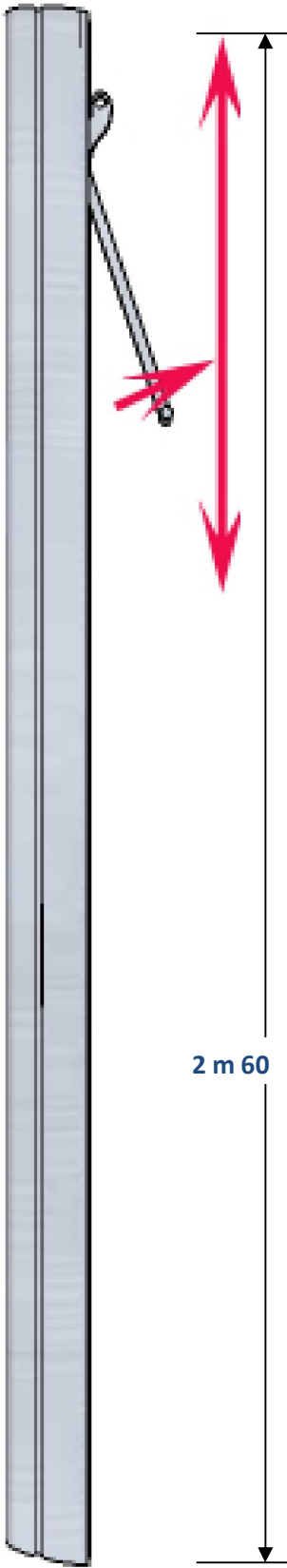




INSTALLATION GUIDE

INGENUA



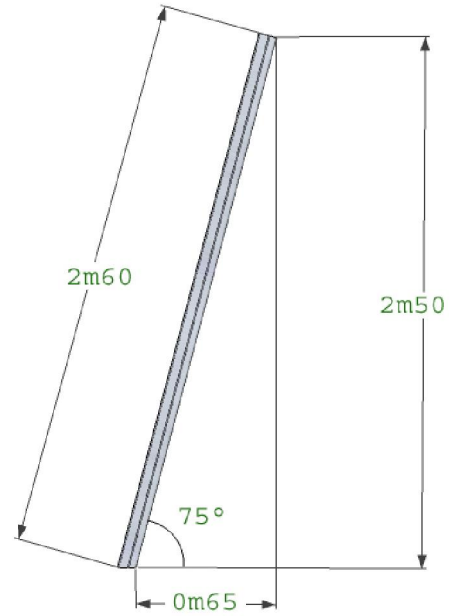


Pole 75/90°

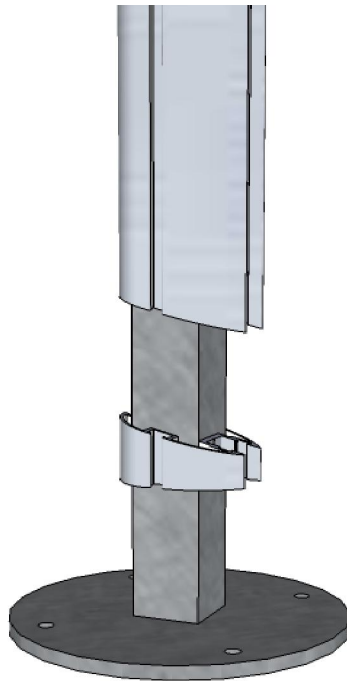
Anodized Alu profile with a length of 2.60m..

Is always delivered complete with a sliding conductor used for hooking on and adjusting the height of an 'Ingenua' shade sail.

A [connecting piece](#) which is only useful if the pole is placed at a [90°](#) soil anchor, is also provided.

