PREMIER POLYTUNNELS

The Outside, **Inside**

CONSTRUCTION GUIDE

Fruit & Veg Cages

Thank you for purchasing a 'Premier' Fruit & Veg Cage.

Please take the time to carefully read through this Construction Guide before you head out into your garden and begin building your 'Premier' Fruit & Veg Cage.

A fruit and vegetable cage is not a difficult structure to construct, but it will require basic D.I.Y skills. Why not invite a friend to join you and make a day of it – after all, two heads are better than one.

The following is a guide to the successful construction of your fruit and vegetable cage. If you follow this guide, you will have many years of growing pleasure with very little or no maintenance. Please use the Parts Check List supplied with your order, together with this Construction Guide, to help you identify the different parts of your fruit and veg cage.

To help you identify the different steel tubes, the item codes on the Parts Check List relate to the diameter and length of tube and how the ends are formed, eg; **"28/1530PP"** is a 28mm diameter steel tube, 1530mm long, with plain ends (**"PP"**).
"PS" at the end of the code indicates the tube has one end plain and one end swaged.
''SS'' indicates the tube is swaged at both ends.
"FP" indicates the tube has one flattened and punched end and one end plain.
"FF" indicates that both ends are flattened and punched.

If you are unsure about any aspect of construction, please feel free to contact us via e-mail at info@premierpolytunnels.co.uk or by telephone on **01282 811250**.
Premier Polytunnels are proud to be the **ONLY** polytunnel supplier to offer an out of hours Construction Advice Helpline, available until 9pm, 7 days a week.

CONTENTS

TOOLS REQUIRED

A spirit level is not a necessary instrument in this construction where a good eye will do, but the more care that is taken to ensure everything aligns, the better the finished project will look.

WARNING: PRODUCTS MAY CONTAIN SHARP EDGES. ALWAYS WEAR GLOVES

Here is a list of tools required to complete the construction of your polytunnel:

Tape measure	Spade	Large hammer	Claw hammer
Spirit level	2x 13mm spanner	Marker pen	Battery drill
9mm drill bit	5mm drill bit	Philips screwdriver	Wood saw
String line	Sharp knife	Timber drift (small offcut of timber)	

INTRODUCTION

Below is a simple outline of what you should end up with once you have completed your project and is something to bear in mind while constructing your fruit and veg cage.
A fruit and veg cage is a series of rectangles 2m wide x 2.4m long.
A series of hoops are placed in-line on **Foundation Tubes.**
A **Ridge** tube is suspended under the hoops at each side in the centre of the hoops' curve and runs the full length of the cage.
Four diagonal tubular **Stabilisers** are placed one at each corner. On cages which are more than one bay (2m) wide, Stabilisers are also placed between each bay at each end of the cage.
A timber **Door Frame and Door** is fixed central at one end (in the first bay).
Fruit Cage/Anti Bird Net is placed over the framework and fixed around the Door Frame. The Anti Bird Net is then pegged into the earth around the base.

The images below demonstrate how the Ridge and uprights are fixed to the hoops using the double ''**P Clip''** method.

The following images show how a Stabiliser attaches to a P Clip around the hoop.

*****PLEASE NOTE: When assembling your Fruit and Veg Cage, no screws, bolts, ends of tubes, etc, should protrude beyond the hoops as these could cause damage to your net cover.*****

SITE

Your construction site should be clear and reasonably level from side to side. Approximately 6 inch out of level across the width of the fruit and veg cage can be taken up by adjusting the foundation tubes of your cage **(Fig1)**.

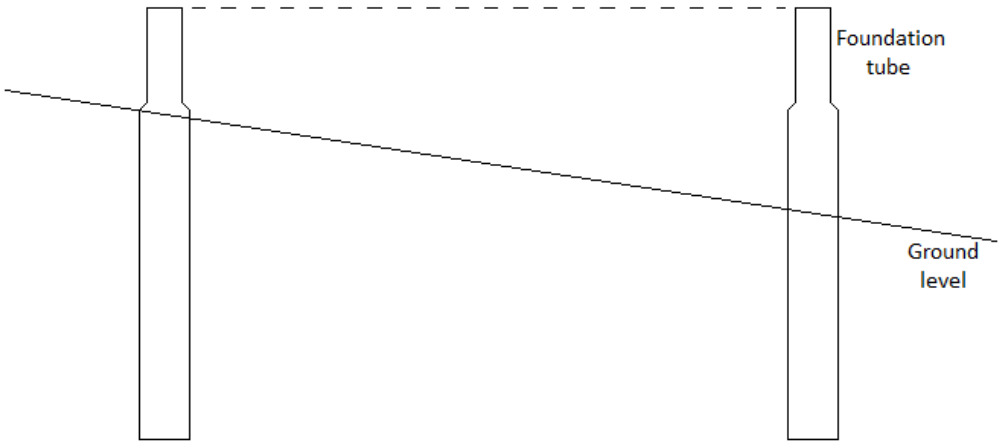


Fig1

A slope down the length of the cage does not have to be taken into account as the framework can be built straight onto this slope with the framework placed at the vertical **(Fig2)**.

