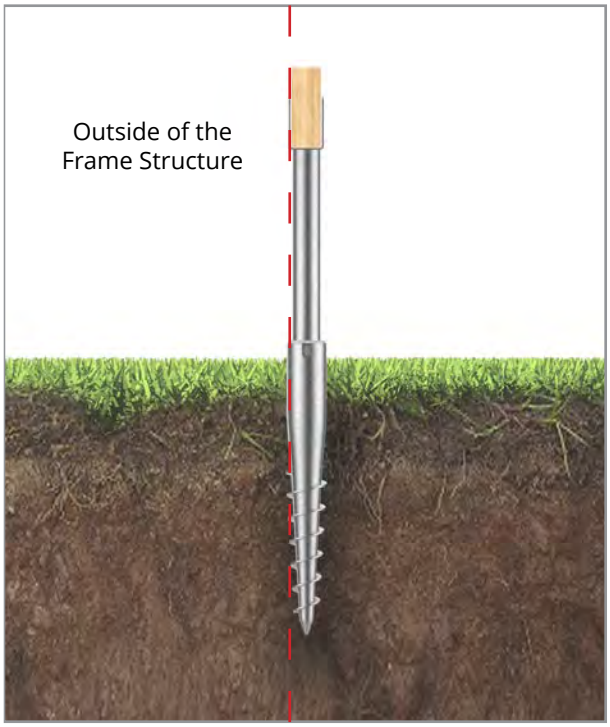
Start by slotting all of the nylon inserts into the installed ground screws, these do not need to be tightened.

2.

Next slot all of the ground screw extensions into the nylon inserts and ground screws. The bottom of the extension bracket will be fitted tight into the taper of the ground screw neck.

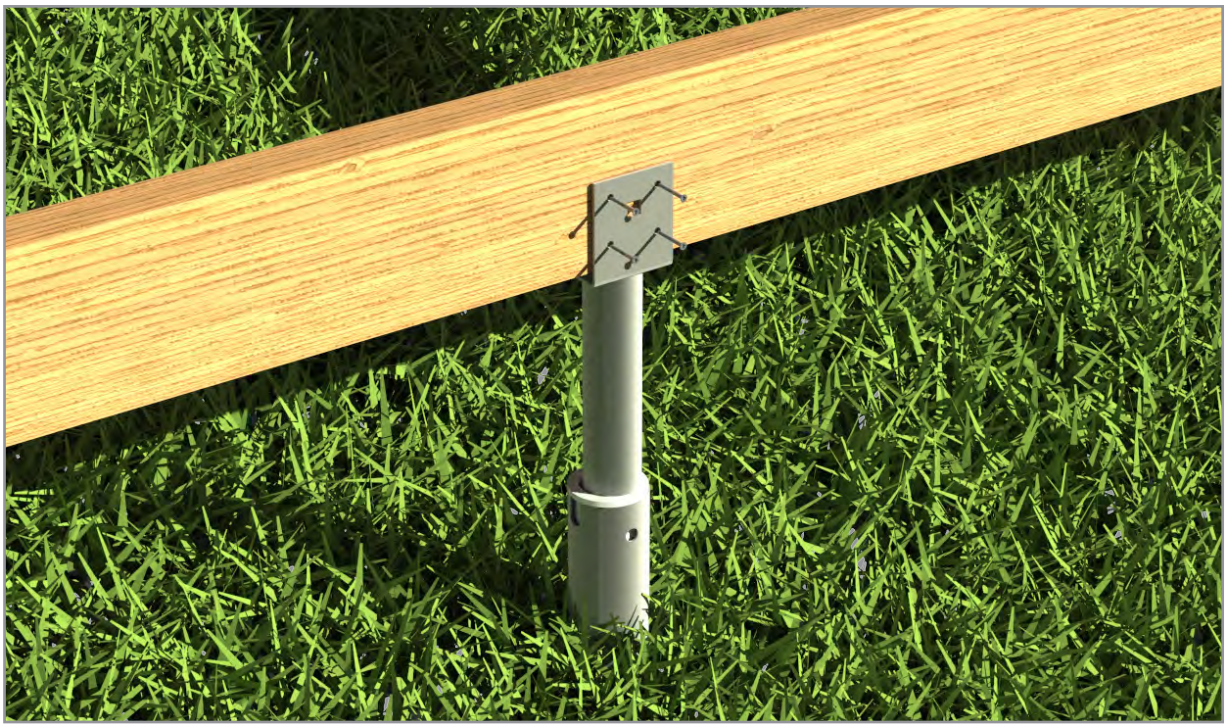
3.





Position your timber deck so your joists sit directly above the centre of your installed ground screws.

4.



Screw the upright sections of the 'U' shape bracket to the timber joists using 45mm wood screws.

5.

Repeat for remaining brackets to secure the whole building base structure.

Installing Nylon Pole Inserts

1.

Start by slotting all of the nylon inserts into the installed ground screws, these do not need to be tightened.

2.

Fit desired tube size that you require:
42.4mm - Standard handrail tube
48.3mm - Standard scaffold pole & large handrail tube
50mm - Polytunnel frame, signage tube etc.

Technical Information & Data

Load Bearings

If you are installing ground screws for either a building of decking, please follow the recommended guidelines to ensure a safe and stable build.

The amount of ground screws you require depends on two factors:
- Size of the floor joists
- Total dynamic weight of your product

Ground Screw Span Distances

Timber Joists

The maximum recommended span between each ground screw should be 1500mm when using the following timber joists:
- 4″ x 2″
- 5″ x 2″
- 6″ x 2″

SIPS Floor System

For SIPS bracket applications, ground screws to be positioned in conjunction with manufacturers guidelines (generally 1200mm apart).

Ground Screw Load Capabilities

Ground Screw	Compression	Tension	
550mm Ground Screw	2.3 KN (0.23 Tonne)	1.7 KN (0.17 Tonne)	0.5 KN (0.05 Tonne)
750mm Ground Screw	4.0 KN (0.40 Tonne)	3.1 KN (0.31 Tonne)	1.5 KN (0.15 Tonne)

The above figures represent best possible load results depending on ground conditions and relates to ground screws that are set no higher than 300mm above ground level.

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