



Allotment Instructions

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Introduction

Thank you for purchasing your **Allotment** polytunnel. Before you begin to build, we strongly recommend you read the instructions thoroughly.

Take time to check all the parts are present and make sure you have the correct tools to build your polytunnel. It is advisable to leave adequate working space around your polytunnel for maintenance, operations and re-covering.

Safety

Always wear gloves when constructing as there may be sharp edges.

Always use the correct tool for the job.

Consider other people around the site of your new polytunnel, particularly children and animals.

Take care when using sharp tools.

Keep your work area tidy and organised. A tidy work area is a safe work area.

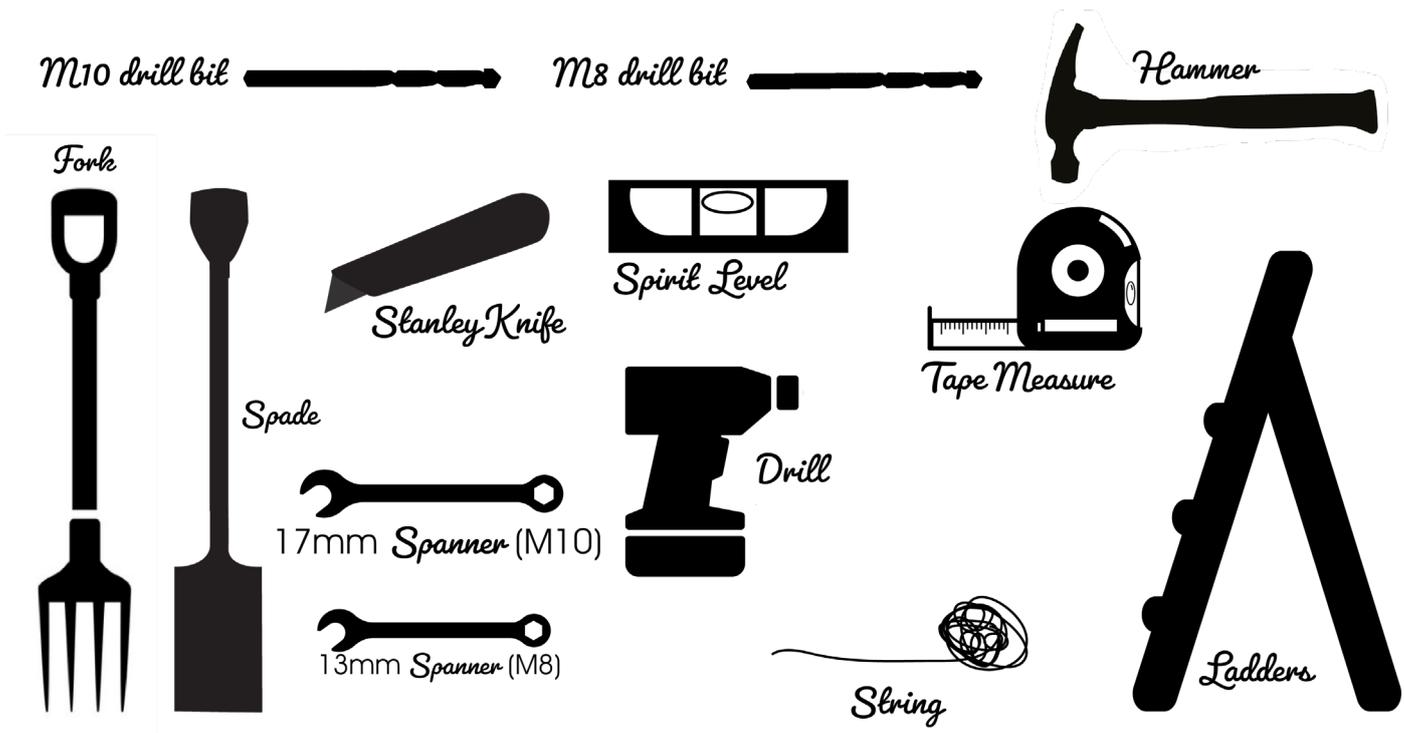
Tie back any loose hair and wear suitable clothing and shoes.

Take care when lifting heavy items from your kit.

When using ladders ensure they are on firm level ground.

It may be advisable to position step ladders on a large sheet of plywood if the ground is soft.