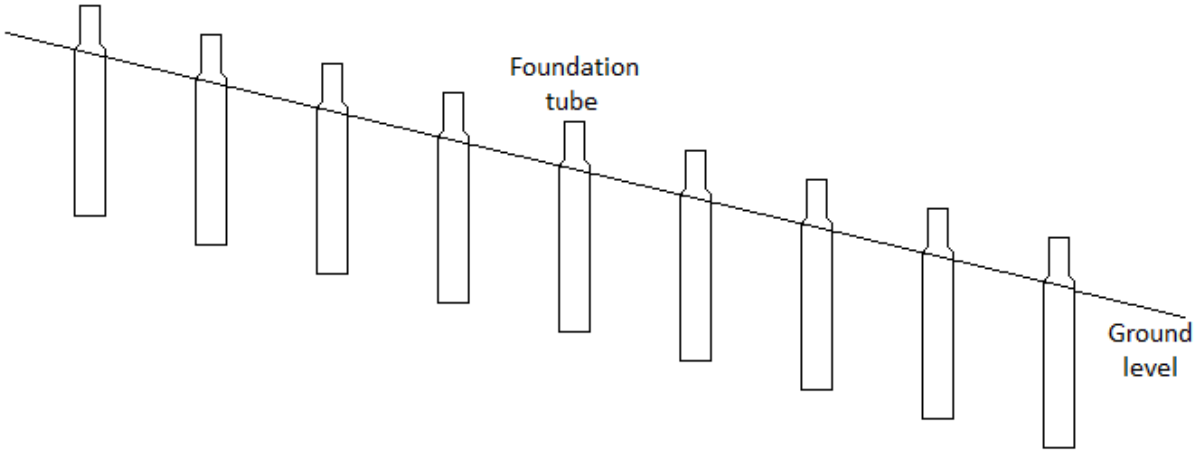


Fig2

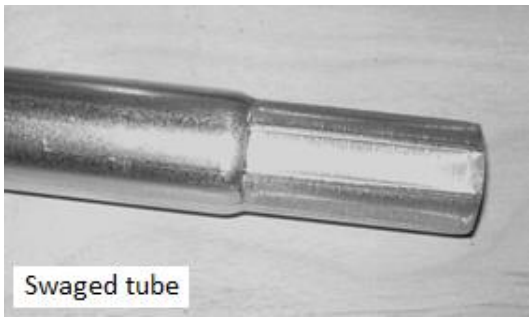
FOUNDATION TUBES

Here at **Premier Polytunnels** we understand that gardens are not square, therefore we have designed a fruit and vegetable cage that does not have to be built square and the width and length can be simply reduced to suit the individual plot. Although considerable liberties can be taken regarding square and size, it is necessary for the outer hoops to be in-line.

The following instructions are based on a fruit and vegetable cage being built square and to the standard sizes.

*****IMPORTANT – Protect the ends of tubes from damage when driving them into place by using a timber drift (a small offcut of timber)*****

Foundation tubes are driven into the ground at each end of each hoop.


Swaged tube

Choose a corner of your fruit and veg cage to be a fixed point from which all measurements will be taken (it is advised that this fixed point is the highest corner on any sloping site). Drive in a foundation tube using a timber drift to protect the end, leaving only the swage protruding above ground.

Measure the length of your chosen fruit and veg cage (2.4m, 4.8m, or 7.2m) and drive in a second tube. (All measurements are to the centre of the tubes).
Mark out the remaining corners, but do not drive in the foundation tubes yet. The measurements for these will be the width (2m, 4m, or 6m) and length of your cage.
To check for square, measure from corner to corner **(Fig3)** – this measurement should be the same, but if not, simply adjust the two tubes along the length until correct. Re-check the measurements and drive in these two tubes, making sure the foundation tubes are level across the width of the cage.

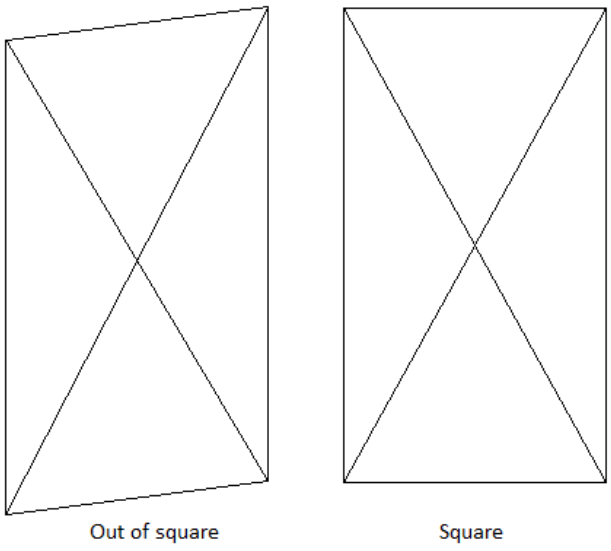
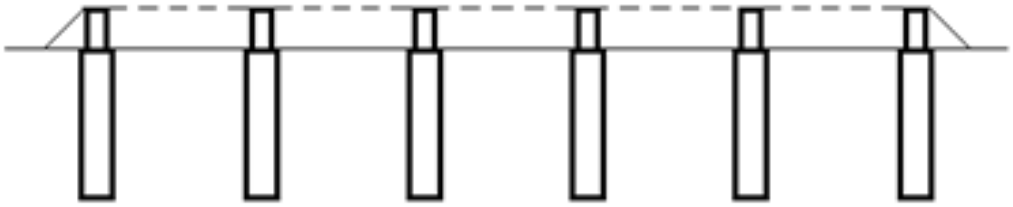
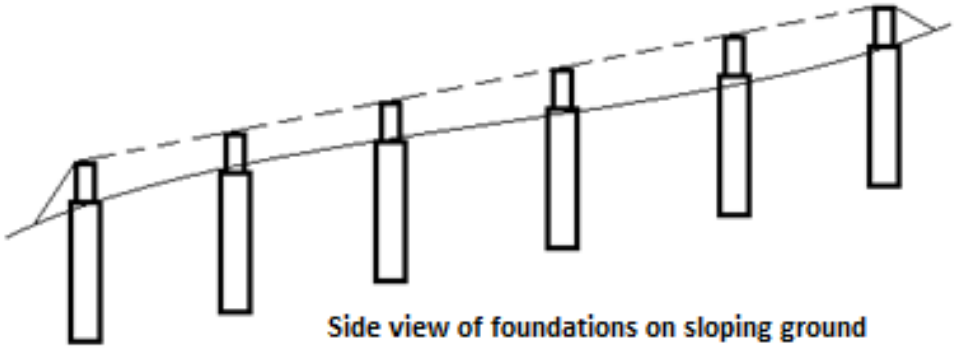


