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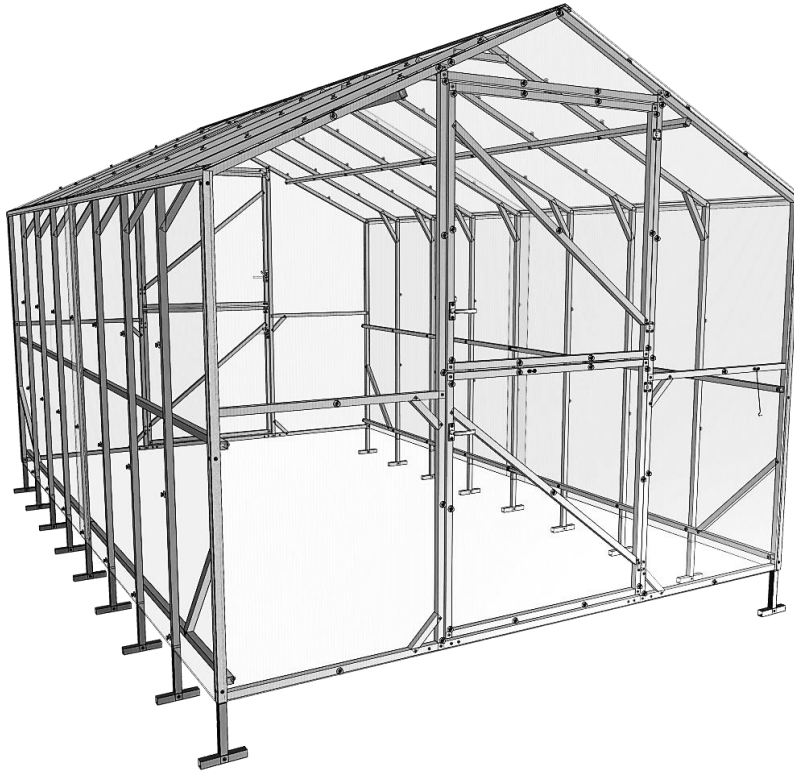
TECHNICAL MANUAL

DAISY

Made of 1”x1” Galvanized Steel Pipe
Covered with High Density UV Polycarbonate



Set of product

Width 8.3ft (2.53m) • Height 7.2ft (2.2m)
Length of base 13ft (4m) • Optional Extension 6.5ft (2m) etc.

TECHNICAL CERTIFICATE of GREENHOUSE "DAISY"

DISCRIPTION

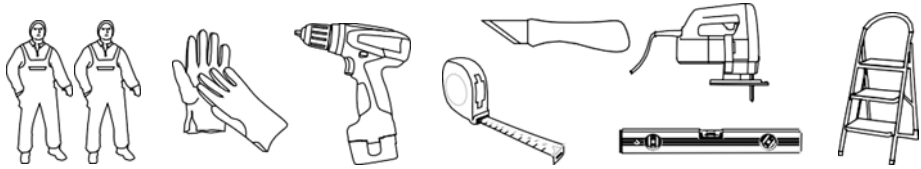
The greenhouse "DAISY" is designed to create the climate, which is productive to grow horticultural crops on the garden plots.
The length of the greenhouse is 13' (4m) width is 8.3' (2.53m) and height is 7.2' (2.2m) with ability to extend length by 6.5' (2m) the surface of the protected soil is 108 ft2.

The frame of the greenhouse is made of square galvanized pipe 1"x1" and it is assembled with the studs, screws, nuts. The kit includes everything you need to assemble the frame and fasten the covering. The foundation of the greenhouse is not obligatory to install but recommended. The greenhouse is fixed on the ground by digging in to the ground special frame endings. For fixing cellular polycarbonate to the greenhouse roof, galvanized steel strapping tape is used. The greenhouse covering is completed on buyer's request. To cover the greenhouse you need a greenhouse frame is designed for covering with cellular polycarbonate 4 mm thick with a High Density of at least 0.7 kg / m2. The greenhouse has two doors, one on each end and two vents. Assembly instructions and operating rules

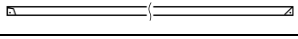
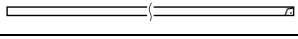
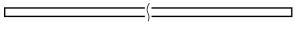
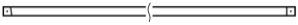
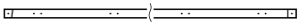
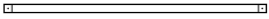
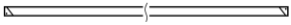
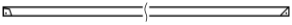
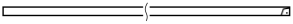
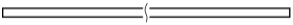
The greenhouse should be assembled and installed on the ground according the instruction.
The buyer should control the assembly quality if it is made by third person.
Self-tapping screws of mount structure should be tightened to contact the flat head of the screw with the covering surface and hold it to the frame, but do not allow the extra rundown of the screws.
Avoid installing the greenhouse closely to the buildings and trees. The melting snow or ice is a potential hazard. The recommended distance is minimum 7ft.
The greenhouse is designed to endure the wind of less than 50mph.
There is no need to skin the greenhouse during the winter time for the greater parts of the regions of Canada and USA. If the greenhouse in not looked after during winter, the customer should determine the possible snow load or to skin the covering.
The limit snow load for the frame takes place when the weight of the snow blanket is 240 kg/m2 (120Lb/ft2) of horizontal ground surface. This limit snow load requires characteristic snow load of the North snow region (according the classification of construction rules and regulations "Loads and actions").

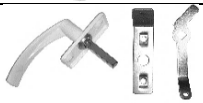
For assembly, you will need: a 10mm wrench, a screwdriver with a PH2 attachment, a sharp knife, a carpenter square, a level, a 7-10 m tape measure*, a ladder and protective gloves.

