

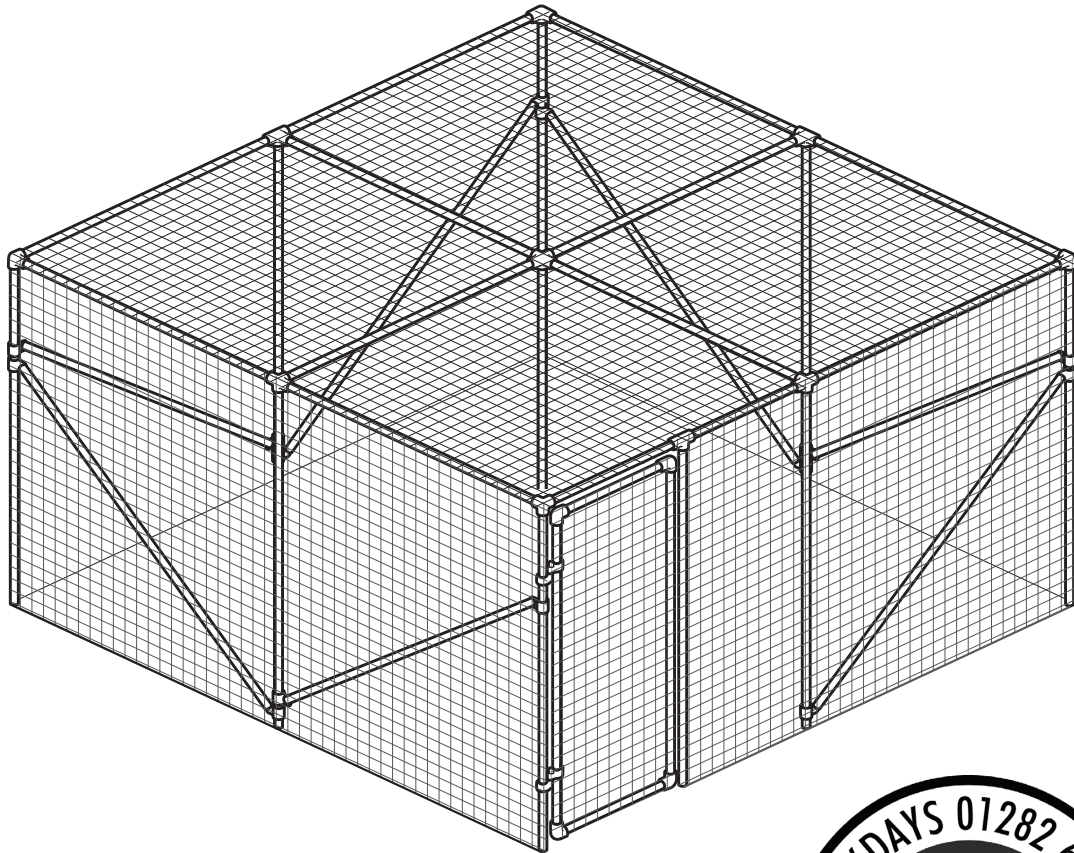


FIRST TUNNELS

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Fruit Cage Construction Guide

FC

Introduction

A standard size fruit cage can be easily constructed in day, and if you can put together a piece of flat-pack furniture, you should have no real trouble in constructing your fruit cage. We suggest performing construction in stages;

- Find a comfy armchair and armed with a cup of tea (Tea Bag Enclosed) familiarise yourself with the instructions – Please use the checklist supplied with your fruit cage and also the diagrams at the end of these instructions to identify the individual parts and components.

The instructions are for a standard 2 bay by 2 bay fruit cage this may not match your order, but once this has been constructed it is just a case of carrying on until your required size and shape is achieved.

- Erect the framework.

- When covering you will find a second pair of hands very useful.

Taking a more logical, step by step approach allows you to assimilate and follow the instructions better. It should also produce an easier and hopefully a more enjoyable experience.

If you are experiencing problems with your polytunnel construction, you can call us between 9am & 5pm on **01282 601253** during the week.

If you require advice during the weekend, you can call us between 9am & 5pm on **07801 601253**.



Warnings



General

- Please keep children and pets away from the work area.
- Keep the working area free of tools and parts.
- Always wear safety glasses, ear defenders and a face mask where applicable.
- Wear gloves when working with the metal parts.
- Never wear loose clothing, hanging hair or jewellery.
- Always use sharp tools.
- Never carry any sharp tools in your pocket.
- Never use yourself or anyone else for support.
- Heavy items – Don't try lifting a heavy item by yourself, get some help.

Ladders

- Never overreach when working on a ladder or steps.
- Reposition a ladder to avoid the risk of overbalancing.
- Make sure you are well balanced for the start and the finish of an operation.
- Always use stabilizers, tie or get somebody to stand on the bottom of ladders.
- Use the ladder rule - one measure out for every four measures in height.
- Ladders should be placed on a firm level surface, with the top resting on something solid.

Electrical power tools

- If needed always use RCD's (Residual Current Devices) when using power tools outdoors, never use in wet conditions and follow the safety instructions provided with the tools.

Installation Guide

Fruit cage Position

When choosing your site, try to ensure that you have approximately 1 metre of working area around the proposed site. Try to avoid areas close to trees or bushes as roots can be a problem when positioning your foundation tubes. The uprights of your fruit cage should always be positioned vertically.

Tools Required: Tape Measure, String Line, Hammer, Battery Drill.

Foundation Tube Positioning

Parts Required: 25/50PS.

Foundation tubes (25/50PS) have a diameter of 2.5 cm and are 50cm long. They are swaged (S) at one end, the diameter of the tubing is reduced at the end to enable it to slot together with another piece of plain (P) tube.