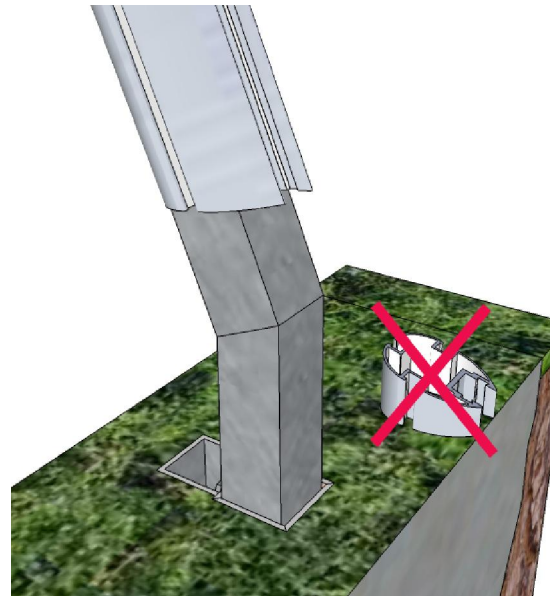


Pole assembly 90° on a straight support



Pole assembly 75° on a concrete anchor

Connecting piece is not required

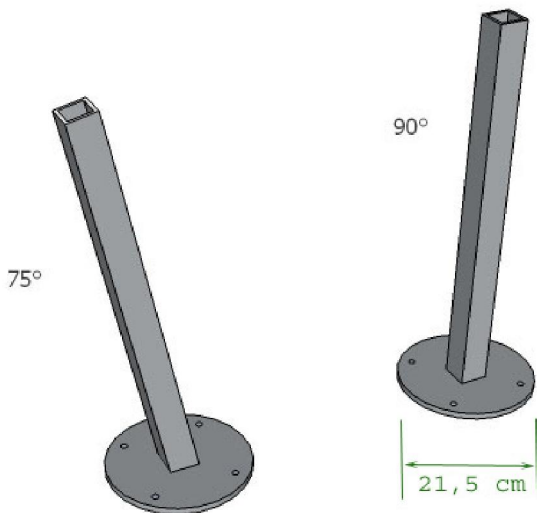


2 m 60



[Connecting piece 90°](#). Is always delivered together with the entire package. Only to be used to connect the sloping underside of the pole to the bottom, in case a straight (90°) soil connection is used.

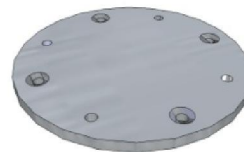
Installation round support and base plate



The 'Ingenua' round support is available in two versions

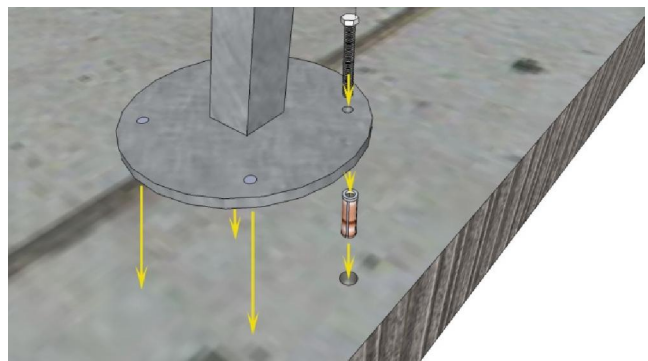
1. Support 75°
2. Support 90°

A 'base plate' is optionally available as well



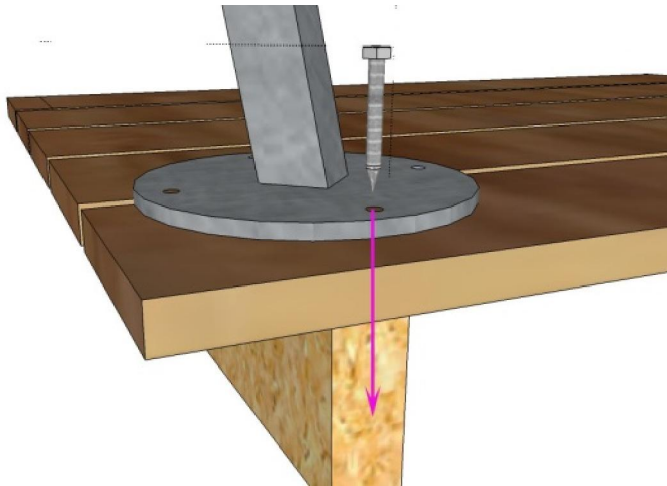
Use of the supports:

The 'Ingenua' supports can only be used on a very solid and firm surface (e.g. concrete floor)



For a good fixation to concrete you can use special screws with enlargement flanges or spike teeth with adequate metric metal screws. Do not use plastic plugs.