***Metric measuring tape needed! Cm/mm**



1. LIST OF ACCESSORIES

#	*Part name*	*BASE 13'L*	*INSERT +6.5'L (optional)*	*Image* (could be different from the actual configuration)
1	End rafter left, 1400mm	2	-	
2	End rafter right, 1400mm	2	-	
3	End post, side, 1600mm	4	-	
4	End crosspiece, lower side, 810mm	2	-	
5	End crosspiece, lower central 910mm (with X-crimping)	2	-	
6	End crosspiece, lower side, 810mm	2	-	
7	Left door-way post, 1970mm	2	-	
8	Right door-way post, 1970mm (with holes for hinge)	2	-	
10	End crosspiece, upper,960mm	2	-	
11	End crosspiece, central lateral, 810mm	4	-	
12	Jib-stick, small support, 150mm	8	-	
15	Door lintel "C","D", 902mm	8	-	
16	Door post, right, "C","D", 935mm (with apertures for door hinges)	4	-	
17	Upper door post, left, "C", 935mm (aperture for a door handle, lower)	2	-	
18	Lower door post, left, "D", 935mm (aperture for a door handle, upper)	2	-	
19	Door diagonal brace, "C","D", 1100mm	4	-	
20	Intermediate arch rafter left, 1400mm	5	3	
21	Intermediate arch rafter right, 1400mm	5	3	
22	Side post for intermediate arch, "E", 1600mm	10	6	
23	Intermediate arch braces "E", 250mm	15	9	
24	Anchor post, 250mm	14	6	
25	Anchor grouser, 150mm	14	6	

#	Part name	BASE 13'L	INSERT +6.5'L (optional)	Image (could be different from the actual configuration)
26	Connecting stringer starter, 2012mm	6	-	
27	Connecting stringer With X-crimping, 2068mm	6	6	
28	Side diagonal support, 600mm	4	-	
29	Outside corner roof molding, 120° / 2025mm	8	4	
30	Outside corner molding, 90° / 1600mm	4	-	
31	Outside roof/side drip molding, 120° / 1995mm	4	2	
40	Bolt M6x60mm	42	18	
41	Nut M6	42	18	
42	Washer M6	42	18	
43	Bolt M4	32	-	
44	Nut M4	32	-	
45	Self-Tapping screw 4,2x**16mm** *(for assembling frame elements)*	388	90	
46	Self-Tapping screw 4,2x**19mm** *(для крепления поликарбоната)*	220	54	
47	Plastic thermo-washer *(for fastening polycarbonate)*	172	42	
48	Door handle set (handle, cover plate, catch lock)	4	-	
49	Door holder, 200mm	2	-	
50	Door hinge	8	-	
51	Задвижка дверная	2	-	
52	Stubborn plate for door, 100mm	2	-	

2. ASSEMBLY DIAGRAM “DAISY” PRODUCT

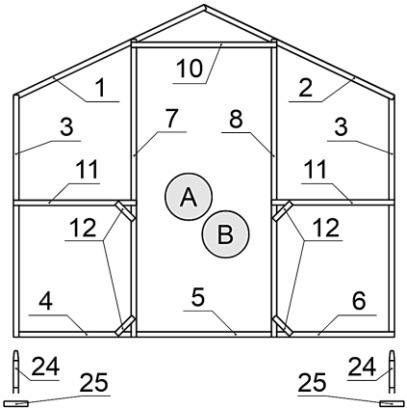


Fig.1 Ends “A”,“B”

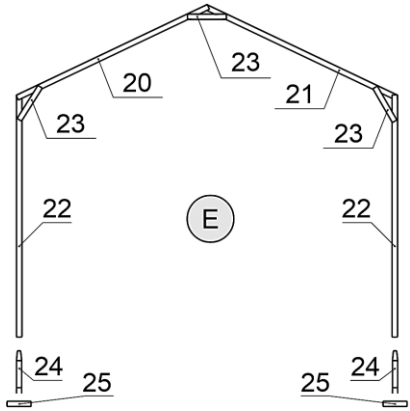


Fig.2 Intermediate arch "E"

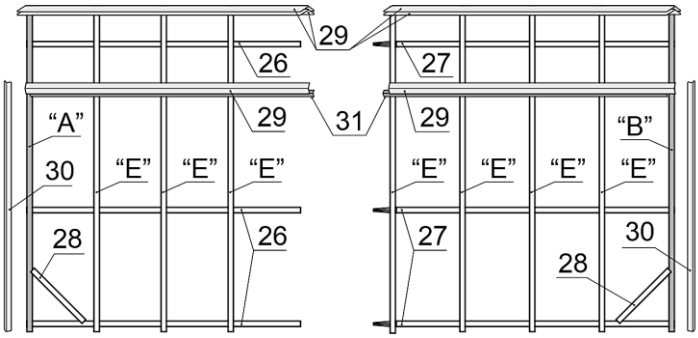


Fig.3 Assembling frame (side view)

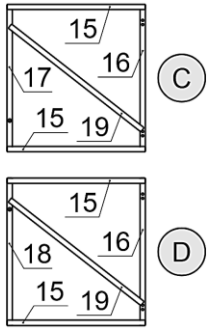


Fig.4 Doors "C", "D"

3. Assembling Ends "A" and "B" (identically the same). Fig.1

Attention! Places of fastening parts are indented and circled with a marker. Polycarbonate mounting places are only indented.

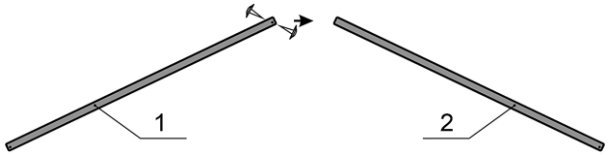
To maintain the correct geometry, assembly must be done on a level and flat surface.