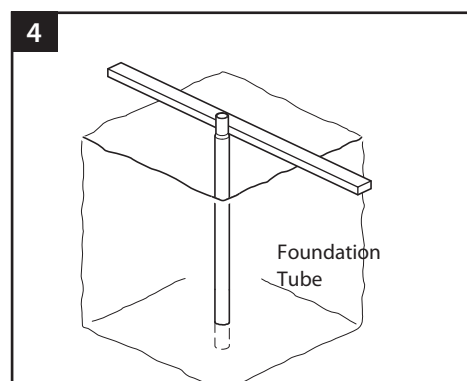
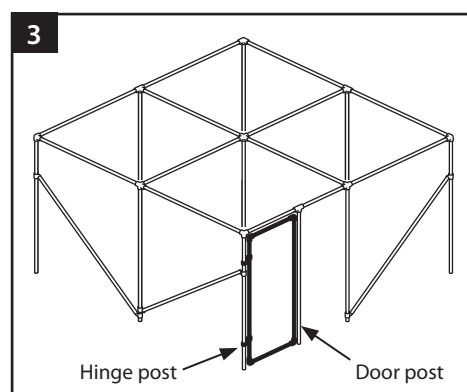
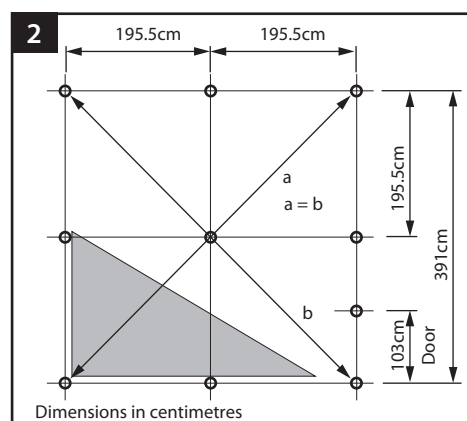
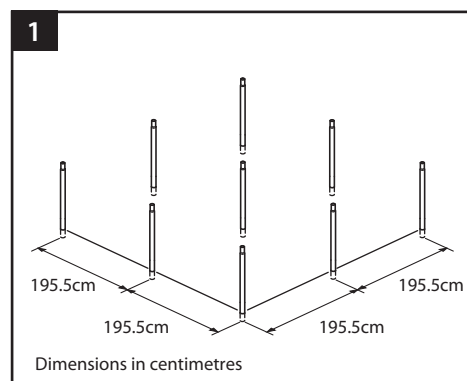
Setting the foundation tubes correctly is the most important part of construction. Take care to ensure that they are in-line, spaced evenly and set at a consistent height, as this will dictate how well the finished product will look and perform. Take all measurements from the centre of these tubes. Mark out the length of your fruit cage (e.g. 391cm), and using the foundation tubes as markers, position a tube at 195.5cm and 391cm - drive in the foundation tubes approx 5cm. You are simply using the foundation tubes to indicate the final position of the holes (**dia 1**). Use a string line to ensure that the tubes are positioned in a straight line. Measure 195.5cm across the width from this line and repeat. To help keep the tubes square use the 3, 4, 5 triangle as shown in (**dia 2**). Repeat the same procedure another 195.5cm across.

Door Position

Decide the position for the door, it is recommended that the hinge side of the door is at a corner post. From the corner post measure 103cm across and position a foundation tube keeping the tube in line with the others. (**dia 3**). Check for square by measuring across the diagonals. This distance should be equal within approximately 5cm. If not, adjust the position of the tubes, (**dia 2**).

Foundation Tube

Drive all the foundation tubes into the ground keeping them as upright as possible until just the swage remains protruding above ground level (**dia. 4**).



TIP

When driving the foundation tubes into position, use a piece of timber to avoid damaging the end of the tubes.

Installation Guide

Parts Required: 214PP, SDS48, DB73946.

Start at one corner and take a frame upright tube 214cm (214PP), slot this over the swage end of the foundation tube. Fix together the two tubes with a self-drill screw (SDS48) using the supplied socket (DB73946). The screws will drill their own hole and tap themselves into position. Keep all the screws on the inside to avoid catching on the net when covering. Please be careful not to strip the thread by over tightening. Repeat this for all the remaining vertical tubes (**dia 5**).

Door Hinges

Parts Required: Q25, KEYHINPIN, KEYHEX.

Slide a lower door hinge onto the corner post ensuring that the pin is pointing upwards, next slide on a Q clip this will later be used to fix the corner stabilisers, lastly slide on the other lower door hinge with the pin pointing upwards (**dia 6**).

TIP

If you need your door to be fix more securely you can reverse the top hinge so that the pin is pointing downwards this will make it impossible to remove the door without undoing the bolts.

Corner Posts

Parts Required: Q25.

At all the remaining corner posts and posts adjacent to the corner post, slide on two Q clips. Should you forget or miss a post, don't worry as these clamps can be levered apart and placed around a tube at a later stage without too much difficulty (**dia 7**).

