

ACME Poly-tunnel Assembly Guide



11 hoops, trenched polythene model.

15m (39') x 5.8m (19')

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II. Safety Notice



WARNING: THE METALLIC TUBES INCLUDED IN THIS KIT CONDUCT ELECTRICITY. TO AVOID ELECTROCUTION, VERIFY THAT THERE ARE NO ELECTRIC LINES ABOVE THE CONSTRUCTION SITE BEFORE LIFTING OR HANDLING THE TUBES.



WARNING: BUILDING SITES PRESENT A RISK OF INJURY BY FALL OF MATERIALS AND TOOLS OR TRIPPING. ENSURE THAT CHILDREN ARE RESTRICTED ACCESS TO THE BUILDING SITE UNTIL THE STRUCTURE IS FULLY ASSEMBLED. KEEP TOOLS AND PARTS INCLUDED IN THIS KIT, AWAY FROM CHILDREN. USE RE-ENFORCED SHOES AND ADEQUATE PROTECTIVE GEAR.



WARNING: THE METALLIC PARTS INCLUDED IN THIS KIT CAN HAVE SHARP EDGES. TO AVOID CUTS AND INJURIES TO YOUR HANDS, WEAR PROTECTIVE GLOVES WHEN HANDLING COMPONENTS. IT IS RECOMMENDED THAT YOU INSPECT THE METALLIC PARTS AND REMOVE EXCESS GALVANISATION OR WELDING RIDGES WITH A FILE BEFORE HANDLING THEM.



Caution: The kit includes long parts that may reach further than you perceive. To prevent injuries to yourself and other persons while handling the tubes, always look for people around or behind you and stay away from roads, streets or moving machinery and vehicles.

I. Before you begin

Your ACME Tunnels kit contains all the materials required to build your own polytunnel greenhouse. This guide contains important safety information, preparation guidance, step-by-step assembly instructions and maintenance advice.



To ensure that your polytunnel greenhouse is assembled properly and safely, make sure that all persons participating in the construction have carefully read this manual before starting. Contact us if you have any question or need help.