Fig3

Mark out the position for the remaining foundation tubes down the length of the cage at 2.4m spacing, and drive in foundation tubes. Use a string or straight edge to check the tops are level and the tubes are in-line.



Side view of foundations on level ground



Side view of foundations on sloping ground

For fruit and veg cages greater than 2m wide a third or fourth row of foundation tubes should be placed at 2m intervals, in-line and level with the outer foundation tubes **(Fig4).**

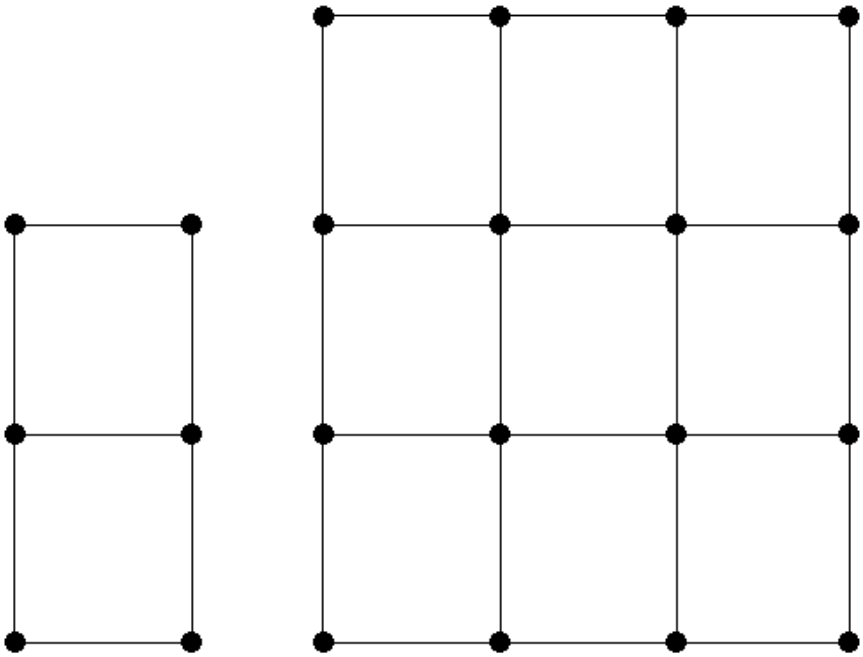


Fig4

HOOPS

With all the foundation tubes in place, an outer hoop or upright should be placed on each of the swaged tubes. There are two rows of outer hoops on all sizes of fruit and veg cages and these have a curve at one end – these make up the sides of the frame. All other end and intermediate uprights are straight tubes measuring 1.93m **(Fig5).**