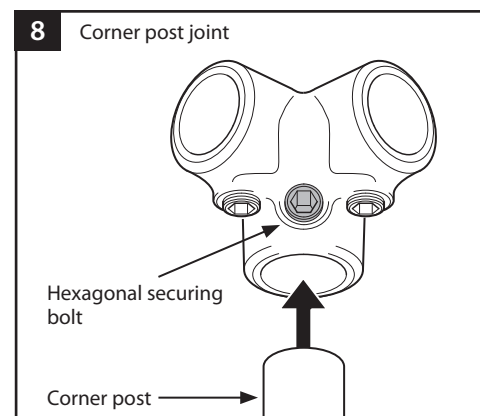
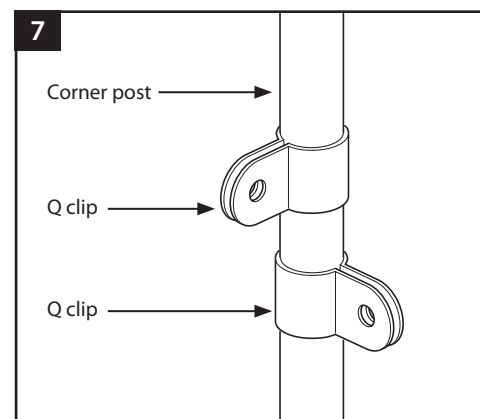
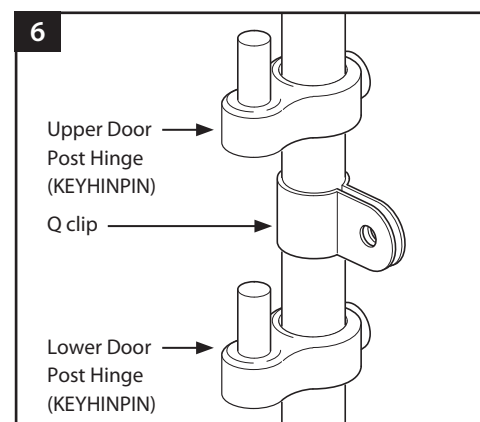
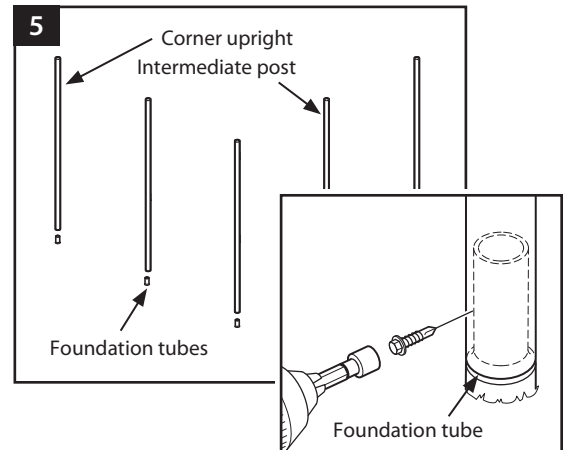
Corner Post Joint

Parts Required: KEY3COR, KEYHEX.

Starting again at the door corner post, slide a corner post joint over the top of the post, making sure that the two other holes line up with the next posts. Each post/tube is secured to the joint with a hexagonal bolt. Tighten the bolt with an hexagonal key just enough to hold the joint in position. (**dia 8**).

TIP

As soon as you place a joint on top of a post lock it into position with an hexagonal key, this will prevent any accidents with the joint falling off.



Installation Guide

Intermediate Joint

Parts Required: KEY4INT, KEYHEX.

Slide a intermediate joint over the top of the next post, making sure that the three other holes line up accordingly with the next posts. Lightly lock the joint in position (**dia 9**).

Top Rail

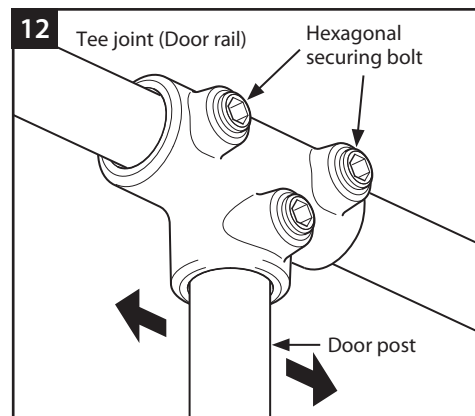
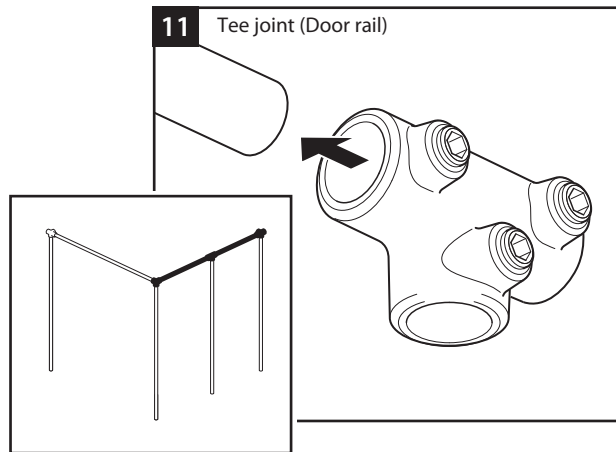
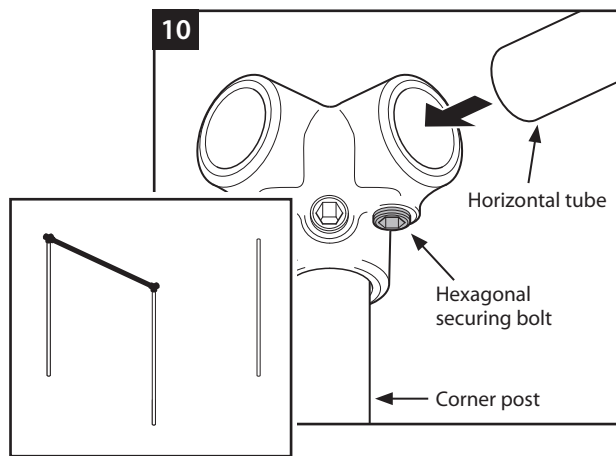
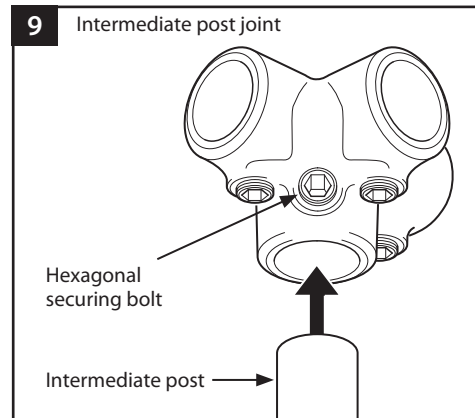
Parts Required: 25/193PP, KEYHEX.