Before reassembling, sort and lay out the end caps, doors and intermediate arches parts according to the diagram and the parts list.

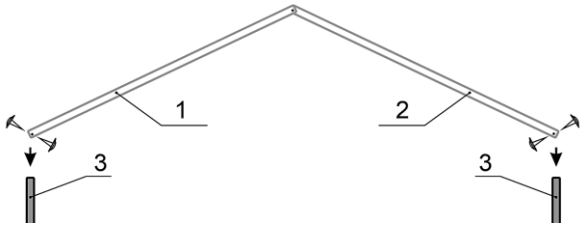
Punching holes for fixing polycarbonate on the details of the ends and doors should be located on one side.

For convenience and acceleration of assembly, fastening of parts with self-tapping screws can be done on one side of the assembly element, then carefully turn the structure over and fix the screws on the other side.

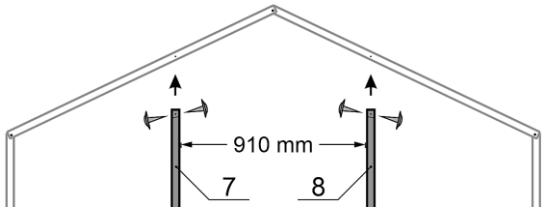
3.1. Connect the left **# 1** and right **# 2** end rafters with **# 45 (16mm)** self-tapping screws.



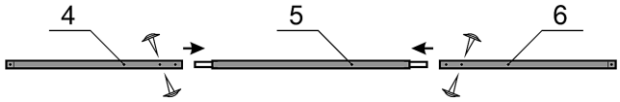
3.2. Attach the side posts **# 3** to the end rafters with **# 45** self-tapping screws.



3.2 Attach the **# 7** left and **# 8** right doorway posts to the rafters with **# 45** self-tapping screws on both sides. The distance between the posts must be 910mm:

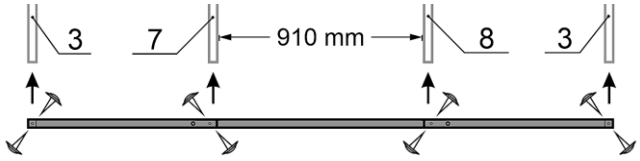


3.3. Connect End crosspiece **# 4** and **# 6** with End crosspiece **# 5**, fasten with **# 45** self-tapping screws on both sides, **2** self-tapping screws for **1** connection:

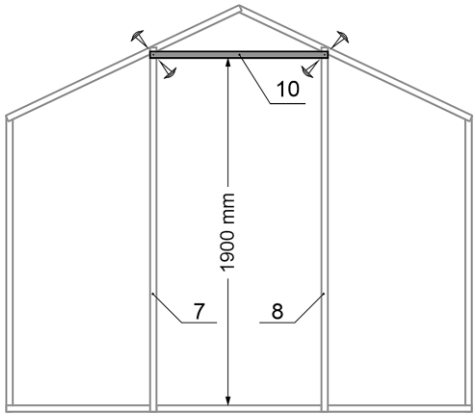


3.4. Fasten the collected item from **clause 3.3.** Door-way posts **3-7-8** at the bottom with self-tapping screws **45** on both sides, **2** self-compound self-press.

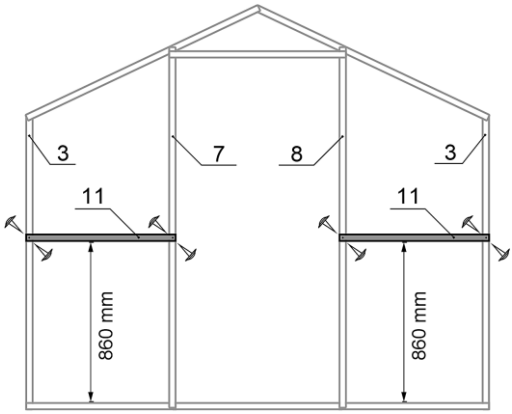
The distance between the door-way posts **7-8** should **be 910 mm:**



3.5. Install upper crosspiece **# 10** between posts **# 7-8 at 1950** mm from the lower crosspiece and fasten with self-tapping screws **# 45:**

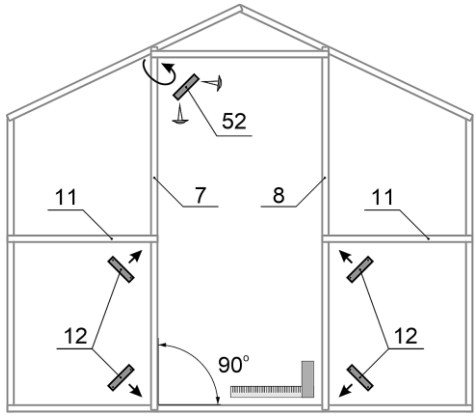


3.6. Install side crosspiece #**11** between the doorway posts #**7-8** and side post #**3**, at **860 mm** from the lower crosspiece and fasten with self-tapping screws **# 45**:



3.7. Set the corner of the doorway to **90 °** using a Carpenter square. Use **# 45** self-tapping screws to secure the **# 12** Jibs-stick to the **# 7-8** Uprights and Bottom Lintel, and to the **# 7-8** Uprights and **# 11** Middle Side Lintel.