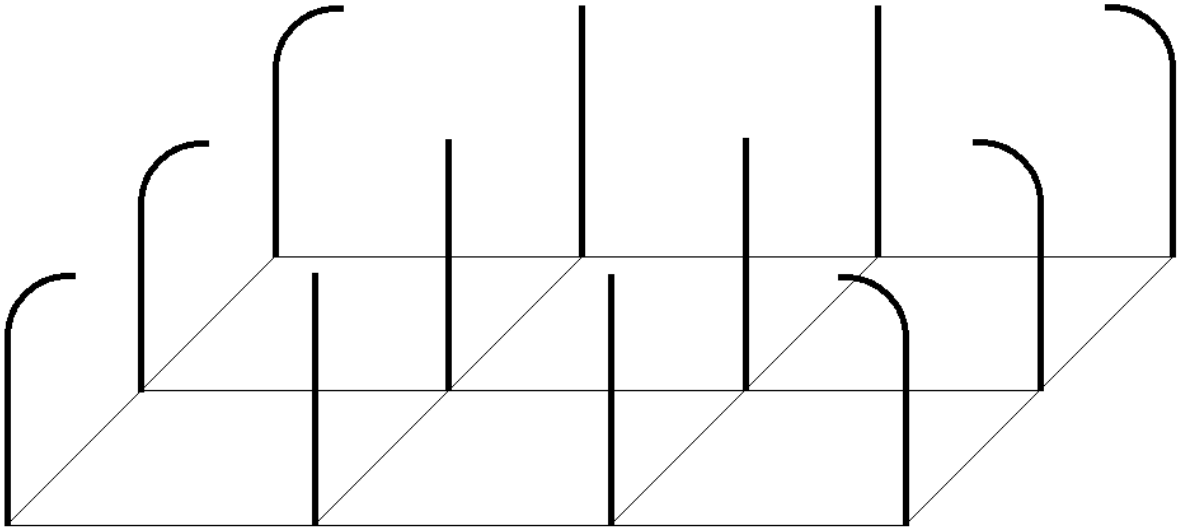


Fig5

On 2m wide cages there are no uprights and the two outer hoops should be joined together with a straight top tube measuring 1.31m long and which is swaged at both ends **(Fig6).**

Fig6

On fruit and veg cages greater than 2m wide the top tubes should be joined together with a top tube joiner – this is a tube measuring 0.81m long and is plain on both ends. This tube sits on top of the upright and is joined to the upright using the double “P Clip” method shown on page 3 **(Fig7)**.

Fig7

The P Clips should be tightened with the upright at the centre of the joiner **(Fig8)**, and each P Clip secured with a self drill screw.

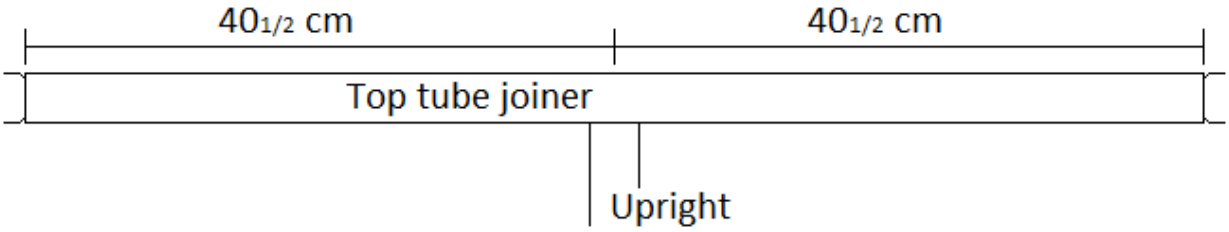


Fig8

In all cases where two tubes join, they are locked together with a self drill screw. Self drill screws should be held in the nut driver provided or can be held directly into a drill chuck. They will drill their own hole and tap themselves into position. Do not over-tighten **(Fig9).**

Fig9

RIDGES

On all fruit and veg cages there is a ridge running the length of the frame on each side, located on the curve of the hoops **(Fig10)**.

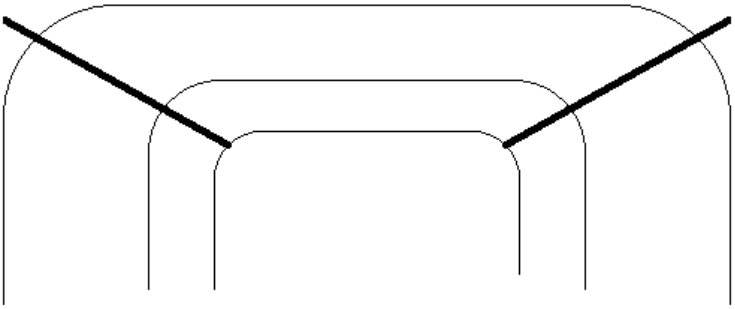


Fig10

Each ridge is made up of a 2.4m long starter ridge with plain ends, and one or two 2.45m long extensions which are swaged at one end. **PLEASE NOTE**: 2.4m long cages are only supplied with two ridge starters.

These bars slot together and the two ridges are clamped in place using the double "P Clip" method (shown on page 3) half way around the curve of the hoop. Before final fixing, the distance between the hoops must be measured at 2.4m **(Fig11)**, or the same distance as between the foundation tubes if they have been placed at different spacing.

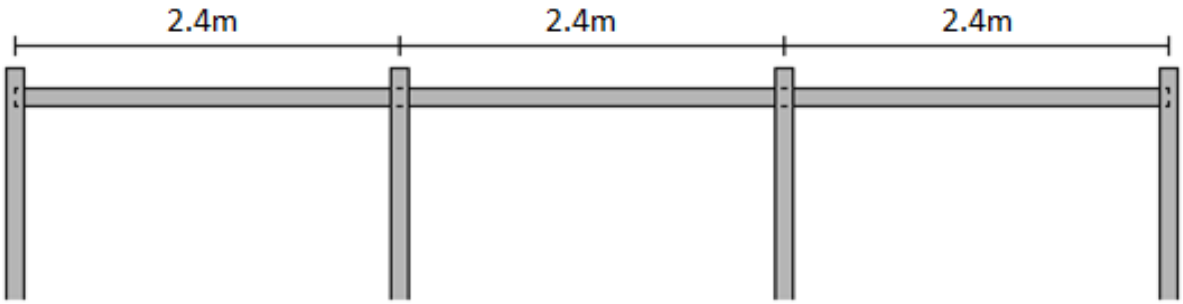


Fig11

On fruit and veg cages greater than 2m wide, extra ridges run the full length next to where there is a central upright **(Fig12).**

The ends of the ridges should have a plastic end cap inserted.