Take a horizontal tube 193cm (193PP) and push into the hole in the corner joint and then into the hole in the intermediate joint, when both ends are in position tighten the bolts (**dia 10**).

An extra pair of hands might be useful at this point.

Door Post

Parts Required: 25/214PP, KEY3INT, KEYHEX. Take a horizontal tube 193cm (193PP) and slide on the tee joint (**dia 11**). Position the tee joint over the door post (214PP) and lightly lock in position, the tube can then be slid along until it locates into the corner post joint and secured in position with the bolt. Place a intermediate joint over the next post and then onto the horizontal tube/door rail, secure both tubes to the intermediate joint using the hexagonal key. Make sure that the door post is vertical and secure the tee joint to the horizontal tube/door rail with the 2 x securing bolts (**dia 12**).



Installation Guide

Centre Joint

Parts Required: KEY5CEN, KEYHEX.

Slide a centre joint over the centre post and line up the holes to the previously fixed intermediate joints, lightly lock in position (**dia 13**).

Slide a tube into intermediate joint and then into the centre joint secure in position. Repeat for the other tube (**dia 14**).

This completes the basic construction for the 1st bay of the fruit cage. For the rest of the construction follow these techniques until you have completed your framework to the required size and shape.

When all the framework has been completed, tighten all the locking bolts completely securing the joints to the tube.

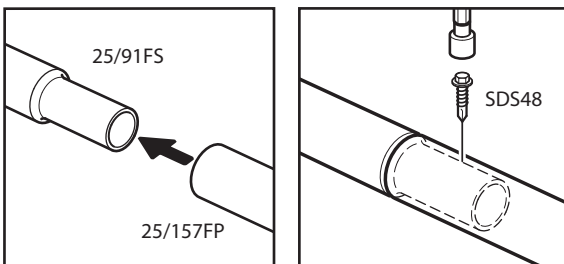
Stabiliser bars

Parts Required: Q25, 25/157FP, 25/91FS, SDS48, DB73946.

In order to strengthen your fruit cage stabiliser bars are added to each corner.

The stabiliser bars are supplied in 2 pieces. One piece of tube measures 157cm long (25/157FP) and is flattened at one end and plain at the opposite end. The other piece of tube is an extension tube and measures 91cm long (25/91FS) with one end flattened and the opposite end swaged.

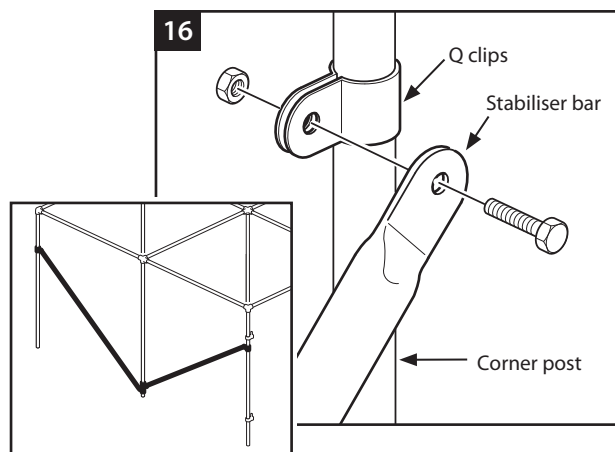
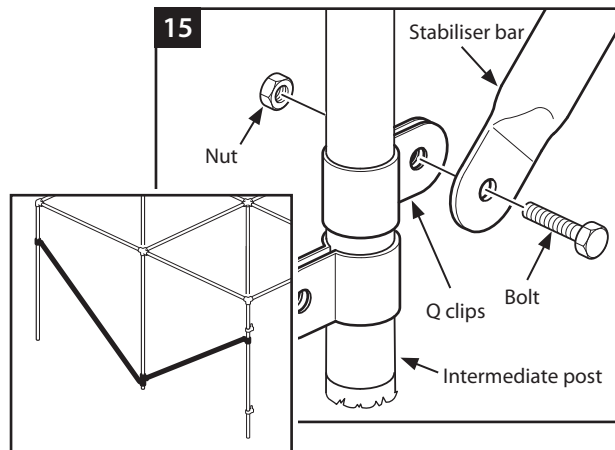
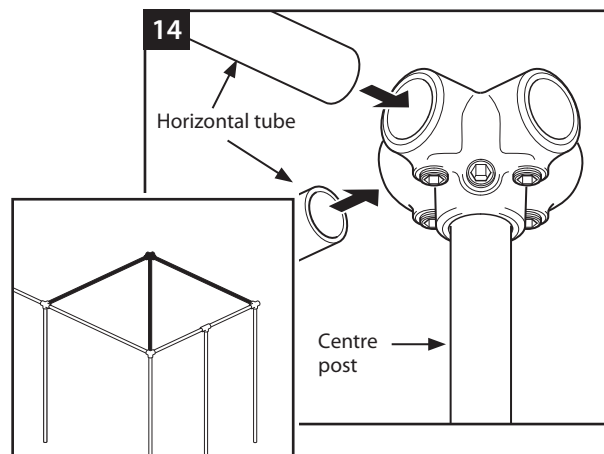
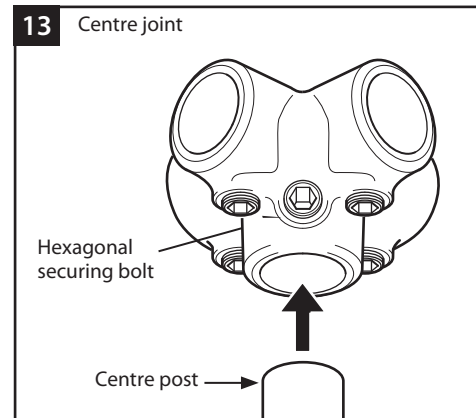
Join these together by slotting the swaged end into the plain end making sure that both the flat ends line up, fix the 2 pieces of tube together securely using a self-drill screw (SDS48) see below.