Tools Required



Frame Fitting Packs

Every step of the Allotment polytunnel has been put into easy stages. Each of those stages has been put into fittings packs:

Some of these packs may be found inside a master pack (see table).

HPK 01	Hobby End Hoop Pack
HPK 02	Inner Hoop Pack
EBP 07	End Strut Pack
HPK 07	Timber Door Frame Pack

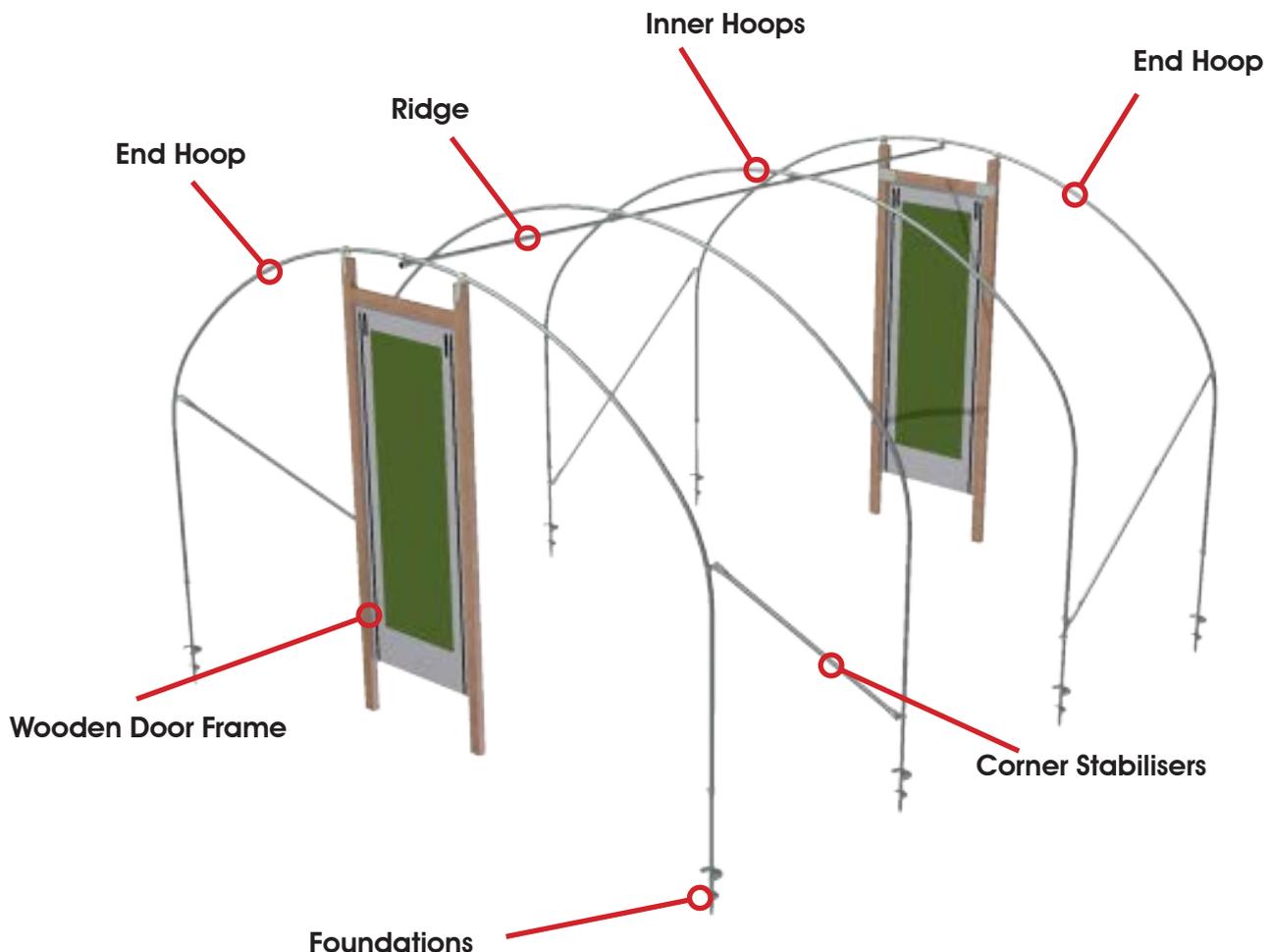
EBP07 can be found inside HPK01

As you read through the instructions we will refer to these packs.