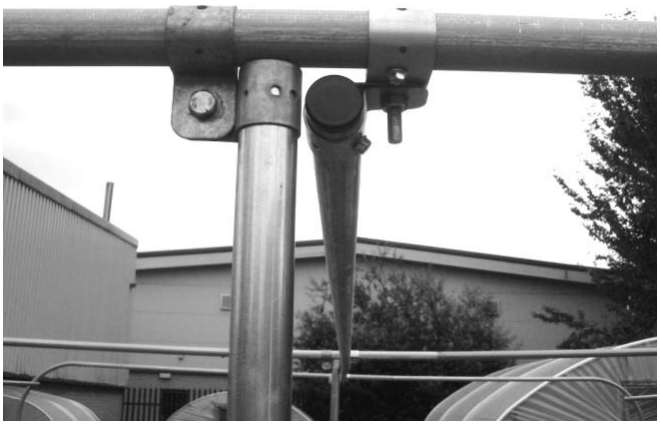


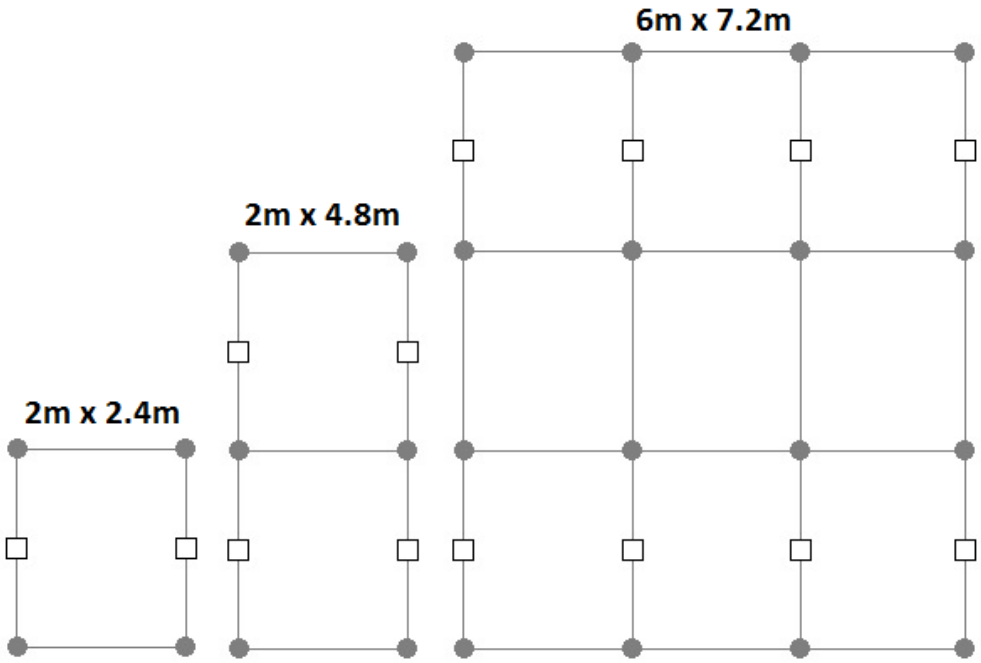
Fig12

*****PLEASE NOTE: When assembling your fruit and veg cage, no screws, bolts, ends of tubes, etc, should protrude beyond the hoops as these could cause damage to your net cover.*****

STABILISER FOUNDATION TUBES

Stabiliser Foundation Tubes are a 500mm long tubes which are plain at one end and flattened at the other.

These tubes are driven into the ground half way (1.2m) between the end hoop/upright and the second hoop/upright **(Fig13)**. When driving the tubes into the ground approximately 4-inch (including the flattened end) should be left protruding from the ground **(Fig14)**.



The squares show the position of the foundation tubes for the stabilisers

Fig13

Fig14

*****Please Note: On 2m x 2.4m cages, only two stabilisers are supplied.*****

STABILISERS

Stabilisers are placed on each of the end hoops and uprights.

Bolt one end of the Stabiliser to the Stabiliser Foundation Tube **(Fig15)**.