Bolt a stabiliser bar to a intermediate post using a 'Q' clip (Q25). Tighten the 'Q' clip in position 20cm up from the base (**dia. 15**). The stabiliser will then angle up to the 'Q' clip on the corner post, the 'Q' clip should be slid up or down the post and finally tightened in position, make sure the post is vertical (**dia. 16**).

Repeat this for all corner posts each post should have two stabiliser bars.

NOTE: The door corner post will only have one stabiliser bar.



Installation Guide

Door construction

Parts Required: 25/209PP, 25/91PP, KEYHINHOLE, KEYHEX.

Construct the doors on a hard flat surface. Take a vertical door tube 209cm (25/209PP) and slide on the two remaining upper door hinges (**dia 17**).

Slide on a corner joint and secure in position with a hexagonal key (**dia 18**).

Slide a horizontal door tube 91cm (25/91PP) into the corner joint and secure in position.

Continue to work your way around the door adding the remaining tubes and corner joints. (**dia 19**).

When complete check that the door is square by measuring the diagonals, if not adjust accordingly.

Door installation

Parts Required: KEYHEX.

Slide each of the lower hinges into position approximately 30cm from the top and bottom of the frame, lock in position in line with the door.

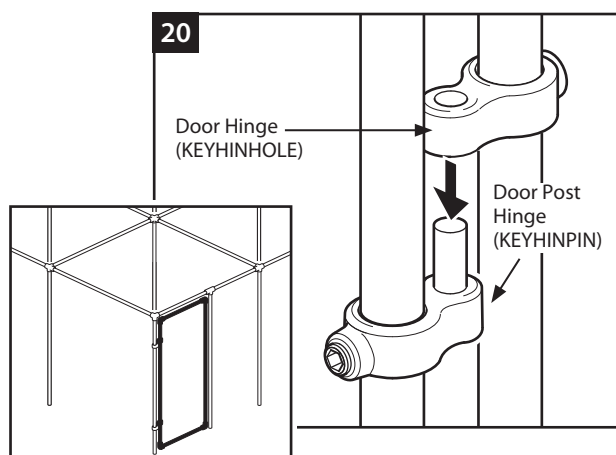
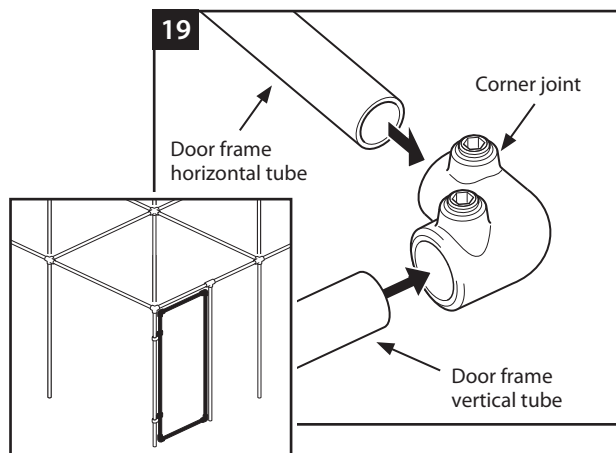
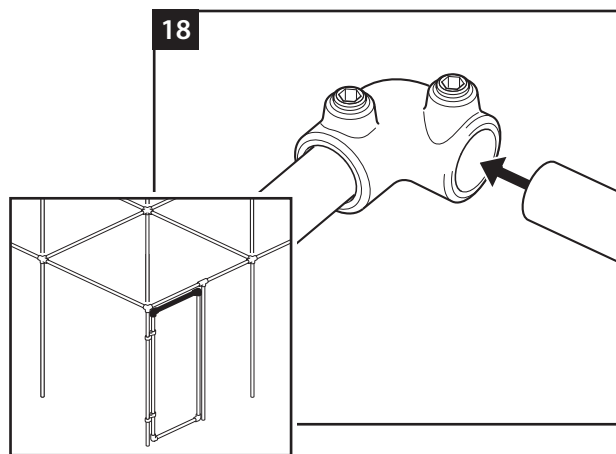
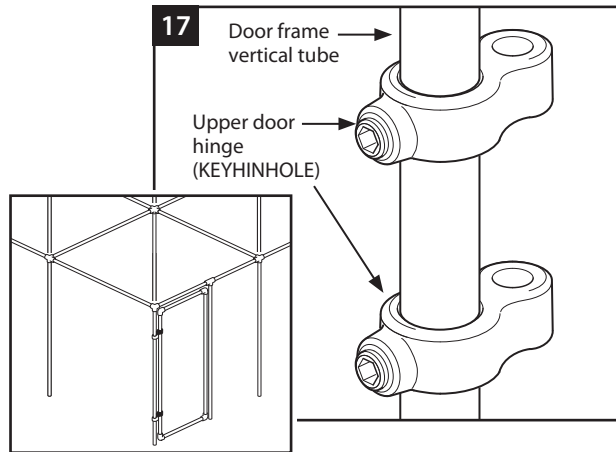
Lift up the door and place in position with the holes on the top hinge sliding over the pins on the lower hinge (**dia 20**).

Lift up the door frame making sure that it slides through the top hinges, when satisfied with the height lock the door frame to the top hinges.

Open and close the door to check the clearance at the door rail and on the ground, if necessary adjust the door, by releasing the bolts on the upper hinge and sliding the door up or door until correct, re-tighten the bolts.

If ground clearance is still an issue and the door is catching on the floor then it may be necessary to cut the two door vertical door tubes (25/209PP) to accommodate any uneven ground.