When using the packs you may find you do not need all the parts, bolts nuts etc. at that stage, we recommend that you keep any unused parts in the correct bag for use later.

Construct your polytunnel in this sequence:

- Foundations
- Hoops
- Ridge
- Corner Stabilisers
- Door Frames
- Trenching
- PVC 3in1 Zip / Velcro door
- Anti Hotspot Tape
- Polythene Cover
- Tightening Cover



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Foundations - Squaring the polytunnel

Parts / Packs	Foundation Tubes
Tools	Tape measure, Tape, Setting out pins / pegs, String



We recommend that the foundations are set out accurately, this will ensure the polytunnel is constructed to satisfaction.

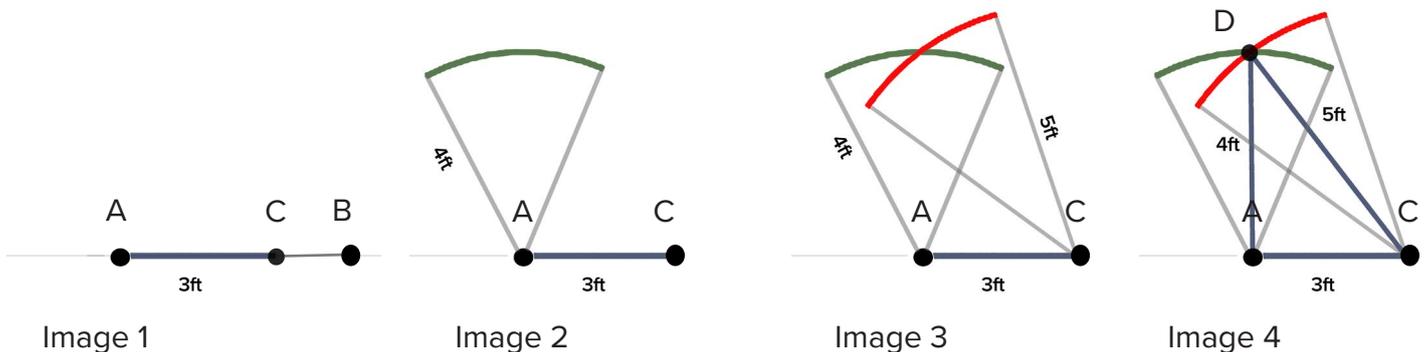
Use the 3:4:5

Triangle Method to position the foundation tubes correctly. This will ensure the ends are square with the sides.

Any measurement can be used, simply multiply the 3,4,5 by the same number.

e.g. – 3ft, by 4ft, by 5ft can easily be multiplied by 5 to become 15ft, 20ft, 25ft, or by 10 to be 30ft, 40ft, 50ft.

For this example, we're going to keep it simple at 3ft, 4ft, 5ft.



Creating your right-angle.

- 1 - Take a foundation tube and install it in the ground where you want your front left-hand corner to be. (facing the front door, the foundation tube you've just installed will be on the left corner) **(image 1, A)**
- 2 – Install a second foundation tube **(image 1, B)** in the ground past the length of your 3 measurements (ie, if you're doing a 3ft length, place the foundation tube 5 ft away)
- 3 - Take a length of string and tie it between the two foundation tubes **(A & B)** so it's taut. **(image 1)**
- 4 – From the original corner foundation tube **(image 1, A)**, mark 3 ft along towards the second tube. **(image 1 B)** and place a peg here. **(C)**
- 5 – From the same original foundation **(A)**, take a second length of string and measure 4ft by making an arc **(image 2)**
- 6 – From the 3ft marked measurement **(C)** peg, draw an arc 5ft **(image 3)**
- 7- Where the arcs cross is your exact point for your right angle triangle. **(image 4, D)**
- 8- Using the original corner foundation tube, you can now extend your string lines through the exact points **(C&D)** for the rest of the foundation tubes.
- 9 – To double check your measurements, the diagonal measurements across the opposite corners of the polytunnel should be the same on both sides.

The foundations should be spaced at 5ft (1.52m) or 6ft (1.83m) apart according to your hoop spacing length.