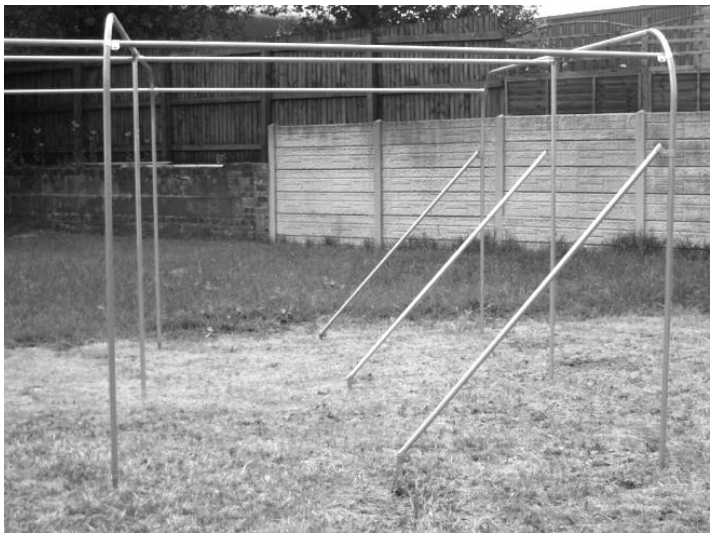
Place a P Clip around the end hoop/upright, with the leg towards the inside edge and pointing towards the second hoop. Bolt the Stabiliser to this P Clip but do not tighten.

Using a spirit level (or a good eye) to check for vertical, slide the P Clips up or down the hoop until in the correct position **(Fig16)**.

Once happy that the hoop/upright is vertical, tighten the P Clip and fix in place with a self drill screw.

Fig15

Fig16



Stabilisers in place at one end of a 4m wide Fruit and Veg Cage.

FINAL FIX

Check the structure all around for alignment and positioning of all the tubes. If you are happy, check that all joints and P Clips are secured with a self drill screw **(Fig17 & Fig18)**. If any joints or P Clips are not secured then do so now.

Keep all screws to the inside of the fruit and veg cage, away from where the net cover may rub.

Fig17

Fig18

A complete 4 bay (4m x 4.8m) Fruit & Veg Cage Frame

DOOR

*****MEASURE TWICE, CUT ONCE TO AVOID MISTAKES!*****

2 inch x 1 inch timber is used for the doors.

Using a flat surface or bench take the two 2 inch x 1 inch x 1.8m door legs and the 3 cross pieces to which fit between the legs.

Using 6 corner braces and screws, fix a cross piece between the legs at each end and one in the centre. These enable you to build the door square without checking **(Fig19)**.

Fig19

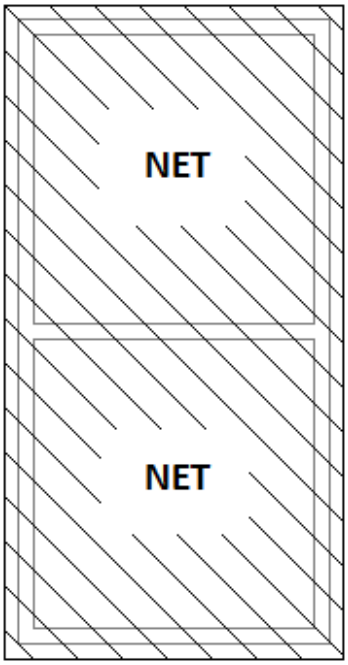


Fig20

Tack the net to the door, getting as much tension as possible **(Fig20)** – a staple gun comes in handy here.

Cut two pieces of 19mm x 38mm batten the full width of the door and nail these on top of the net at each end, making sure there is a nail at each side of the joint of the frame. This is important as it gives the door added stiffness **(Fig21)**.

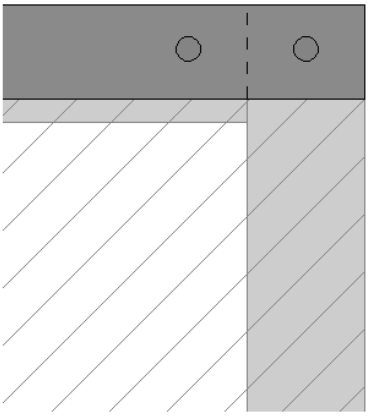
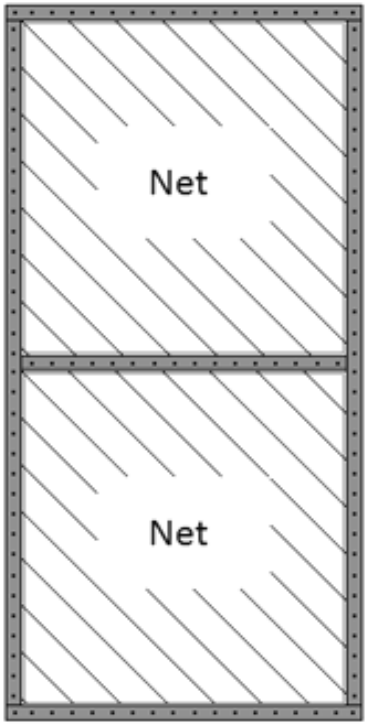


Fig21

Cut two battens to fit down the door legs and nail in position (nails should be approx 4 inches apart).

Cut and fix the final batten across the centre cross piece and trim off all excess material around the edges.



How the door should look once finished.

DOOR HINGES

Two 3-inch butt hinges should be screwed to the inside edge (the opposite side to the batten) of the door approx 9 inches from each end **(Fig22)**. Before screwing the hinges to the door, decide which way you want the door to open and screw the hinges to the appropriate side.