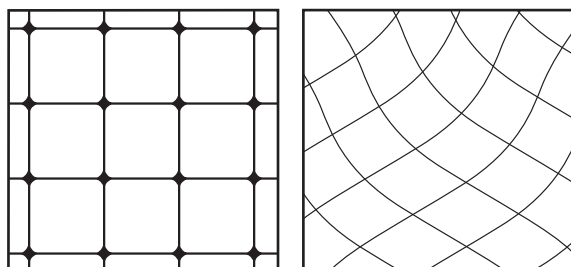
This completes the construction for the fruit cage frame please turn over for attaching the net.



Covering

Roof covering

Parts Required: NEM0010, NEM0011, FI0016.



Side netting NEM0010 Roof netting NEM0011

Lay the roof netting centrally over the roof, working from one side wrap the netting around the tubes and secure in position with the ties (**dia 21**).

From inside push the tie through the netting around the tube and loop back through the second hole, you will need to twist the tie slightly to get it through the hole, pull tight and release, allowing the teeth to catch on the hole.

Fix ties along the length of the tube at approximately 30cm spacing (**dia 22**).

Pull the netting across the roof until tight (trim of any excess netting if required) wrap around the tube keeping it tight. Fix again in position with the ties (**dia 23**).

Repeat the same procedure for the other sides of the roof.

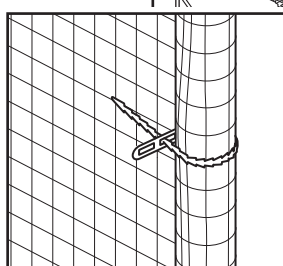
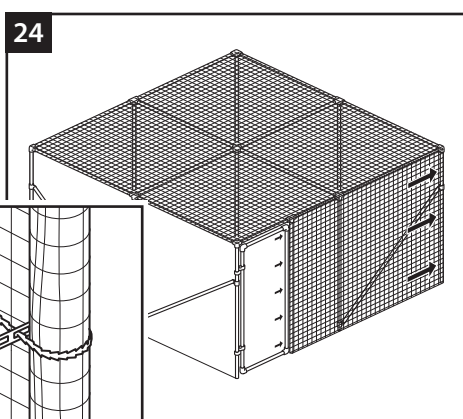
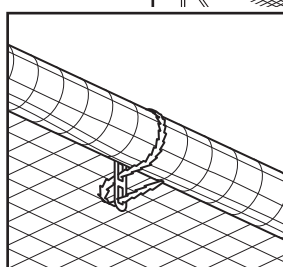
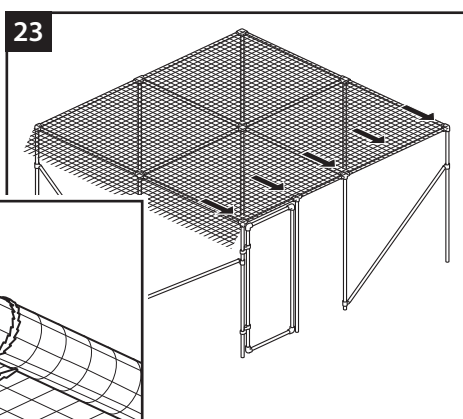
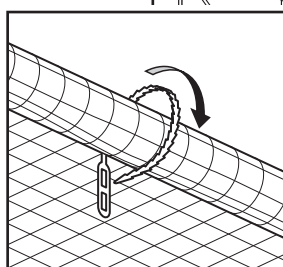
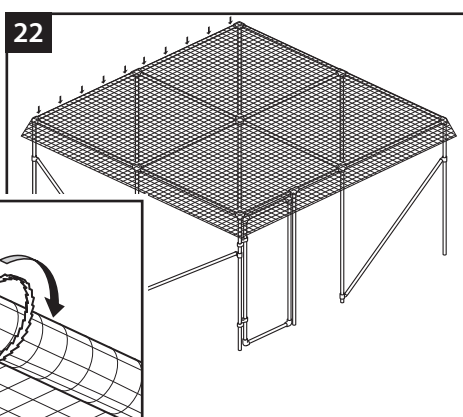
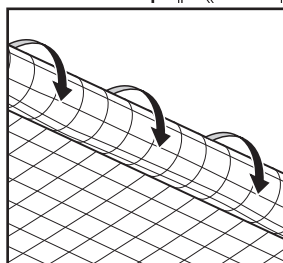
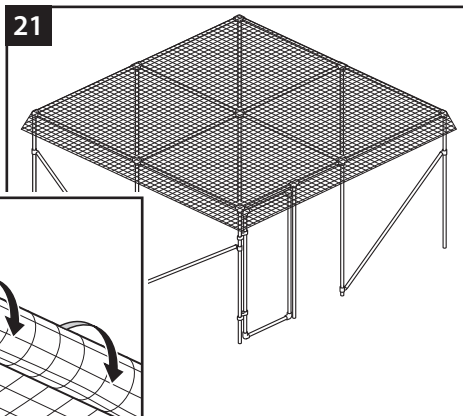
Finally tie the roof netting to the centre tubes.

Once you are happy with the final fixing of the net, fix the tie through the second hole (**dia 23 detail**).

NOTE: You might have to fix the roof netting in two sections according to the size of your fruit cage.

Side covering

Start at the door post by wrapping the netting around the tube and securing it in position with the ties at a spacing of 30cm. Pull the netting tight around the frame (**dia 24**).



Covering

Continue around until you reach back at the door (trim of any excess netting if required). Wrap around the corner keeping it tight. Fix again in position with the ties (**dia 25**).

Wrap the top of the side netting over the tube and tie in position (**dia 26**).

Once you are happy with the final fixing of the net, fix the tie through the second hole.

Ground staples

Parts Required: FI0018.

Pull down the netting until tight, and peg down using the ground staples, they should be positioned approximately 50cm apart. (**dia 27**).