Measurements should be measured from the centre of the pole to the centre of the next pole.

Foundations - Foundation Tubes

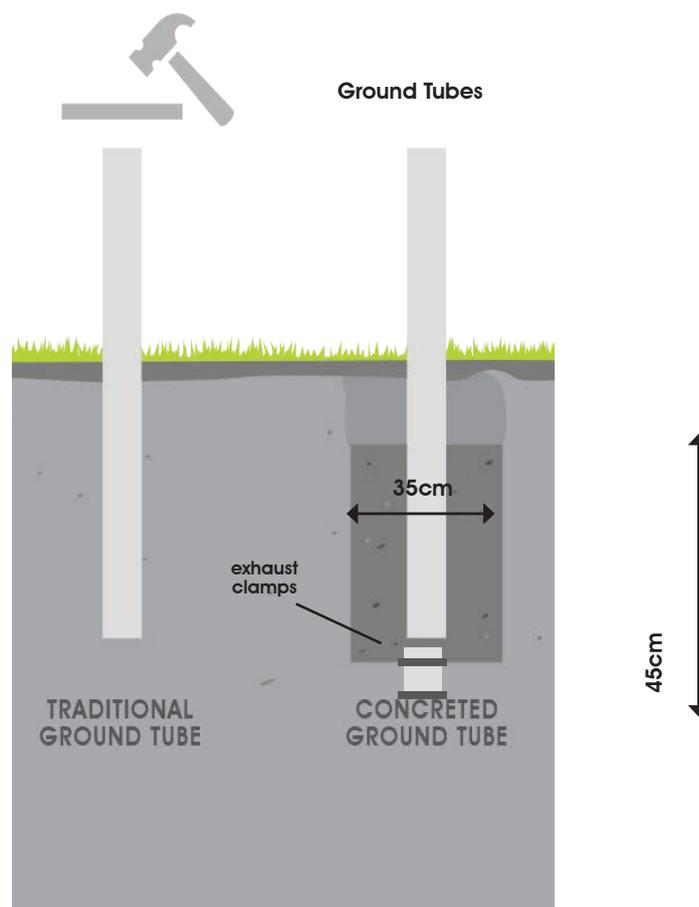
Driven in to the ground: Foundation tubes are simply knocked in the ground, leaving 35-45cm protruding (depending upon the ground conditions). This method is only recommended where the polytunnel cover is trenched into the ground.

The above method is perfect for trenching in your polytunnel, however, IF you choose to add your own base rail, you MUST concrete the ground tube in, as below.

Concreting method: For each foundation tube, dig a 35cm wide x 45cm deep hole. Fill the hole to the required depth with concrete or quick setting postmix. Position each foundation tube in the concrete leaving 40-45cm above the finished ground level.

Ensure the clamp has been securely fastened to the base of the foundation tube. This will prevent the foundation tube from pulling out after the concrete has been set.

The exact position of the clamp is not crucial so long as it is somewhere in the bottom half of the concrete foundation, the nearer the bottom the better. It may be desirable not to fill the hole, but to leave a space at the top to backfill with soil. This will hide the concrete and allow you to cultivate up to the edges of your polytunnel.



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Hoops and Ridge

Parts / Packs	End Hoop Pack (HPK01), Inner Hoop pack (HPK02)
Tools	13mm Spanner / Socket



Image 1

Our hoops are supplied in two pieces, one half having a swaged end with the other being plain. This allows the two halves to slot together.

The 920mm long straight section on the 'plain' hoop goes on the outside of the tunnel otherwise your hoops will not have the right profile.



Step One (image 2)

Slot your hoop pieces together and lay them out along the length of your tunnel space next to the foundation tubes.



Step Two (image 3)

Take the saddle clamps from the HPK01 pack and drop them over the foundation tubes of your first inner hoop (on both ends of the tunnel).



Step Three (image 4)

Now thread the hoop to ridge bracket onto your end hoops. Make sure that the bolt heads face inwards into the tunnel on the end hoops to prevent them from damaging the polythene cover later. Hand tighten the bolts so that the brackets stay in place.



Step Four (image 5)

Next thread the door frame brackets onto your end hoop. Make sure that the flat plate will be on the outside of the tunnel and that there is one on either side of the hoop to ridge bracket. Hand tighten the bolts. (image 5).