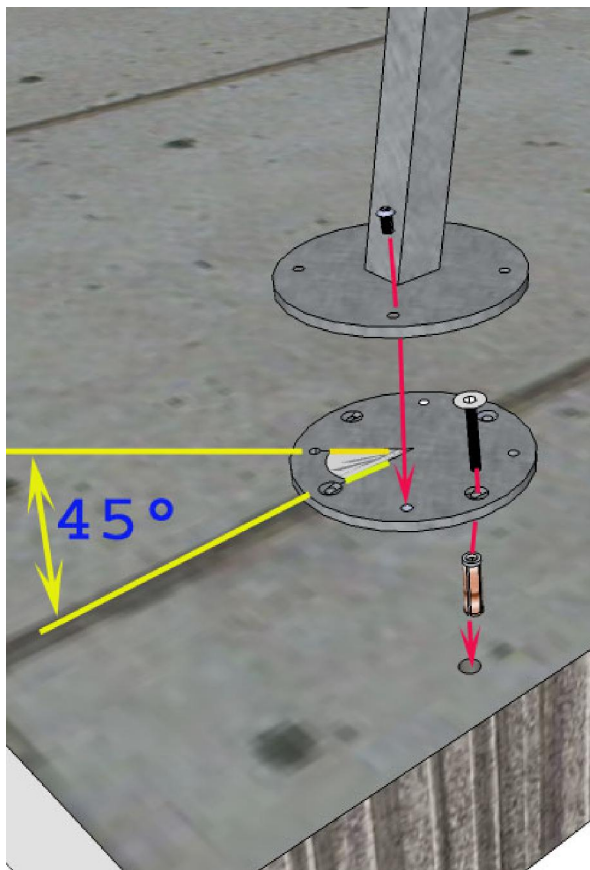
In case of doubt, contact a specialist in fixation materials



The 'Ingenua' supports can also be fastened to a wooden planked floor if at least 2 of the 4 screws reach the underlying solid construction (carrier beam or heavy metal frame)

Application optional base plate

If the support is screwed directly to concrete or to another construction, it is difficult to remove it temporarily (e.g. during wintertime)



If need be, the base plate can be used to simplify the removal of the support. It can be fastened to the concrete or the construction by means of the special fixation materials. Afterwards, the support can be mounted onto the base plate by means of metal screws that can easily be removed. As a result, during wintertime only the base plate, which because of its limited thickness (8 mm) is neither physically nor aesthetically experienced as hindering, remains.

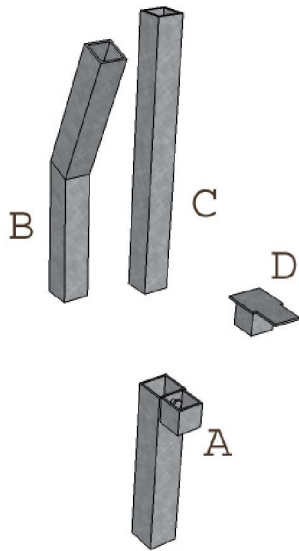
Support to base plate: button head screws M10 x 16 are delivered together with base plate.

Base plate to concrete: Use M8 x 60 with conic head and spike teeth (not included)

Warning: In order to mount a sloping support (75°) in the right direction towards the sail point (see direction concrete anchor), the base plate must be turned 45°.

The support is now ready for use.

Installation concrete anchor



The “Ingenua” concrete anchor consists of 3 parts:

A: ground part (to be sealed up in concrete)

B: shove in pole 75°

Or

C: shove in pole 90°

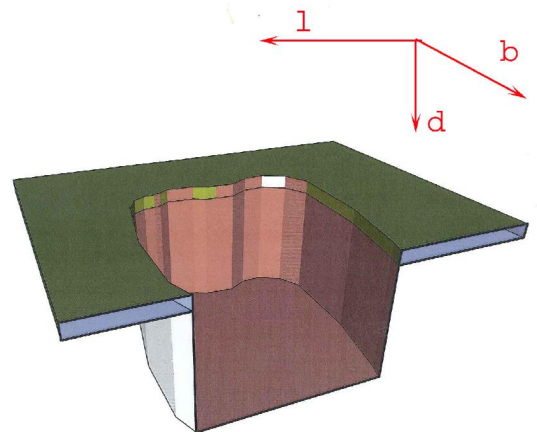
D: dome nut (in wintertime)

Procedure to fix the ground part into the ground:

1. Dig a hole of about 50 x 50 x 40 cm (l x w x depth)

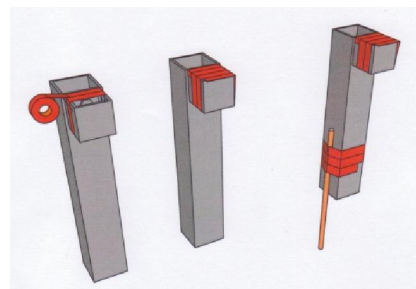
Please note:

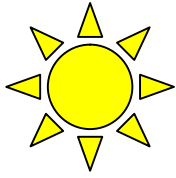
the easier it is to dig the hole, the bigger it should be, or vice versa: the more difficult it is to dig the hole, the smaller it may be.