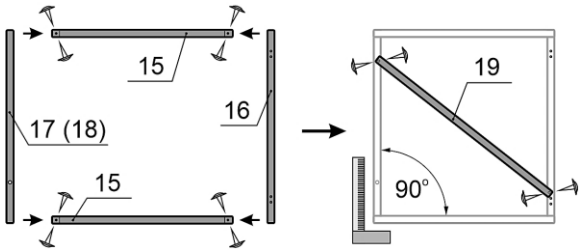
3.8. Fasten the Stubborn plate **# 52** for door with screws **# 45** in the upper left corner of the doorway from the inside **(to prevent the door opening inside).**



3.9. Using the details **# 15-16-17-18-19**, assemble with self-tapping screws **# 45** the top door **"C"** and the lower door **"D"**. Right post **16** on door **"C","D", 960mm** (with hinge holes) must be right, and **# 17(18)** with hole for handle must be left.

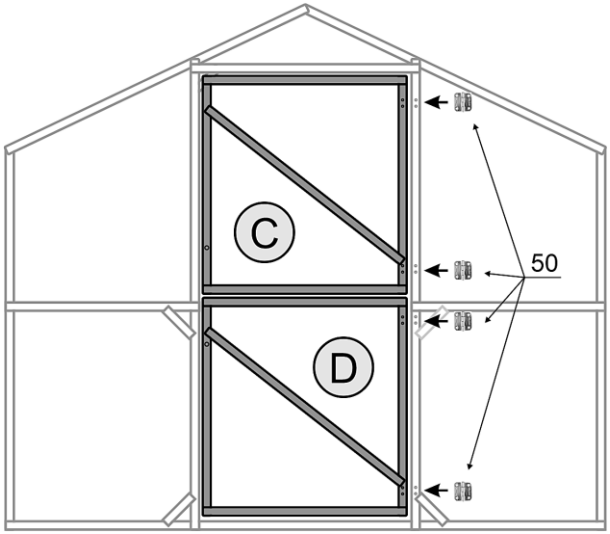
Hole for the handle in the top door **"C"** should be located below, and in the bottom door **"D"** - from above.

Insert Carpenters square and make sure it is **90**°. Insert and fasten the diagonal air gate door support **# 19** with screws **# 45:**



Doors "C", "D"

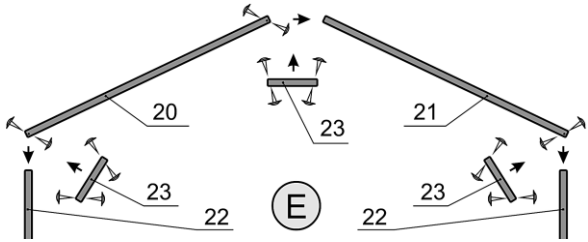
3.10. Insert the doors **"C", "D"** in the opening of the Ends **"A" and "B"**, secure with hinge **# 50**, bolts **# 43** and nuts **# 44**:



4. Assembling intermediate arches Fig.2

Assemble the intermediate arches "E" using # 20-21 rafters, # 22 posts, # 23 braces using # 45 self-tapping screws.

To maintain the correct geometry of the arches, use the assembled end as a template, placing the parts for assembling the arch on it.



5. ASSEMBLY OF THE FRAME (for the assembly diagram Fig.3)

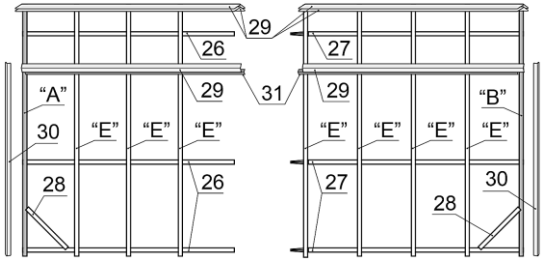
5.1. Connect the **# 40** bolts to **# 41** washers and **# 42** nuts the assembled end **"A"** to the six **# 26** starter stringers through the holes drilled in the side posts.

5.2. Fasten with **# 40** bolts to the starter stringers **# 26** the three intermediate arches **"E".**

5.3 Insert **# 27 X-Crimp** stringers into **# 26** starter stringers.

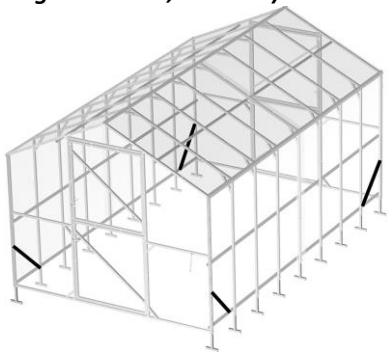
5.4. Fasten using bolts **# 40** the stringers **# 27** with intermediate arches **"E"** through the drilled holes.

5.5. Fasten with bolts **# 40** to the End Face **"B"** (for base frame **13' (4 m)** long)



To EXTEND the frame by 6.5' (2m), use sets of six 27 X-crimp stringers and four intermediate arches (Optional possible extension length is 19.5'L, 26'L etc.).

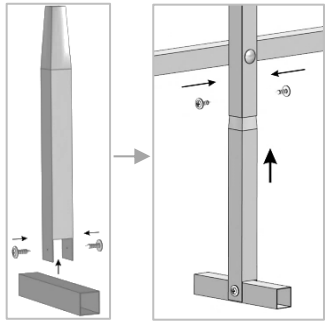
5.6. Install the **# 28** Side diagonal supports between the **# 3** End post and the **# 26-27** Lower Connecting stringers. Fix the braces with **# 45** self-tapping screws, preliminarily setting an angle of **90 °** between the end face and the stringer using a Carpenter square.