IMAGE 6



IMAGE 7

Step Five (Image 6)

Place the pipe collars from HPK01 onto your corner foundation tubes and then move on to the HPK02 inner hoop packs and place the pipe collars on the foundations. Then thread the hoop to ridge brackets onto the hoops as previously (step 4)

(Note that on your first inner foundations there will already be the saddle clamps - the foundation collar will go above these). (image 7)

At this stage, you will have left 2 roofing bolts with nuts and washers, EBP07 (Keyhole Clamps) and the plugs for the ridge tube. **Keep these safe!**

Raise the pipe collars on the **end hoop** foundation tubes to 150mm above the ground and tighten the bolts to hold them in place. These collars enable you to raise the hoops into the polythene cover and achieve a drum skin-tight finish. This is done at this stage as once the door frames are in place you won't be able to raise the end hoops.

Leave the intermediate hoops at ground level for now, as they will be lifted after the polythene cover is fitted to apply extra tension to it.



IMAGE 8

Step Six (Image 8 & 9)

Now lift the hoops and place them onto the foundation tubes.

Step 7 (image 10)

Now add the ridge tube to the tunnel. This comes in sections either 5ft or 6ft long depending on the hoop spacing chosen. One tube will be plain with the rest being swaged at one end.

Start by slotting the plain tube into the first two hoop-to-ridge brackets so that the end is flush with where the end of the tunnel will be.

Then slot in the swaged sections one after another to complete the ridge along the full length of the frame. Tightening the bolts onto the ridge tube when it is in place.

When you are happy you can insert the plastic plugs you saved earlier into the two ends.



IMAGE 9



IMAGE 10

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Corner Diagonals

Parts / Packs	End Strut Pack (EBP07) which you saved from HPK01 earlier.
Tools	13mm Spanner/Socket, Spirit Level



There are 4 corner diagonal brace bars, one for each corner which braces the gable end and ensures that the end hoops are plumb.

The brace bars have 2 flattened ends. Remove the nut closest to the end hoop from the saddle clamp at the base of your first inner hoop, slot the threaded end of the saddle clamp through the hole in the brace bar then tighten up the nut enough to hold in place. (image 1)

Take the keyhole clamp, a bolt and nut from the end strut pack. Put the keyhole clamp around your hoop (it can be stretched and pushed back together by hand).

Thread the bolt through from the outside of the tunnel through the holes in the keyhole clamp then through the hole in the flattened end of the diagonal. (Note: do not clamp the brace bar between the opening on the keyhole clamp as it will not tighten.) (images 2 & 3)

Now tighten the nuts at the base of the diagonal. Then use a spirit level and adjust the height of the keyhole clamp on the hoop to make sure that the hoop is straight. When you are happy tighten the nuts to fix the keyhole clamp in the correct position. (image 4)

Repeat this process on each corner of your tunnel.

Door Frames

Parts / Packs	Timber Door Frame Pack HPK07 You will also need the HPK01 - End Hoop Pack (For each end hoop) 2 x ROOFING BOLTS FOR DOOR FRAME BRACKET 2 x PLAIN NUTS 2 x WASHERS
Tools	Drill, Tape Measure, Hammer

Build your door frames on a flat surface first. The two 2.4m lengths will be the uprights and the shorter 1.6m length will be cut to the width of your entrance.

(Image 1)

Cut one of the timber battens to 950mm long (for a single door)

Using 4 of the 35mm nails fix this cut batten to the base of the door frame (flush to the outside of each upright) at 50mm from the end of the uprights.

(Image 2)

This batten is going to be used to keep the frame at the correct width at the base of the entrance. The inside of the door frame should measure 800mm

Repeat this process for the other side making sure that the uprights are square and level.

Your frames are now ready to be fitted into your tunnel framework. **(Image 3)**



IMAGE 1



IMAGE 2 - Batten



IMAGE 3

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Fitting The Door Frame



IMAGE 1

Image 1 - Run a string line across the front of the tunnel from one end of the hoop to the other to act as a guide to position the door frame.

Position the door frame behind the string line close to the centre, then measure accurately to make sure it is central between the two sides of the hoop.

Use a spade to mark roughly where the ends of the door frame are going to go.