Sales and support information

ACME Poly-tunnels
1 Agricultural Business Park, City, A1 B01

Phone: 0XX XXX XXXX
Email: info@acmetunnels.ie
Facebook: @acmetunnels_service

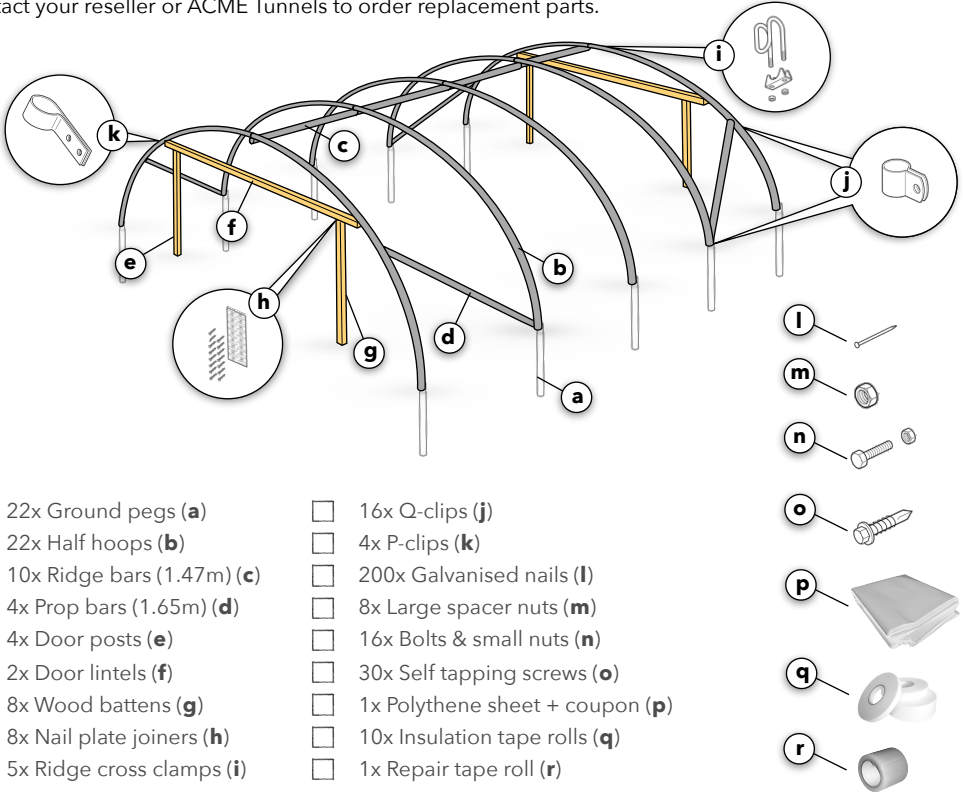
III. What you need



For the purpose of this manual, the illustrations represent a shorter polytunnel. However, the building method remains the same for your polytunnel model.

A) Included in the kit

Check that all the parts listed below are included with the kit. If parts are missing or damaged, please contact your reseller or ACME Tunnels to order replacement parts.



B) Not included with the kit

- Doors are not included. Different types can be purchased separately depending on your needs.
- String to mark the polytunnel footprint

C) Recommended tools

- | | |
|--|--|
| <input type="checkbox"/> Metering tape (20m) | <input type="checkbox"/> Cutter |
| <input type="checkbox"/> Spade | <input type="checkbox"/> File |
| <input type="checkbox"/> Sledge hammer | <input type="checkbox"/> Hexa wrench |
| <input type="checkbox"/> Electric drill | <input type="checkbox"/> Two ladders |
| <input type="checkbox"/> Carpenter hammer | <input type="checkbox"/> Digger (depending on terrain) |

IV. Preparation FAQs

Can I assemble the tunnel on my own?

- ▶ At least two people are required to assemble the structure and install the polythene sheet.

Can I assemble the polytunnel on any surface?

- ▶ This kit comes with ground pegs so the polythene is trenched into the ground. Choose a flat area or level the ground if necessary. To build a tunnel on a hard surface or concrete pads you need mounting plates and a lower rail to attach the polythene on the sides. Call the ACME Tunnel sales team or visit our website for more information.

How deep do I need to dig the trenches?

- ▶ The trenches should be at least 30cm (1ft) deep and 30cm (1ft) wide.

What are the best conditions to build the tunnel?

- ▶ It is easier to dig the trenches and drive the foundation pegs in the ground when the soil is soft and moist, but not soaked.
- ▶ Choose a still day so the polythene does not flap when you install it. An excessive flapping motion can weaken the sheet at its folding seams, causing rupture when pulling on the polythene.
- ▶ Like most plastics, polythene film expands when warm and contracts when cold. To avoid a loose and crinkly film during summer days, stretch the polythene on the frame on a warm and sunny day (> 20 °C). As temperature reduces, the film contracts and strengthens the structure. If the weather is cool when you install the polythene, preheat it in a heated room before installing.

How wide should the doors frames be?

- ▶ The air in a polytunnel can become excessively warm, dry or humid, so it is critical to allow for adequate ventilation. We recommend to set the door posts as far from each other as possible and install a door at each end of the tunnel.

We recommend that all the persons involved in building the polytunnel watch the Polytunnel Construction video guide on ACME Tunnels' YouTube Channel.



Scan the QR code or enter the following URL in a web browser:

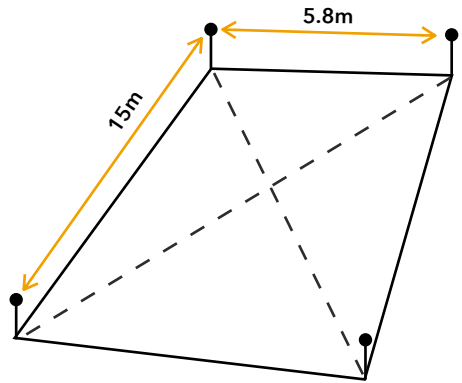
https://youtu.be/zya_LstXMfs



V. Assembly Instructions

A) Preparing the site

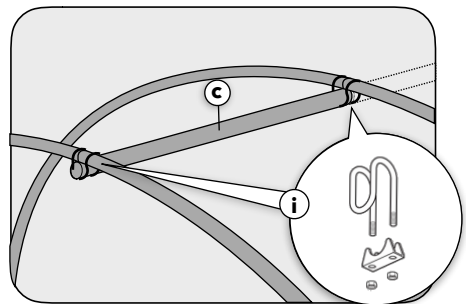
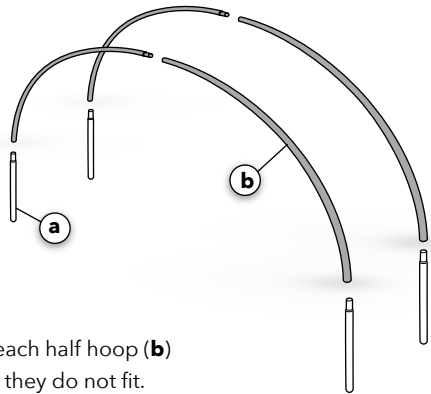
1. **Clear the area from vegetation and debris.**
2. Level the ground if necessary.
3. **Outline** the rectangular footprint of the greenhouse with 4 sticks connected by string.



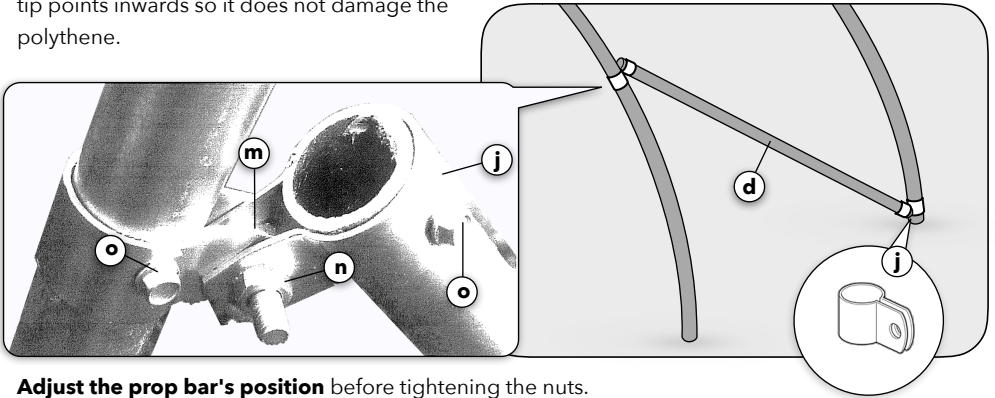
To ensure the corners form 90° angles, move the opposite stakes so the diagonals are the same length.

B) Assembling the frame

1. **Place ground pegs (a)** inside the string every 1.47m on the long sides and at each corners.
2. **Drive the pegs into the ground** using a sledgehammer. Cushion each peg's head with a piece of timber so it does not get distorted. Leave 20cm (8") of the peg stick out so the stopping screw is just above ground level.
3. Before **assembling the hoops**, verify that the end of each half hoop (**b**) slides onto its respective ground peg. File the tubes if they do not fit.
4. **Join each half hoop pair with a cross clamp (i)** on the ground.
5. **Mount the first 2 hoops** on the ground pegs.
6. **Install a ridge bar (c)** between the 2 first hoops. Attach the extremities of the ridge bar onto the hoops with a cross clamp (**i**), filleted tips facing down.
7. **Mount the next hoop** and connect it to the previous one with a ridge bar. **Repeat until all 11 hoops are assembled.**
8. **Place Q-clips (j) on the end-hoop** and on the extremities of a prop bar (**d**).