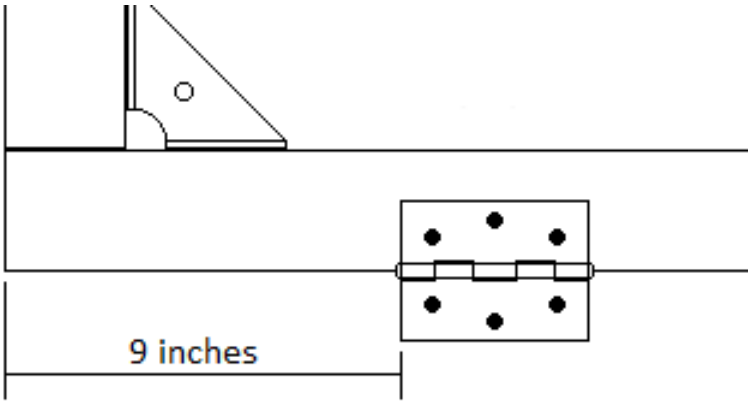


Fig22

DOOR FRAME – HINGED DOOR

The door is designed to be fitted to the first bay – 2m x 2.4m. If necessary, the door can be placed in any of the end bays, although side entry is an option by fixing the door frame to the side ridge – **this option may require extra net.**

2-inch x 2-inch timber is used for the door frame.

It may help to place a string line across the end hoop – this can then be used as a line for the door frame, or just use your eye to line the frame with the end hoop.

The door opening will be 32 inches if using the standard door supplied with your kit.

Mark the end hoop 16 inches each side of centre (this is where the door posts will fix) and dig two holes approximately 6 inches square and 12 inches deep directly below these marks **(Fig23)**.

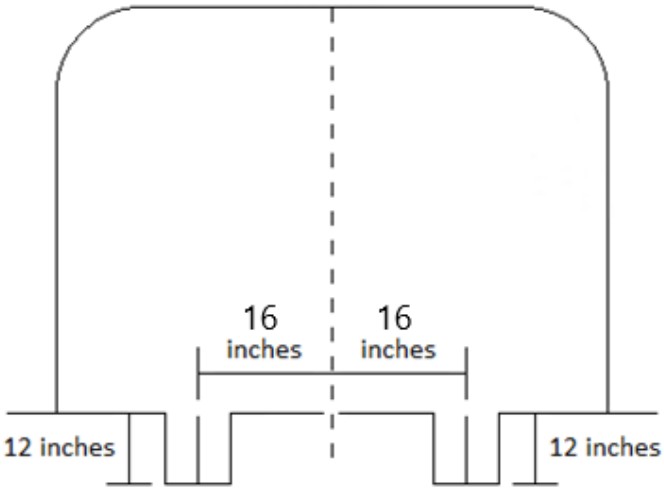


Fig23

Decide which way you want your door to open and position the 8ft door post, which will carry the door hinges, into the hole with the inside edge up to the mark on the hoop. Check the post for vertical and mark the timber under the hoop **(Fig24)**.

Fig24

Cut the post on this mark.

Re-position the post in the hole. Place a P Clip around the hoop with the leg of the 'P' to the outside. With the P Clip running down the outside face of the post, drill the post and bolt to the P Clip using a cross head roofing bolt with a washer under the nut **(Fig25)**. The post should not protrude past the hoop **(Fig26).** Make sure the inside edge of the post is still in-line with the mark on the hoop. Tighten and secure the P Clip to the hoop with a self drill screw**.** You may be unable to use the pre-drilled holes in the P Clip, but the screw will make its own hole in a place suitably clear of the net cover.

Fig25

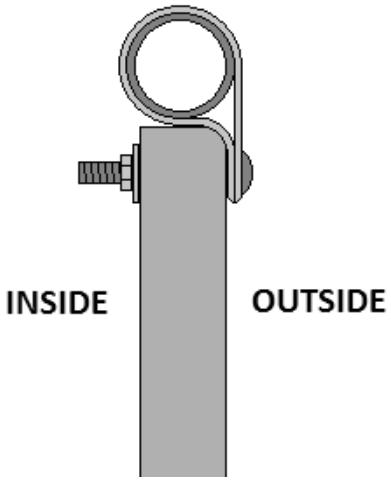


Fig26

Making sure the post is vertical, backfill the hole until at ground level.

Hang the door on this post leaving adequate room at the bottom for the door to open without catching **(Fig27).**

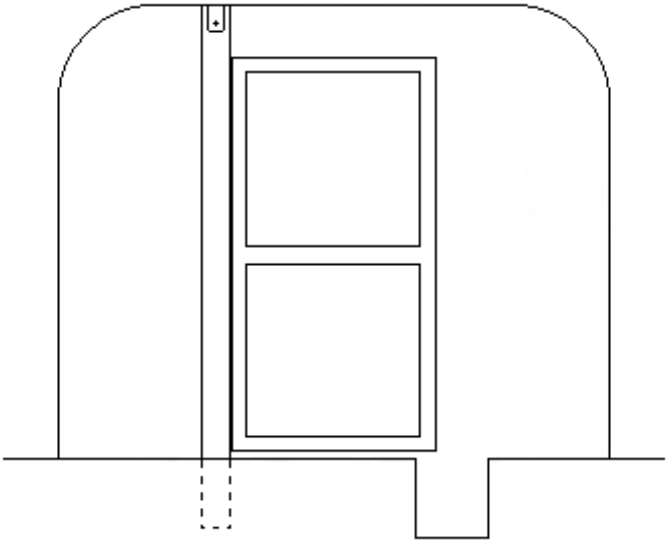


Fig27

Place the second door post in its hole and hold up to the door leaving a gap of approximately 6mm between the door and post (use a 6 inch nail or screwdriver shaft to get this gap). Mark the post under the hoop and cut. Hang the post using the same method as used when hanging the first post and, when you are happy with the position and the gap, secure the P Clip and back fill the hole **(Fig28).**