Now dig a trench big enough to take the door frame - this trench needs to be deep enough so that when the frame is placed in it, the tops of the door uprights are clear below the hoop and the batten at the bottom (keeping it square) is buried. **(Image 2)**



IMAGE 2

Line up the top of the door frame with the door frame bracket and drill a 10mm hole to fix the door frame to the bracket using a roofing bolt provided in HPK01 (make sure the width is still 800mm). **(Image 3)**

The flat side of the bracket must be on the outside of the tunnel to ensure the frame is flush with the end of the tunnel. **(Image 4)**

Make sure that your door frame is plumb once it is in place and the width between the door joists are 800mm for the full height.

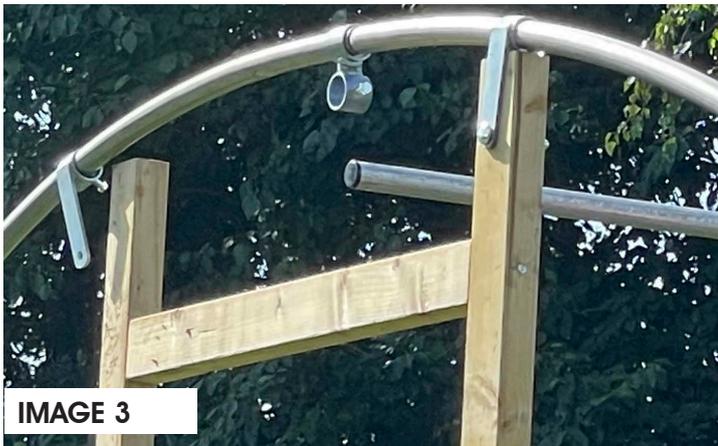


IMAGE 3

Measure 2m from the ground, (the level ground after being backfilled) to the UNDERSIDE of the lintel and mark 20mm up from the 2metre mark on the door frames.

Use a 6mm drill to drill through the side of the upright where you have marked. These holes will act as a guide when nailing in place the door top.

Cut the 1.6m 3" by 2" timber for the door top to the required width (800mm).

Line up the centre of your door top timber with the drilled hole, then knock a 6" nail through the hole to join the 2 pieces together.

When you are happy that your frame is square reinforce the joints at the door top with the nails and nail plates.

Use 10 of the 35mm nails on each side of the nail plate. Fix the nail plates to the same side of the frame as you fixed the batten to earlier.

When you are happy backfill your trench.

Repeat this process for the other side making sure that the lintel is square and level.

Repeat on the other side.