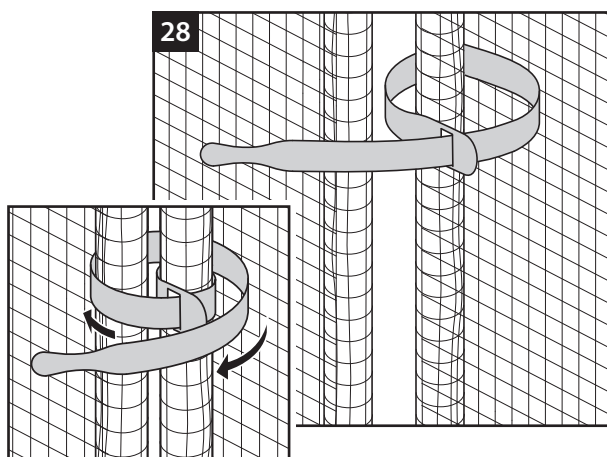
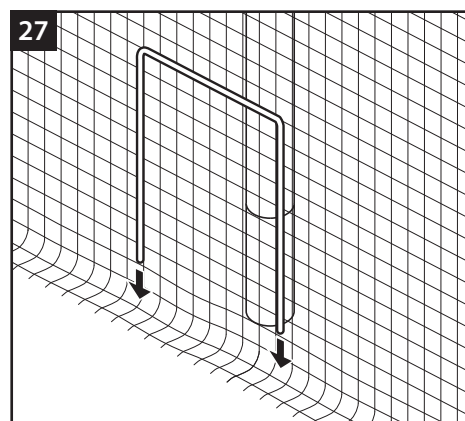
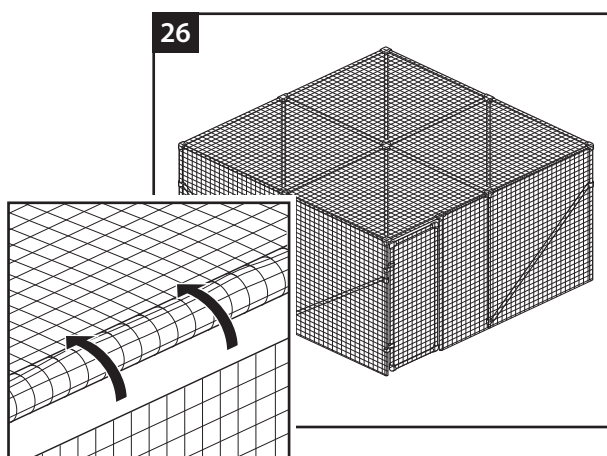
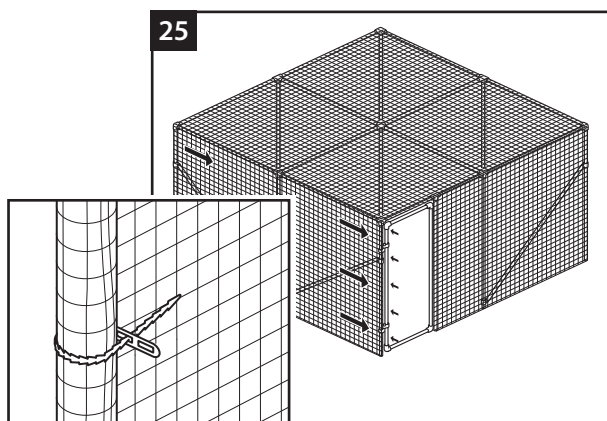
Door tie

Parts Required: FI0017.

From the outside wrap the door tie around the door post, through the netting and back through the slot in the tie (you may need to cut the netting for the tie to fit through).

When you close the door wrap the tie around the door and back round the door post, secure by attaching it to itself with the Velcro (**dia 28**).

This completes the construction of your Fruit Cage.