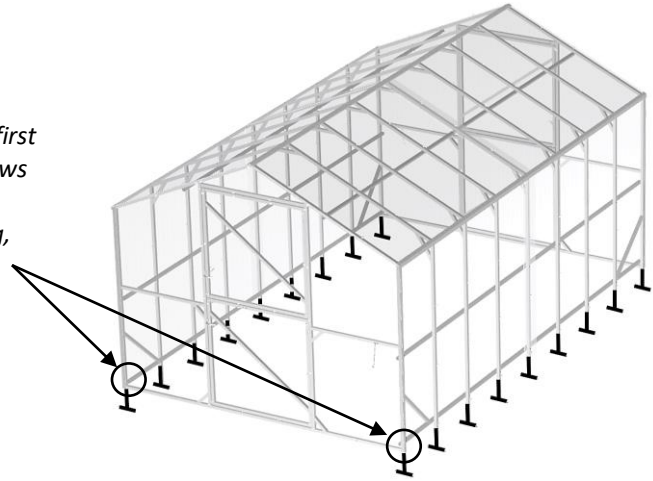
5.7. Connect the Anchor grouser **# 25 (150mm)** with Anchor post **# 24 (250mm)** using self-tapping screws **# 45** so that you get **T-shaped Anchor-legs.**

5.8. Insert the **Anchor-legs** into the side post from below until it stops, fix with two self-tapping screws **# 45.**

5.9. Install the all Anchor-legs in all other racks in the same way.



Attention!
For mounting Anchor-legs Into the end posts, you must first unscrew the self-tapping screws connecting the post and the lower crossbar, mount the leg, and screw the self-tapping screws back.

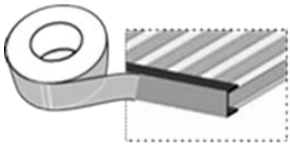


6. INSTALLATION OF CELLULAR POLYCARBONATE (CP) TO THE ENDS

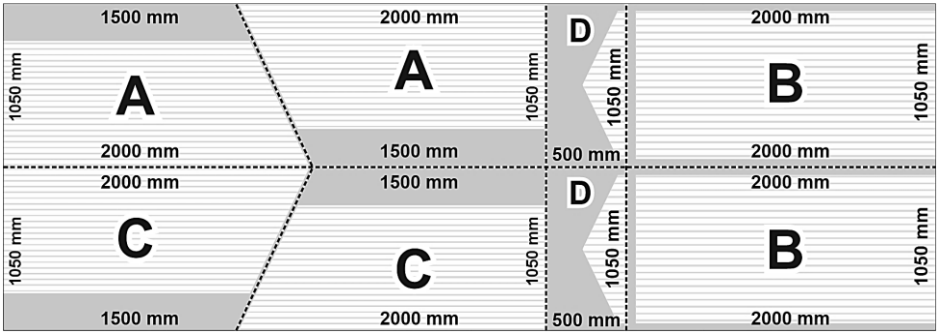
Important!

For Polycarbonate positioning it is important that all cellular lines be located in a vertical position (downwards). Be sure to remove the wrapping film from both sides of the sheet. The manufacturer marks the work face (sunward) of cellular polycarbonate with a certain mark (a color bar, sticker or other).

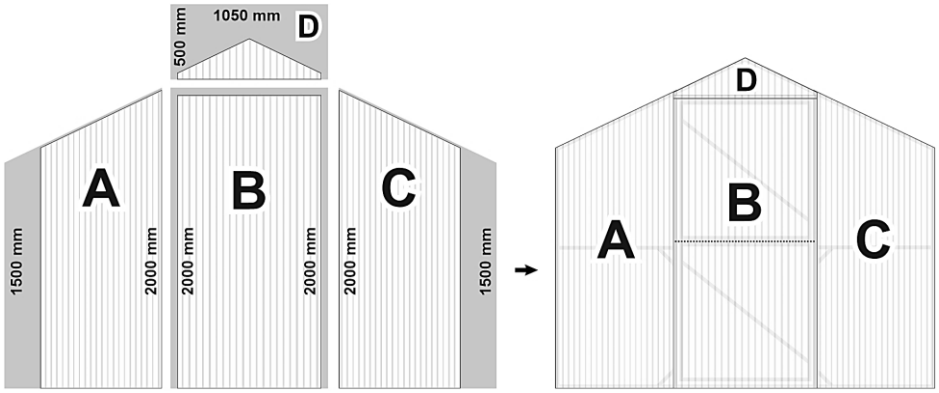
To prevent moisture from entering the polycarbonate open honeycomb and inside the greenhouse, we recommend sealing the joint of polycarbonate sheets along the entire length with a waterproof self-adhesive tape (dense tape or similar material).



6.1. Cut a sheet of CP with a size of **6000x2100mm** into parts according to the diagram.



6.2. Attach **part "B"** to the end door, aligning the bottom edge of the CP with the bottom lintel of the end. Fix the CP with self-tapping screws **#46** *(19mm)* through thermal washers **#47** according to the scheme for attaching polycarbonate to the ends (Ext.).



Layout of polycarbonate sheets at the Front/Back Ends

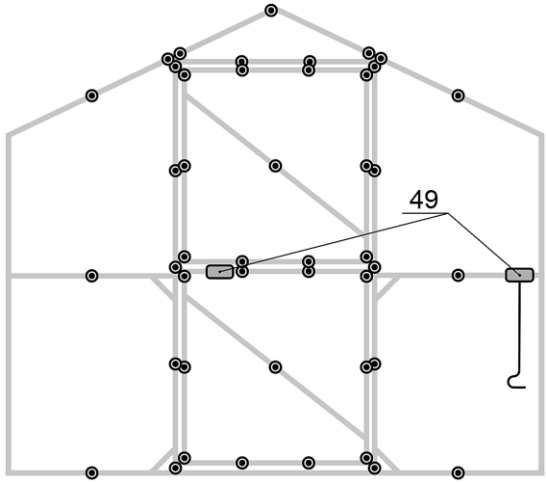
6.3. Attach **part "A"** to the left side of the end and **part "C"** to the right side of the end, aligning the lower edge of the CP with the lower lintel of the end. Fasten **parts "A" and "C"** with self-tapping screws **#46** (19mm) through thermal washers **#47** according to the scheme for attaching polycarbonate to the ends (Ext.).