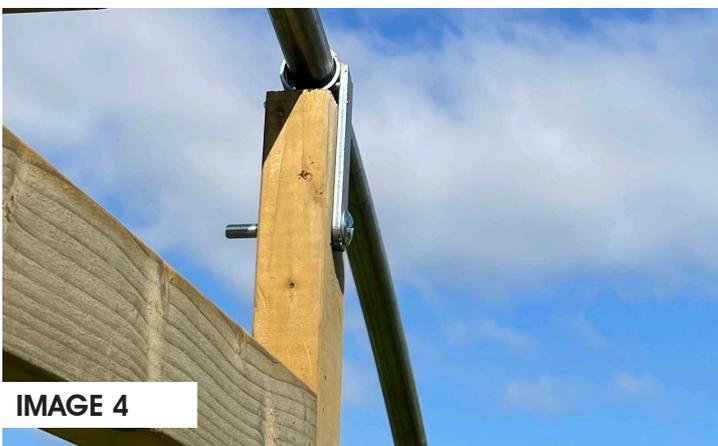


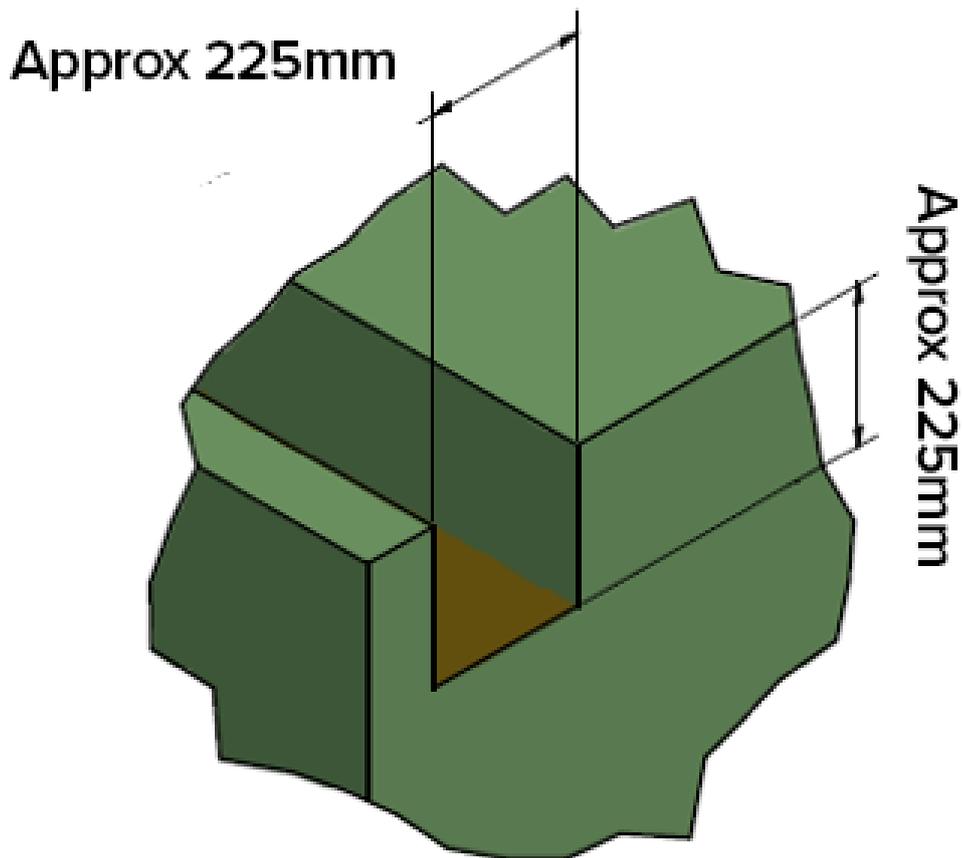
IMAGE 4

Trenching

Tools	Spade
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Dig a trench approximately 225mm wide and 220mm deep around the perimeter of the tunnel.

Top Tip - If digging your trench on grass, carefully remove the sods and keep to one side, when you come to refill your trench, these sods will help minimise any trench evidence.



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PVC Double Zip Vent Door

Parts / Packs	Double Zip Vent Door
Tools	Hammer



IMAGE 1

Image 1

Position the PVC Double Zip Vent Door so that the velcro fastenings are just under the bottom of the door top and the Velcro panel peels off on the inside of the tunnel.

Use a nail on either side of the door frame to hold it in place. Check the vent door is parallel to the door frame then put 2 more nails at the bottom of the door upright - keeping tension in the vent door as you do this. Then add another 2 nails about halfway up the door uprights - one on each side.

Next - Battening - (image 2)

Before battening, we recommend pre-nailing the battens on a flat surface before trying to fix them to your door frames, it will make it a lot easier to fix them to your structure.



IMAGE 2

Image 3 & 4

Now batten around the vent with the timber battens - these go to the outside edge of the door uprights and door top.

The nails are spaced at 40-45mm apart.

Repeat on the other door frame



IMAGE 3



IMAGE 4

Anti-Hotspot Tape

There are two widths of hot spot tape provided, 30mm and 20mm.

The wider tape is used on the end hoops as the polythene cover will have greater contact with the end hoops, due to the polythene being pulled around the ends. The 30mm tape should be positioned accordingly, half on the top edge of the hoops and half on the outside face of the hoop. **(image 1)**

Apply the anti-hot spot tape over the whole hoop, from ground level to ground level (or just above), so that all parts of the hoop has the foam barrier where the polythene comes into contact with it. This prevents any heat build-up in the steelwork from being transferred to the polythene cover and also reduces the likelihood of the hoops rubbing against the polythene. You may want to put a little extra anti-hot spot tape over any fittings, bolts or sharp edges that may damage the polythene. **(images 2, 3 & 4)**



IMAGE 1



IMAGE 2



IMAGE 3



IMAGE 4

Pipe Collars

Top Tip

Before proceeding any further, we recommend you check the height of the Pipe Collars (image 1). The end Pipe Collars should be set at 100mm higher than the inner hoop Pipe Collars. Then, when the inner hoops are lifted, they create the tension for the polythene



IMAGE 1

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Polytunnel Cover – TRENCHING

Parts / Packs	Polythene
Tools	Spade, Hammer, Fork

Why we use a baton to anchor the polythene

The batons create an S Anchor which gives greater strength holding the polythene in place, instead of it just pulling on the nails, it pulls on the lock (**image 1**)



IMAGE 1

Fitting the cover

NOTE: Don't attempt to cover the polytunnel if windy. However, if there is a slight breeze then use this to your advantage and pull the cover over the tunnel into the breeze.