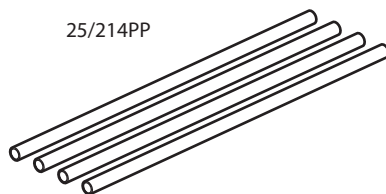
Parts

Parts and Quantities depend on the size ordered



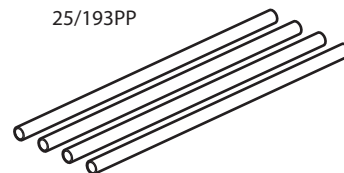
25/50PS

Foundation Tubes



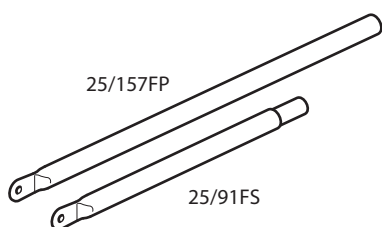
25/214PP

Vertical Frame Tubes



25/193PP

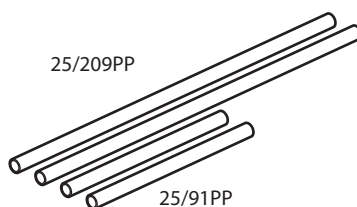
Horizontal Frame Tubes



25/157FP

25/91FS

Corner Stabilisers



25/209PP

25/91PP

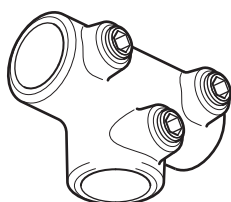
Door Tubes

KEY2COR



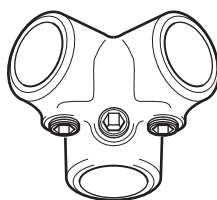
Door Corner Joint

KEY3INT



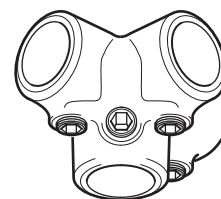
Door T Joint

KEY3COR



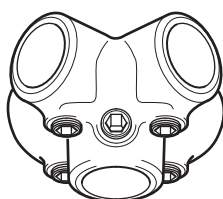
Frame Corner Joint

KEY4INT



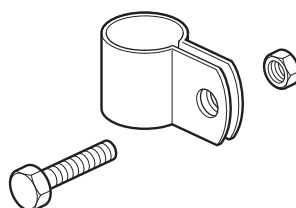
Frame Intermediate Joint

KEY5CEN



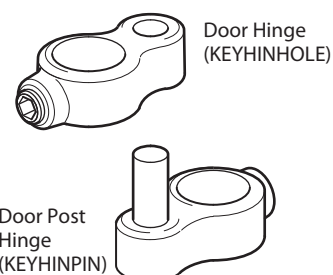
Frame Centre Joint

Q25



'Q' Clip

KEYHINHOLE, KEYHINPIN



Door Hinge
(KEYHINHOLE)

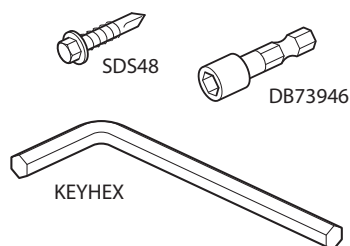
Door Post
Hinge
(KEYHINPIN)

Door Hinge

Parts continued

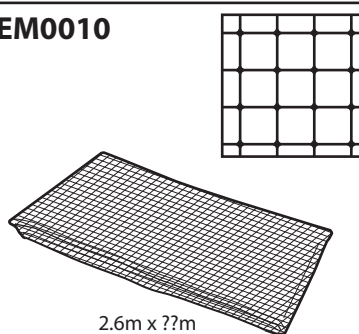
Parts and Quantities depend on the size ordered

SDS48 & DB73946 & KEYHEX



Tube Screws, Socket & Hex Key

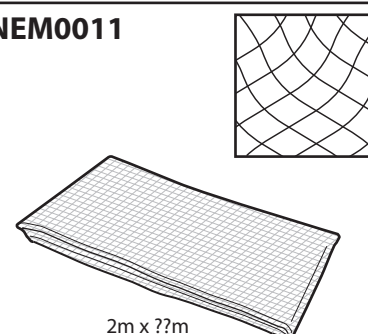
NEM0010



2.6m x ??m

Side Netting

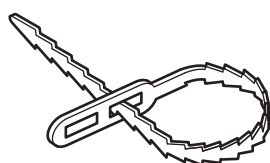
NEM0011



2m x ??m

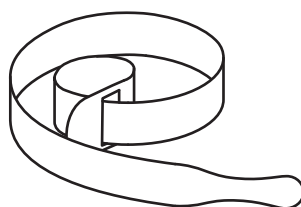
Roof Netting

FI0016



Netting Ties

FI0017



Door Tie

FI0018



Ground Staples

FAQs

Can Fruit Cages be built on a Slope?

Our fruit cage can accommodate a slope providing it isn't too excessive. If the slope is along its width then the foundation tubes on the lower side can be left protruding out of the ground by a maximum of 15cm. If the slope is more than this then you would need to have extended foundation tubes to ensure that there is enough tube fixed into the ground, please contact the office. For slopes along the length, then the fruit cage can be constructed as normal ensuring that the hoops are kept vertical. It may be necessary to clear some earth from the bottom end of the fruit cage to allow the door to open.

Can I shrink the size of Fruit Cage once delivered?

The horizontal frame tubes can be cut down to the required length, this should be done before starting any of the construction, as the foundation tubes will need to be positioned accordingly.

I'm struggling using the 'Self drill screws' for joining the metal tubes. Is there a 'knack' to it?

The screws are designed to drill their own hole. The method we find best is to start slowly and once the drill tip of the screw has begun to bite into the tube, press home firmly and increase speed. You may find drilling a small pilot hole first may prove helpful if you still continue to struggle.

When I try slotting a tube together (plain to swage), I find it very tight and difficult?

The tube has an internal weld and, although very rare it can be 'rough and raised' and makes slotting the tube together trickier than normal. Filing the weld should solve the problem.

Should I remove the top net cover in winter?

We recommend you either remove or replace the roof netting supplied with your cage for the winter months due to the damage accumulations of heavy snow can cause to the framework.

I'm planning to perform the construction at a weekend, but might need some technical support.

We strongly urge you to read through the instructions prior to beginning construction. Mentally building your polytunnel and identifying each component prior to actual construction will usually identify any shortcomings in the instructions and/or damages/shortages. It also helps the process of assembly and gives you the opportunity to contact us with any query you have at a time we are open. If you are experiencing problems with your polytunnel construction or just need a little bit of technical support, you can contact us or use the telephone 01282 601253 9am - 5pm Monday to Friday and 07801 601253 at the weekend (please note that this service is not available over the Christmas period and Bank Holidays). This allows you to talk directly with one of our constructors, ask their expert opinion, get the answer and complete your construction.



FIRST TUNNELS

the growing season just got longer

If you experience any difficulties during construction please call us on:

Monday to Friday (9am - 5pm) 01282 601253

Saturday & Sunday (9am - 5pm) 07801 601253

Email/Web: help@firsttunnels.co.uk or visit our web site www.polytunnels.co.uk for assistance.



We know many people build their polytunnels at the weekend when our office is closed.

So we've set up the First Tunnels Construction Helpline specifically for these weekend periods. This allows you to talk directly to a constructor, ask their expert opinion, get the answers and complete your polytunnel.

If you'd like us to ring you, simply send us a text and we'll ring you back. If you are an O2 customer the call will be free of charge. Please note this service is NOT available over the Christmas period and Bank Holidays.

Share your gardening pictures and videos, post hints, tips and experiences.
PLUS... find out more about our online gardening community.



www.PolytunnelGardening.co.uk



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