6.4. Fasten **part "D"** above the door according to the scheme for attaching polycarbonate to the ends (Ext.).

6.5. Mount the polycarbonate on the second end the same way.

6.6. Cut off the extra edges of the CP along the outer edge of the frame.

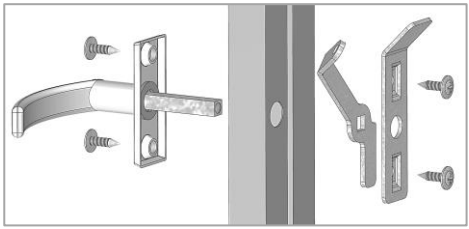
6.7. Cut a horizontal gap between the doors in parts **"B".**

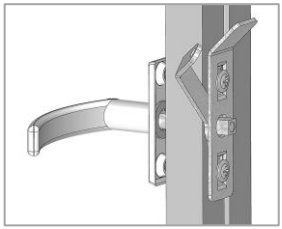


The scheme of fixing cellular polycarbonate and a hook to the ends and doors

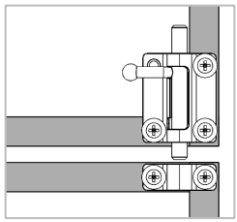
6.8. Attach the hook **# 49** with self-tapping screws **# 45** to the right-hand web of the end, and the mating loop of the hook on the upper lintel of the lower door so that the door can be hooked in the open position.

6.9. Insert the handles from kit #**48** into the Ø12 holes on the doors after drilling the corresponding holes in the polycarbonate. Put on the deadbolt and trim from the back side, fix the handle and trim with #**45** self-tapping screws.



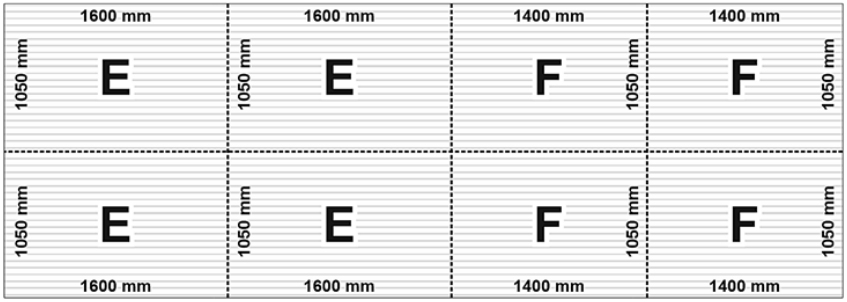


6.10. Secure the door latch #**51** with #**45** self-tapping screws from the inside between the lower and upper doors so that the doors can be locked together. To do this, it will be necessary to unscrew the self-tapping screw in the corner of the door, mount the latch, and screw the self-tapping screw back.



7. INSTALLATION OF CELLULAR POLYCARBONATE (CP) ON SIDE WALLS

Cut a sheet (if necessary) of CP with a size of 6000x2100mm into parts according to the scheme

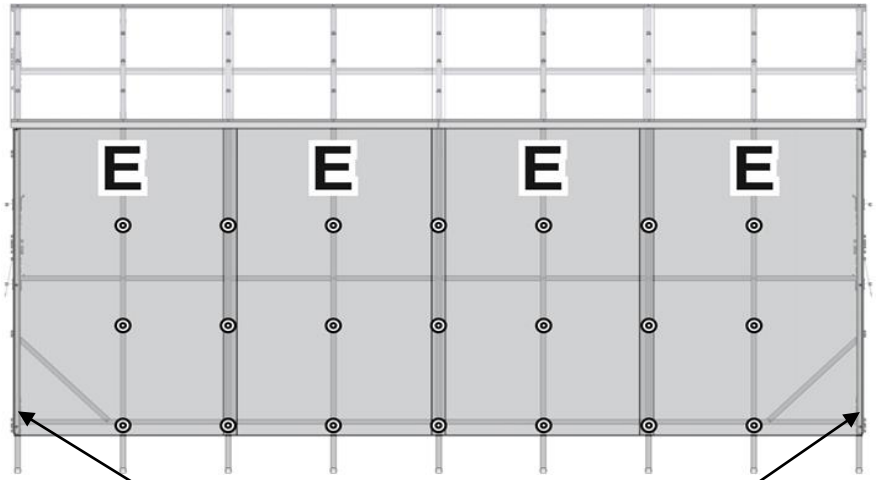


For wall mounting, Use parts "E" with dimensions of 1050x1600mm are used.

7.1. Start installation of CP sheets from the ends. Attach the Polycarbonate sheet to the wall of the frame. The upper edge of the sheet should be 1 cm below the junction of the rafter and the rack. The side edge should be aligned with the end post (no protrusion).

7.1. Start installation of CP sheets from the ends. Attach the CP sheet to the wall of the frame. The upper edge of the sheet should be 1 cm below the junction of the **rafter and the rack**. The side edge should be aligned with the post (no protrusion).