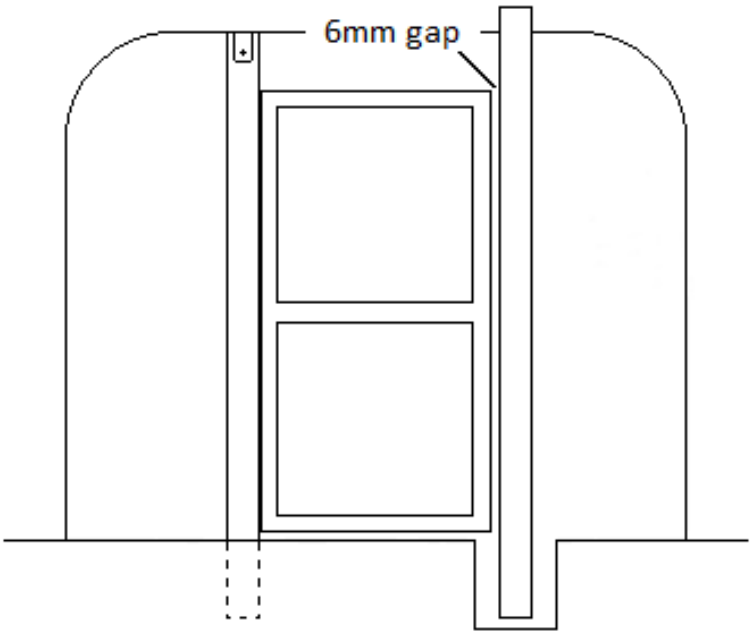


Fig28

The timber lintel supplied should be cut if necessary to fit between the posts.

Drill a 5mm hole through the side of each door post 1 inch above the top of the door. Sit the lintel in place between the door posts and on top of the door with a 6mm gap once again between lintel and door. Fix in place with a 4 inch nail through the previously drilled holes **(Fig29).** Screw an 'L' bracket across each joint on the inside of the cage **(Fig30).**

Fig29

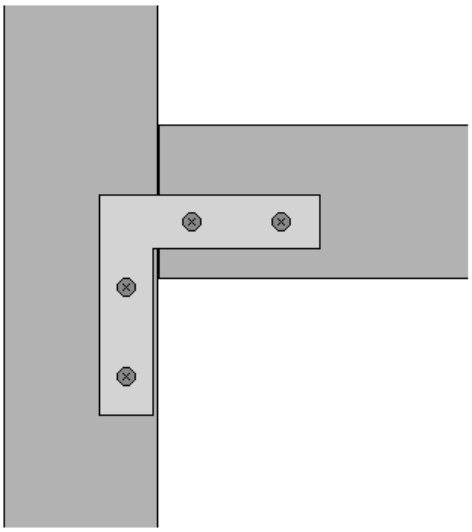


Fig30

COVERING YOUR FRUIT & VEG CAGE

Our 'Premier' Fruit & Veg Cages are covered with Fruit Cage/Anti Bird Net, which is a very strong, knitted net that has mesh holes of 20mm.

This woven net has a lot of stretch in it and as a guide to when it is under the correct tension, the holes should be approximately square. ******Remember this is only a guide and has a lot leeway.*** ***

Your fruit and veg cage is covered with a one-piece net which should be stretched over the frame and positioned so that the net comes down to the ground on both sides and both ends.

Using plastic ground fixing pegs, the sides of the net should be anchored at every metre. Pull the net around the end to the door making sure there is enough net at ground level to secure.

Using the 19mm x 38mm timber batten and nails supplied, secure the net around the door frame **(Fig31).**

Fig31

At the rear end of the cage the net should be gathered ("mare's tail") in the middle of each bay and tied with a cable tie **(Fig32 & Fig33),** once again making sure there is enough left to peg the rest of the net to the ground across the end.

Fig32

Fig33

Peg the “mare’s tail” down **(Fig34)**. Use the rest of the pegs, spread evenly or where necessary, around the outside of the cage to fix the net down.

Fig34

Trim the excess net from inside the door frame/door opening.

To protect against intruders and greedy ground-dwelling pests, the net can be buried in a trench or have soil piled around the edge after covering is complete.

DOOR CATCH

The catch is a simple hook and eye. Screw one half of the catch to the door and the other to the door frame (once covered). **Please note; this catch is not attached until the cage has been fully covered.**

Hook and eye door catch.

Don’t forget – we’re here to help. Just telephone our Construction Advice Helpline (available 7 days a week until 9pm) on **01282 811250** and a member of the Construction Team will be happy to answer any technical/construction queries or questions you may have.

Congratulations! You are now ready to begin growing and relaxing in your ‘Premier’ Fruit & Veg Cage!