2. By means of tape the side opening of the ground part is sealed to avoid it being filled with concrete

A fixed, small ingot is glued to the side of the ground part to be able to stick this into the ground

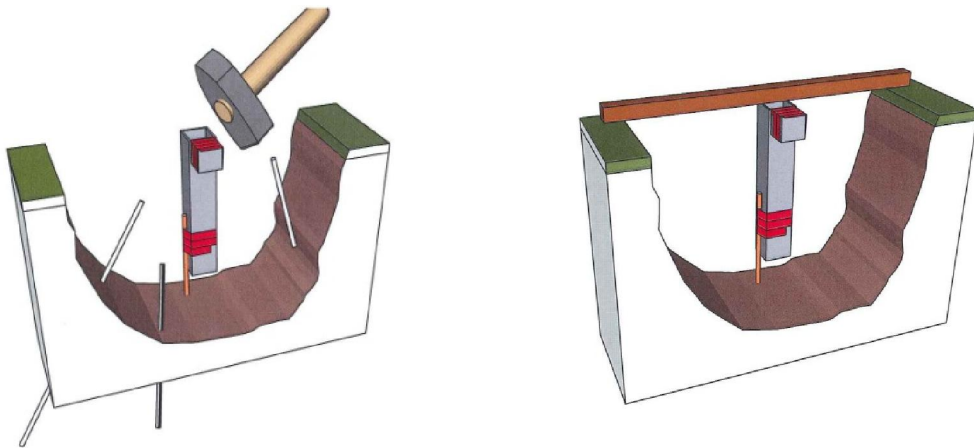




Remark: it is not the size of the hole, nor the amount of concrete, nor the weight that is of crucial importance. Still, you need to avoid the concrete coming loose in the sub-soil because of the sideways pulling forces to the pole that will be fixed onto it afterwards.

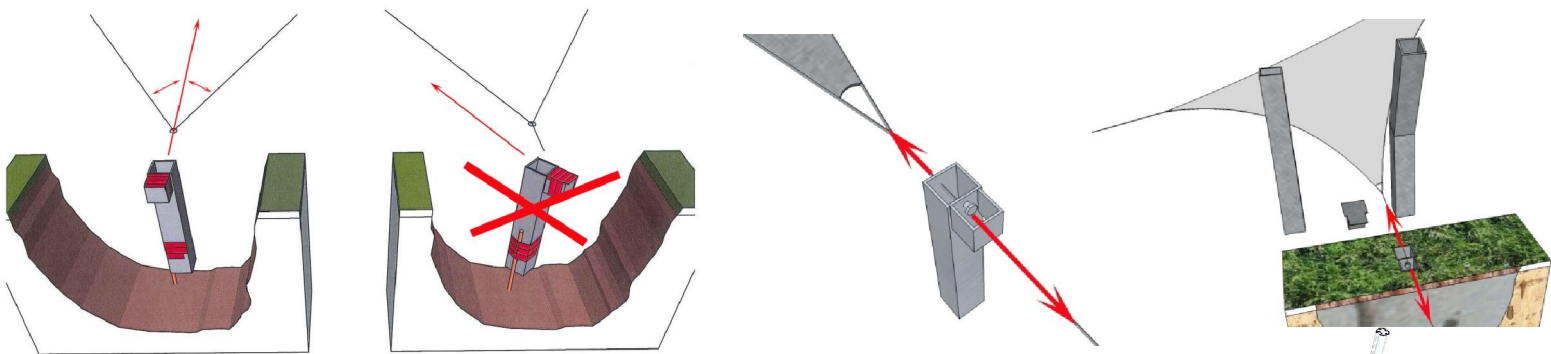
This is why it is advised to knock a **number of metal bars** (or tubes) into the sub-soil, the tail ends of which will **partly be anchored with the concrete**. In this way it will prevent the concrete from coming loose or tilting.

3. Stick the ground part with the small ingot into the reserved space and verify its depth

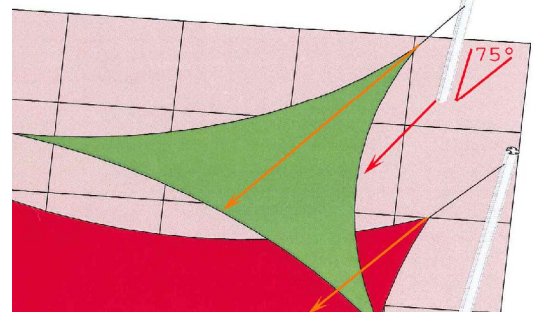


4. Point the ground part in the right direction (to ensure easier installation of the Ingenua pole and shade sail later on).

