ACTIVEVISTA PTY LTD

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Cocoon Pro: Steel Frame End Wall Notes (2050mm bracing edition)

The Steel Framed End Wall Kits are easy to install when set up in a few steps during the tunnel build and can easily be retrofitted to any of our Cocoon Tunnels. Each kit contains all components for 1 x end wall with gate.

The end wall attaches to the end hoop using the same brace bands as used on the wind bracing. In addition the Door Stay poles sit on footing rods, as per the hoops.

The following notes are in the order;

1, End Wall components

2, Required Tools and then,

3, Setting Up; construction steps to follow.

NOTE: Important: Don't over tighten self driving screws, slow drill speed near end of tightening.

The End Wall kit Option 1 (purchased with a Cocoon) comprises:

A: Header (bracing) Pole x 1; used as the hanging point for the Door Stays

- 1 x 35mm x 2.05m long bracing pole with each end flattened and drilled for attaching a Brace Band
- 2 x 35mm Brace Bands, each with nut and bolt, one for each end
- (+ locking channel and wiggle wire to clad outer facing edge)

B: Door Stays x 2 (aka door jambs)

- 2 x 35mm x 2.3m door stays (4.6m width version) or 2.1m door stays (3.7m narrow version), each with one end cut (soil end) and the other (top) end flattened and drilled to attach to the Header Pole using a brace band
- 2 x 16mm x 1m footing rods, to be positioned to your required opening diameter
- (+ locking channel and wiggle wire to clad outer facing edge)

C: Telescopic Base Poles x 4 (2 each side of Door Stay at ground level)

- 2 x 35mm x 1050mm poles, each with one flattened and drilled end and one cut end (to slide over the 31.8mm poles)
- 2 x 31.8mm x 1050mm poles, each with one flattened and drilled end and one cut end, (to slide into the 35mm poles
- 2 x Tek Screws, to secure the required diameter of the base poles, position 12g self driving screws over doubled up pole section
- 4 x 35mm brace bands, two for attaching each telescopic base pole pair at either end, (at the base of the hoop and at the base of the door stay)
- (+ locking channel and wiggle wire to clad outer facing edge)

D: Door Frame, hinges and latch x 1

- Adjustable galvanised steel frame door, including fittings. 900mm-1200mm w x 1860mm h. Horizontal poles to be cut at desired length, self driving screws (supplied)
- Prefitted stainless steel latch, requires 8mm hole drilled at height on door stay for latch pin.
- To fit latch through film: Cut film cladding when film is fitted to the door by making an incision along the length of the latch pushed against it.
- (+ locking channel and wiggle wire to clad outer facing edge)

E: 11 x 2m Locking Channel and 16 x 2.1m wiggle wires

- Aluminium locking channel to attach to base poles, door stays and header section above door stays (=12.4m,)
- Aluminium locking channel to attach to door frame (= 7.6m)
- Additional wiggle wire to do a second layer on the end hoop outer facing perimeter (=8.1m wires)
- Total 16 x 2.1m blue wiggle wires, to secure end wall film to channel
- 110 x 12g Self tapping screws, to attach the channel to the end wall frame and door

F: Option for shade cloth above header pole

- For the half moon option we have added an additional 3m of wiggle wire for 2 layers on header pole, 1 for shade cloth to be attached to outer hoop above header pole level and 2 to attach to header pole channel before attaching film from header pole downwards.

Required Tools:

- Step ladder
- 12mm spanners x 2, alternatively; socket/ ratchet set
- 2 x sets of pliers, preferably at least 1 x long nose for opening brace bands and cutting wiggle wire
- Side cutters or angle grinder with cut off wheel for cutting wiggle wire
- Spirit level
- Builder’s Tee (Square), optional
- Cordless drill
- 5/16” Hex head driver for Tek Screws- Provided
- Star picket slammer, blockbuster type axe or similar to insert footing rods to 700mm in soil
- Star picket remover, incase you need to reset the position of footing rods (optional)
- Tape measure (optional)
- Marker pen, for making cutting marks on the aluminium locking channel and end wall film
- Angle grinder with cut-off wheel, hacksaw or a battery powered multi-tool for cutting the locking channel
- Sharp scissors or shears for cutting film
- A good willing friend:)

Cocoon Pro: Steel Frame End Wall Notes. continued

Setting Up:

A.(Part 1): Attach Brace Bands to the first and last hoops*;

Each of the tunnel's end hoops required six brace bands to be fitted. This comprises of two for the header brace, two for wind bracing (unless already attached in case of retrofitting end wall) and two for the telescopic base poles

1. You will need to slightly open the brace bands to slide onto the end of the hoops (at ground level). The easiest way to open (splay) them is with two pairs of pliers or two open end spanners to slot into each bolt hole and lever apart.
2. Slide three of the six brace bands onto either side of your end hoops.