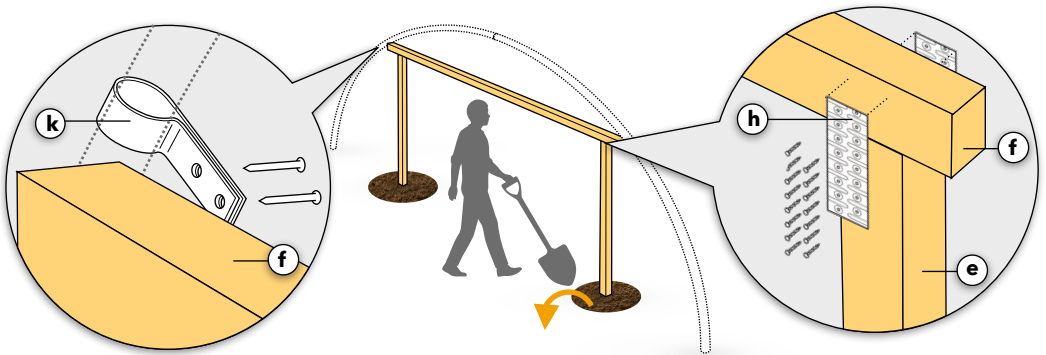
- Attach the prop bar to the hoops:** Insert a large spacer nut (**m**) between the Q-clip's interlocked wings, then insert a bolt (**n**) through the wings and close with the small nut (**n**). Make sure the bolt's tip points inwards so it does not damage the polythene.



- Adjust the prop bar's position** before tightening the nuts.
- Repeat steps 7 and 9 for the 3 remaining prop bars.
- Drill a self-tapping screw (o)** into each Q-clip to secure the assembly. Place the screws on the inward side of the tube so the heads do not damage the polythene.

C) Assembling the door frames

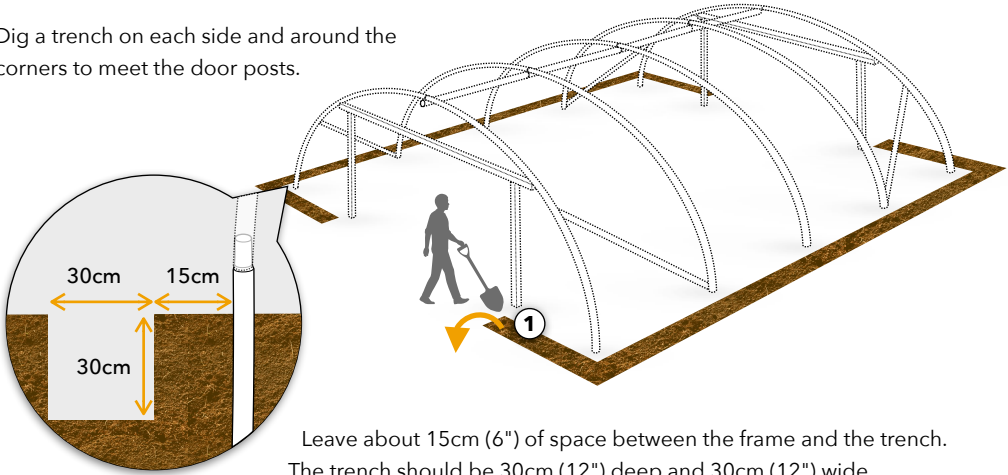
- Assemble the door posts and lintel** on a flat surface. Join the door posts (**e**) and lintel (**f**) with a nail plate (**h**) on each side.



- Mark the position of the door posts on the ground and **dig a hole for each door post**.
- Insert P-clips (k) on the end-hoops.** One on each side.
- Position the door frame assembly** directly under the end-hoop with the posts into the ground.
- Nail the P-clips to the lintel (f).**
- Fill in the posts holes** with the excavated soil and stamp the soil around the posts.
- Repeat** steps 1 to 6 for the other end of the tunnel.

D) Trenching around the frame

1. Dig a trench on each side and around the corners to meet the door posts.

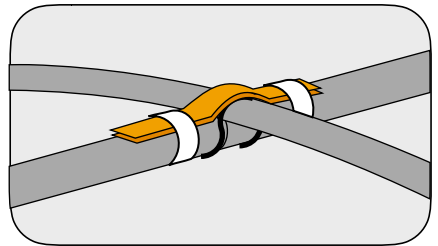


When using a machine, be careful not to uproot the ground pegs. Also make sure to keep the dug-up soil just outside of the trench so it can be shovelled back when burying the polythene.