Step One

Unroll the polythene sheet along one side of your polytunnel (preferable on the downwind side if there is a slight breeze), **Image 1**

Then pull the polythene cover over the polytunnel frame **Image 2**, allowing it to unfold as you do. Make sure there are equal amounts of polythene, both to the ends and to the sides.

NOTE: Because our polythene has an anti-condensation additive on the underside it is important to fit your cover the correct way up. If you stand inside the covered polytunnel you will see the words "VISQUEEN LUMISOL" printed on the polythene (**image 3**).

If you can read this then you've installed it correctly, if not, remove and replace it.



IMAGE 1



IMAGE 3



IMAGE 2

Polytunnel Cover – TRENCHING Continued

Step Two

Secure the cover at one end by pulling the polythene tight and inserting 1 of the nails on the batten in the centre of the door frame under the existing batten. (image 4 & 5)

Repeat this procedure on the other door frame.

Once both battens are in place pull the cover tight and fully secure the batten onto the door frame with the remaining prepared nailed batten



Step Three

You can now start securing the polythene in the trench down one side of the tunnel.

Note - To help with drainage we strongly advise that you puncture the polythene at the lowest edge with a fork once the polythene has been laid in the trench. Image 6

Starting in the middle, pull the polythene tight on the centre hoop and backfill the trench Image 7. Repeat the procedure on the opposite side ensuring the polythene is secured at the same hoop and remembering to continuously puncture the polythene with the fork as you go.



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Polytunnel Cover – TRENCHING Continued

Step Four

Once both sides are complete you can work your way down each of the doorposts,

Image 8 - At this point, you'll need to cut the polythene at the corners of the polytunnel to create a diagonal cut away from the tunnel so you will be able to trench the polythene as you turn the corner. (**image 9**)

Once the tunnel ends have been loosely trenched (don't fully trench the ends until the door has been battened) you can start to fully batten down the door frame flush with the inside edges. (**image 10**)

Take note of the direction in which you're pulling the polythene, as you move. At the top of the door frame, you will mostly be pulling the polythene downwards, but as you progress down the door frame you will gradually change direction and begin to pull the polythene mostly across. You will need to pleat the polythene in order to trap it all. Try and make sure the pleats are facing downwards as not to hold rainwater. This will reduce the build-up of green algae in the pleats. Once two thirds down the door frame you will be pulling across only. (**image 11**)



IMAGE 8



IMAGE 9



IMAGE 10



IMAGE 11



IMAGE 12



IMAGE 13

Once the cover is tight and battened down on both door frames, (**image 12**) the cover can now be fully trenched on the ends.

Ensuring the polythene is tight, backfill the trench and cut away any excess polythene. When cutting around the door, cut under the polythene onto the wooden batten to avoid cutting through the PVC door. (**Image 13**)

Polytunnel Cover - Tightening the Polythene

Parts / Packs	Polythene
Tools	Spanner

Once you've battened the door frames, trenched in the polythene, replaced the sods, cut away any excess polythene, it's time to tighten the polythene on the structure. **Image 1** shows an untightened structure.



IMAGE 1

The unique feature of a Northern Polytunnel greenhouse is the ability to simply tighten the polythene (and loosen it if required) easily.

Simply, lift the inner hoop so that the polythene is tight against it (**Image 2**) whilst a second person lifts and tightens the collar in place, holding the hoop tightly. repeat this on all sides of the inner hoops (please note the second side will be harder to lift but will ideally be lifted to the same height as the first side)

As you can see in **Image 3**, the difference a drum-tight polythene cover looks like using our tensioning system compared to **Image 1**.



IMAGE 2



IMAGE 3

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