Roughly position the brace bands on the end hoop;

1. move two brace bands up to the header height, approx 2.3m (4.6m standard version) or 2.1m (3.7m narrow version) (1 each side)
2. position two brace bands at about 1.4m for the wind bracing (1 each side) (1500mm hoop spacing version) or 2.1m (1250mm hoop spacing version)
3. position two brace bands at the base for the telescopic base poles. (1 each side)

**NOTE- This step must occur before attaching the main tunnel film to the end hoops with Locking Channel.*

- *Your Pro series Tunnel comes with Locking Channel to attach the tunnel film to the end hoops.*
- *After Step A is completed you can attach the Locking Channel as per the Farmer's Friend video and attach the tunnel film but it is normally preferable to wait until finishing **Step C.***
- **The Locking Channel can take more than one layer of film and wiggle wire and you will use a second layer of Wiggle Wire (provided with the end wall kit) to fit the end wall film onto the hoop section after the large tunnel film has already been fixed into the channel.*
- *Suggestion: If you wait to attach film after Step C you can choose to fit the wall film to the outer hoop channel before adding the main tunnel film. This will enable removal of the tunnel film before the end wall film if required*

A.(Part 2): Attach the Header Pole:

1. Fit 2 brace bands onto the Header Pole, to be positioned later for the door stays
2. Attach the Header Pole to the top brace bands that you previously positioned on your end hoop
3. Use a spirit level to make sure the Header Pole is level for your door option.
4. Tighten the Brace Bands,

NOTE; Brace Bands do NOT require full closure to work. Just tighten until the spanner is tight. Your brace band will be secure at this point.

B. (Part 1): Setting your Door Stay opening diameter;

Choose your doorway width. We supply a greenhouse door with hinges ,not a sliding rail. You may choose a simple flap or a sliding door that fits internally or externally. Things to consider may be whether the door will measure to the outer length of the Door Stays or sit within the Door Stays. *(See 'C part 2' under the next step)*

1. Position your Door Stay Footing Rods; using a stringline with a weighted end hung/tied to the Header Pole, locate the position for the Footing Rod to be hammered into the ground directly below the Header pole with the rod's side that is facing the tunnel's centre sitting at your inner door stay measurement.
2. Hammer the 1m footing rod vertically into the ground to a depth of 700mm leaving 300mm above (as per hoop footing rods) this depth is not as critical as with hoop rods but this is an ideal depth)
3. ATTACH THE BRACE BAND HINGES ON EITHER THE LEFT OR RIGHT DOOR STAY DEPENDING ON WHICH SIDE YOU WANT THE DOOR TO OPEN. The hinges are located in the **adjustable gate box**. Position the brace band hinges (with metal dowel pins facing outward) placing 2 brace bands toward the top and two toward the bottom of the door stay, finger tighten only.
4. Now place a brace band onto the bottom end of each door stay for attaching to the telescopic base poles before sliding the Door Stays into position onto the footing rods
5. Attach the top of the Door Stays to the brace bands on the Header Pole, finger tight...

NOTE; Wait until you have attached the Telescopic Base Poles before tightening off the brace bands in order to set the correct 90 degree right angle for your doorway

C: Assembling and fitting the Telescopic Base Poles;

The Telescopic Base Poles sit at ground level, positioned from the base of the Door Stay to the base of the hoop, forming the bottom of your end wall. One complete pole is made of two sliding sections, allowing adjustment to your required width.

For each side;

1. Slide the narrower 32mm diameter pole into the 35mm pole, if there is a resistance from air pressure drill a small hole at the end of one of the pipes close to the flattened end to release that pressure. (you could use a Tek screw to make the hole)
2. Connect one end of the base pole to the Brace Band that you previously positioned on the HOOP BASE
3. Adjust the Telescopic length to join to the other Brace Band positioned at the base of the DOOR STAY
4. Set the Telescopic Base Pole length.

NOTE; Pull the Door Stay Pole's side hard up to the internal Footing Rod and using a Tek screw fix the Telescopic Base Pole as a point where they overlap, this will stop any sideways movement of your Door Stay

B (Part 2): Setting your Door Stay opening diameter- [Setting the tops of your Door Stays]

After completing step C you can tighten the brace bands on the Header Pole.

1. Use a spirit level to ensure the Door Stays are vertical (so that you are achieving a 90 degree angle at the Header Pole)
2. Tighten the 2 door stay brace bands.

D: Construct and attach the door frame:

Open the box containing the adjustable gate and using the provided 10 guage tek screws build the gate frame to your chosen width, you will need a minimum width of 900mm. We recommend using the full height.

Assemble the gate frame.

1. The gate has easy to follow letters and predrilled holes to guide joining with Tek screws.
2. The ‘F’ piece has the latch attached and is wrapped separately to the gate box.
3. Position the latch below the mid horizontal bar.

Attach the frame to the hinges.