E) Applying protective pads and tape

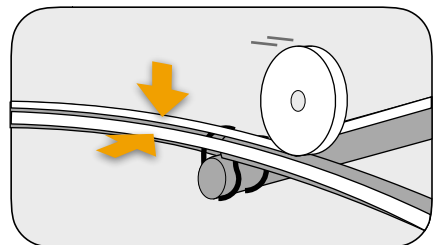
Polythene can withstand evenly applied tension and pressure. However, sharp objects like screws, bolts, clips and cross clamps can create weak points and even cut through the polythene as you install it.

1. **Cut 16 pieces (10x10cm)** from the polythene coupon.
2. Fold the squares in halves to **make protective pads**.
3. **Apply pads on the cross-clamp** and any other sharp part of the frame that will be in contact with the polythene. Secure with insulation tape.



During summer, the metallic frame becomes so warm it can melt the polythene film. Install insulation tape on the metallic frame so the polythene is not in contact with the metallic frame.

4. Peel the printed liner from the self-adhesive side of the tape to apply it on the steel.
5. **Apply insulation tape** on **top** of the hoops, ridge bars and on the **front** side of the end-hoops and prop bars.
6. **Cover any other sharp points** like screws or nail plates.



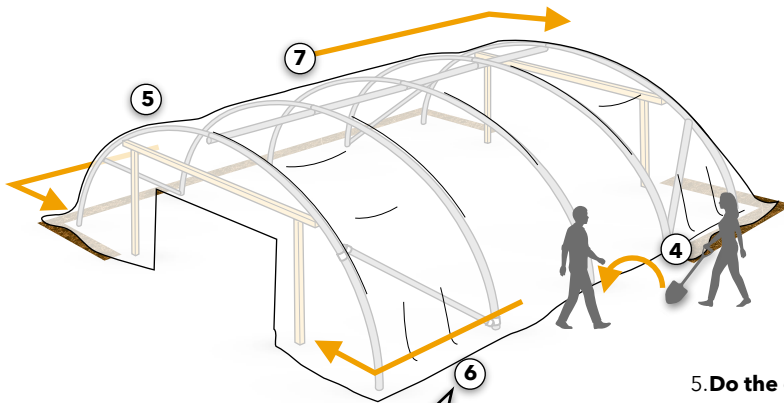
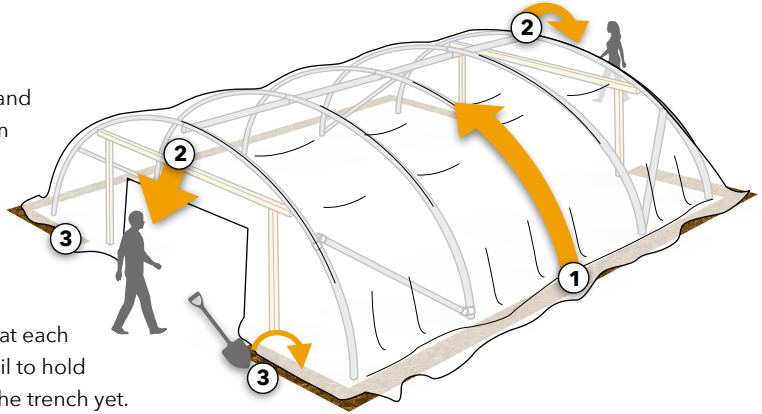
F) Covering the frame



Our polythene has a UV-resistant coating applied on the outer side. Installing the polythene sheet the wrong side up would make it more vulnerable to the sunlight and reduce its lifespan.

Install the polythene so the printed markings are readable from outside of the tunnel.

1. **Unfold the polythene** and lift it onto the frame from the side.
2. **Pull the polythene** from door-frame to door-frame.
3. **Weight the polythene** at each gable end with some soil to hold it in place. Don't fill up the trench yet.



4. **Bury the polythene in the trench.** Start from the middle-hoop, working towards a door post. Half-fill the trench, leaving the border of the polythene sheet visible.

5. **Do the opposite side**, from the middle hoop until the door post.

6. **Tighten the polythene:** One person pulls the outer edge of the film and applies pressure with the feet to tension the polythene. Another person shovels the remaining soil in the trench. Repeat until the polythene is evenly tensed on the frame and all crinkles are evened out.

7. **Repeat steps 4 to 6 for the other half** of the tunnel.

8. **Attach the polythene** with wooden battens nailed to the door frame.