7.2. Secure the CP with **#46** self-tapping screws through **#47** thermal washers to the intermediate arch post, 3 self-tapping screws per post according to the diagram:



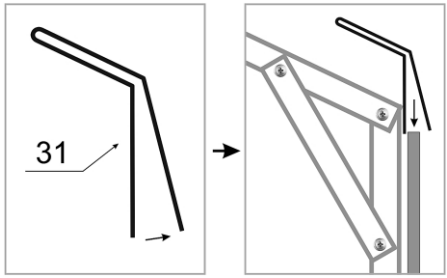
Attention! The CP sheets are not attached to the end posts!

(The vertical polycarbonate will be fixed with an outer corner on both ends.)

7.3. In the same way, overlap the remaining side panels of the CP with the previous ones. Mount the sheets on the opposite wall.

7.4. Bend the outer part of the #**31** drip angle slightly along its entire length so that the corner can be put on the top of the CP sheet.

7.5. Place the **#31** drop corners on top of the Polycarbonate sheets along the entire length, tight to each other.



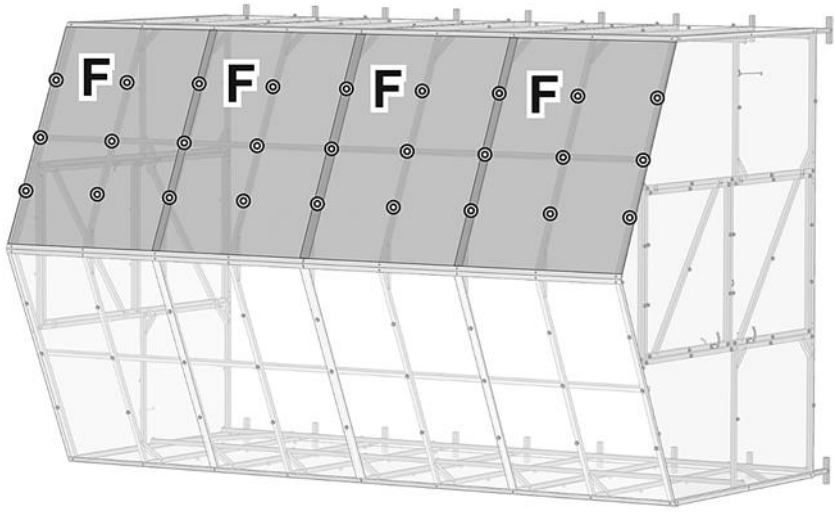
8. INSTALLATION OF CELLULAR POLYCARBONATE (CP) ON THE ROOF

For installation on the roof, Use parts "F" with a size of 1050x1400mm are used. For ease of installation, we recommend carefully laying the frame on its side.

8.1*. Start installation of CP sheets from the ends. Lay the polycarbonate sheet on the roof slope, aligning the top of the Polycarbonate along the ridge, the side edge of the Polycarbonate along the end rafter.*

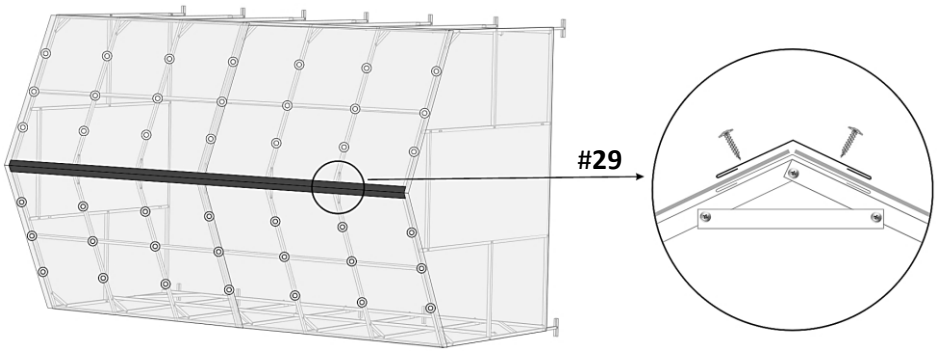
*Fix the Polycarbonate with **#46** (19mm) self-tapping screws through **#47** thermal washers to the rafter, 3 screws per rafter according to the diagram.*

The Polycarbonate sheets are not attached to the roof ridge down the middle! Fit the remaining roof sheets with an overlap with the previous ones.

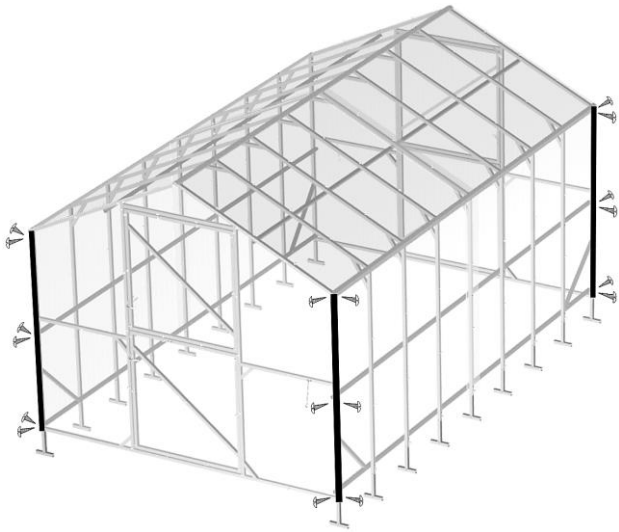


9. INSTALLATION OF EXTERNAL CORNERS

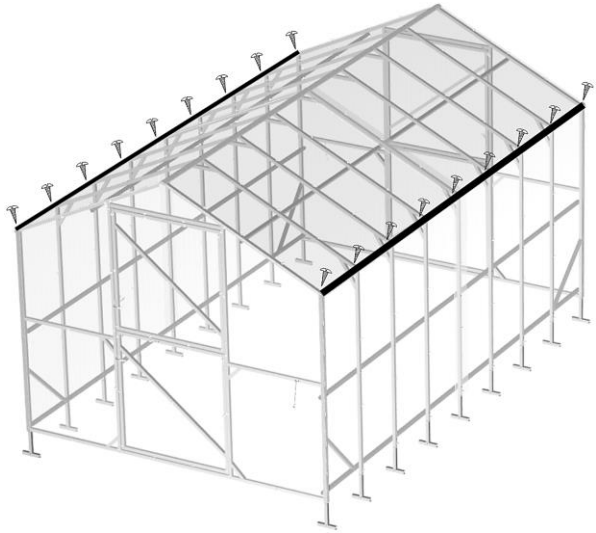
9.1. Place corners #**29** on the roof ridge and secure with self-tapping screws. #**46**:



9.2. Mount four end corners #**30** (90 °, 100mm) using self-tapping screws #**46** (19mm) on the vertical corners of the frame, 6 self-tapping screws per corner, closing the corner joints of the polycarbonate sheets:



9.3. Fit the remaining corners #**29** (120 °, 2025mm) over the joint between the roof and wall polycarbonate sheets using #**46** (19mm) self-tapping screws:



10. INSTALLATION OF THE GREENHOUSE

10.1. Before starting work, you should carefully level the site on which the greenhouse will be installed.

10.2. Dig holes or trenches sufficient in length and width under the lugs.

10.3. Set up the assembled greenhouse so that the lower end lintels are flush **with** the ground and the lugs go deeper into the ground.

10.4. Cover the lugs with soil and press the ground down.

When lowering the greenhouse into a trench or pits, make sure that there is no longitudinal distortion of the frame and no displacement of the tie straps from the arches. After tamping the ground, make sure that the tie straps are not sideways and are located along the arches. Adjust tapes if necessary.

To strengthen the greenhouse, you can use a wooden, concrete or brick foundation.

To prevent moisture from entering the polycarbonate open honeycomb and inside the greenhouse, we recommend sealing the joint of polycarbonate sheets along the entire length with a waterproof self-adhesive tape (dense tape or similar material).

ATTENTION!

The greenhouse has a sailing. Do not leave the greenhouse on unfortified ground. When installing a greenhouse in a windy area, additional fastening to the ground with improvised materials (rod, reinforcement, etc.) is required.

Do not install the greenhouse in close proximity (less than 2 meters) to buildings, fences or walls.

The area where the greenhouse is installed must be flat, without significant changes in ground level.

In winter, in order to exclude deformation of the greenhouse parts from the effects of snow and wind loads, it is necessary to remove all sheets of cellular polycarbonate from the arched part of the greenhouse (greenhouse roof) by dismantling the tie straps. The advantage of removing the sheets for the winter period is that snow gets inside the greenhouse, which, when it melts, enriches the soil with useful minerals, protects it from desalination. The roof open for the winter prevents a situation in which harmful insects crawl into a warm greenhouse with the onset of cold weather, and in spring they eat young roots and sprouts.

If it is not possible to dismantle the sheets, it is necessary to reinforce the arches from the inside with T-shaped wooden supports (made of a wooden bar with a cross section of at least 50x50mm), placing them inside the greenhouse - one bar for each arch. Wooden supports are not included in the set, they are made independently. Depending on the climatic conditions and (or) the location of the greenhouse, the buyer himself must assess the possible snow load and, if necessary, put supports or remove snow from the frame.

Failure to comply with the above requirements is the basis for refusal to provide warranty service for the product.

Install the greenhouse no closer than 2 meters to buildings, fences and fences. When installing the greenhouse in a windy area, provide a rigid attachment to the soil surface with the help of improvised means (rod, reinforcement, etc.). Do not expose the greenhouse frame to excessive mechanical stress. Do not alter the design of the product yourself.

11. LIMITED WARRANTY OBLIGATIONS

***1**. The manufacturer guarantees that the greenhouse frame (hereinafter referred to as the product) is new, fully equipped, and free from manufacturing defects.*

***2.** The manufacturer is responsible for completing the product.*

***3.** The manufacturer is responsible for the collection of the product in accordance with the instructions.*

***4.** The warranty period for full coverage of the product is for 12 month period from the date of sale. Including any manufacturing and material defects. If the repair is determined to be covered under warranty and it is consumer responsibility to send required evidence as pictures and video of damaged or broken parts.*

***5.** The limited warranty includes the stipulation that the seller and the consumer split half and half for cost of repairs and replacement parts for a 24 month period after 1 year of full coverage. If the repair is determined to be covered under warranty and it is consumer responsibility to send required evidence as pictures and video of damaged or broken parts.*

***6.** The warranty covers delivery cost within 50 mile radius from the store. The customer is responsible for freight charges to all further destinations outside of 50 mile radius.*

***7.** The warranty covers any manufacturing and material defects.*

***8.** The warranty does not cover damage caused by corrosion of the product's structural elements, snow 240kg/m2 (120Lb/ft2) and wind load (up too 50mph).*

***9.** The warranty ends:*

- If the instructions for assembly and installation are not followed;

- In case of violation of the requirements for the operation of the greenhouse;

- When using the greenhouse for other purposes;

- Upon the occurrence of force majeure circumstances (natural disasters);

- In the absence of a passport for the product/instruction.

***10.** For all questions regarding warranty coverage please contact us by email: info@greenhousetogrow.com*

Thank you for choosing the DAISY greenhouse which will serve you for decades under proper usage!

Velcom.Inc
www.GreenhouseToGrow.com

Due to the continuous improvement of the products the manufacturer reserves the right to make changes in the design without prior notice to the consumer.

The products are not subject to mandatory certification.

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