1. Roughly position the 4 gate pin hinges on the door jam
2. Insert the stainless steel dowel pins FULLY INTO THE HINGE SOCKETS ON THE GATE
3. Using a spirit level, ensure the hinged side of the gate is parallel to the door stay and tighten brace bands.
4. Open and close the gate fully, several times and adjust further if required

Drill the gate latch hole

After making sure your gate is plumb it is time to make an 8-10mm hole on the other door stay to recieve the latch shaft. **Note: Check that the hinge dowels are fully inserted into the gate hinge lugs, if not your door may drop in position and the latch will not work as designed.**

1. Using a marker (texta) Place the door in the closed position and mark the height position of the latch shaft on the door stay.
2. Now open the gate position and mark the point for drilling (centre of receiving door stay)
3. Using a small drill bit e.g 2-4mm drill a pilot hole
4. Check position by again closing gate and see if latch bolt is centred on your pilot hole.
5. **CHECK NOTE ABOVE REGARDING HINGE PINS**
6. Use a 10mm drill bit to drill out the pilot hole, close gate and check.

E(Part 1): Attach the Aluminium Locking Channel;

At this stage you will need a marker pen, tape measure and cutting device such as a hacksaw or angle grinder, a battery powered multi-tool will also suffice to cut the channel. To cut the Blue Wiggle Wires you will need strong pliers, side cutters or an angle grinder.

End Hoop Outer Edge - Retrofitting the channel to your Cocoon end hoop

The channel is designed to bend or shape to the outer curve of the hoop

To start, attach your locking channel from the outer surface of the end hoop at ground level.

1. Either hand hold or tie your channel's end to the base of the hoop
2. Add your first Tek screw 40mm-100mm above the start of the channel, using the central channel groove to position the Tek screw
3. Add additional Tek screws every 300mm-500mm, making sure to re-centre your channel on the hoop surface and avoid joining within 50mm of any brace bands or fitting joins, eg insert kit
4. Tightening in the end of your channel, attaching the end of the channel can be made easier by using rope, a belt or similar to pull in the channel.. Once aligned add a Tek screw up to 40mm from the end, then add the next channel length, cutting excess off the last length.

NOTE:

- *Tek Screws can be set back up to 10cm from the ends of the Channel. Don't screw through flattened pole ends or brace bands.*
- ***Never over tighten Tek Screws otherwise it will weaken the connection, tighten just until surface contact is made.***

End Wall - Front Facing Edge

1. Attach channels to each outer facing edge including; Header pole, Telescopic base poles, Door Stays, marking the length of Channel required for each section and cut with an appropriate tool.
2. Hinge side door stay; Angle the locking channel on the side of the door stay away from the door, this will allow you to use a single 2m piece from the base pole upwards.
3. Door header; make a door header by attaching channel between the two door stays (position just above door)

NOTE: Small gaps between the joins of the channel eg, 1- 4cm are acceptable. When attaching the film the wiggle wire will span the gap. Using this technique will enable you to attach the Wiggle Wire without cutting it to go around a corner eg, in the doorway.

1. Attach as in step E.2; Add your first Tek screw 40mm-100mm from the start of the channel, using the central channel groove to position the Tek screw
2. You don't need to attach to the full length of the Header Pole, only above the door access

Door Frame - Front Facing Edge

1. Attach channels to each outer facing edge; You do not need to make 45 degree cuts for corners but you can if you choose to. It is easiest to attach the left and right hand uprights first. You will need to cut small pieces for above and below the hinges and when attaching the blue wires just 'jump' across the short 50mm gap. Then attach the three horizontal pieces.

E.(Part 2): Attaching the End Wall film with blue Wiggle Wire;

Your tunnel film roll has sufficient excess film to cover both end walls.

Note:

- ***The film requires a small amount of slack when fitting as it will tighten from each side as you start to use the wiggle wires. Wiggle wires can be removed and reapplied if required.***
- ***At this stage you could choose to add a piece of shade cloth to the half moon area from the header pole to the top of your tunnel, providing great ventilation. If so, add first before using a second wiggle wire to attach film to the header pole.***

1. You will need a single piece measuring 3 metres high by 5.2 metres wide as a minimum. This size will allow the excess to be cut off after installation.
2. Mark your film and cut to size using scissors or a sharp knife.
3. Attach each side: Using the Wiggle Wires as per the Farmer's Friend video start attaching by stretching to either side of the hoop base, leaving about 15cm of excess at ground level.
4. Lift up to the tunnel's peak and temporarily join by using a few 'wiggles' of the blue wire to hold it.
5. Return to the base and fit the film at ground level.
6. Starting from one side, attach the Wiggle Wire up the edge of the hoop while pulling the excess taut.
7. When you reach the peak remove the temporary wire and continue to ground level on the other side, cutting off any excess Wiggle Wire
8. The End Wall face should now be taut and it is time to add the Wire to the doorway
9. Next you can cut the inner opening of your doorway using the knife or scissors. You can choose how little or much excess film to leave however a few (2-3cm) could be a good minimum.

F: Troubleshooting: Phone a Friend!

Please let me know if you require any guidance with the construction and we can talk through it on the phone. My number is 0427995867. If I don't answer, text me and I'll get back to you soon after. Additionally I can be personally contacted by email, james@activevista.com.au

I hope you find your Cocoon tunnel highly rewarding throughout the seasons.

Happy growing!

James.

ActiveVista Pty Ltd