Should a pole be placed at an angle of 75° , the sloping side should be aimed at the bisecting line. (imaginary line which divides an angle into two equal parts).

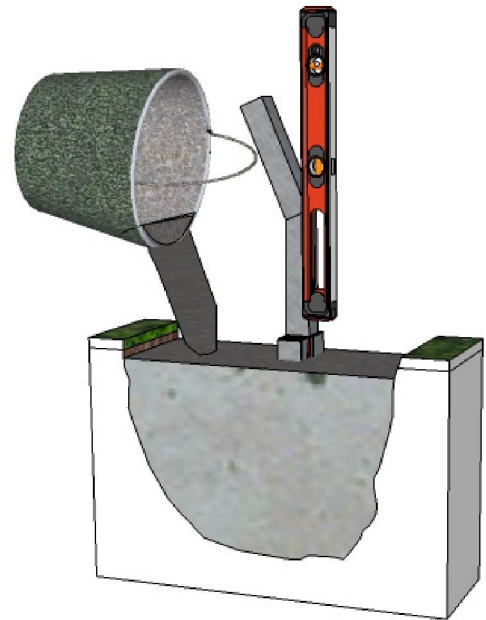


Please note: should **more than one sail point be hooked to one pole**, this pole should be mounted onto a **90° concrete anchor**.



5. Fill the hole you made with concrete (if need be up to about 8 cm from the upper edge).

Verify the perpendicular position by means of a level, before the concrete has totally hardened!



How to make concrete?

1. Mixing it yourself:

The ratio of cement/sand/gravel for concrete is 1:2:3, which means you have to mix 1 part of cement with 2 parts of sand and 3 parts of gravel. One part may e.g. be a shovel, a bucket or a bag. The necessary amount of clean water cannot be indicated exactly, as this depends on the type of cement, sand and gravel you use.

On average, 2.5 litres of water are used for 25 kg of concrete mortar. The mix gives you about 12 litres of concrete mortar.

2. Buying a readymade mixture:

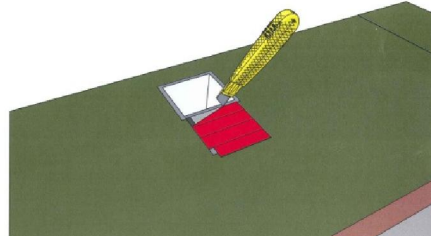
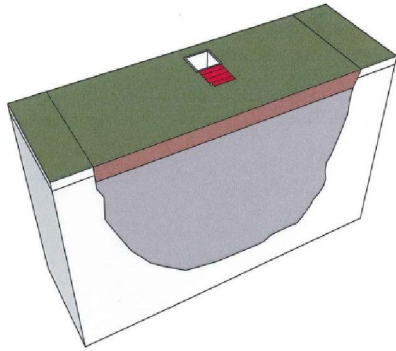
You can also buy bags of ready mix concrete. All you have to do is add water. The amount is indicated on the packaging.

3. How much concrete is needed for a concrete anchor?

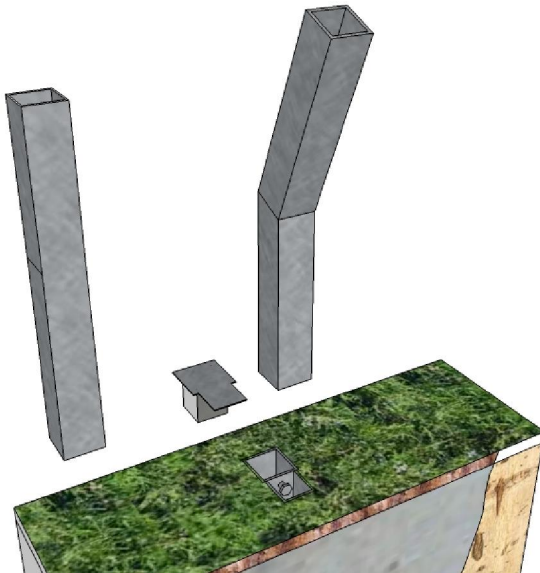
A hole of 50 x 50 x 40 cm (l x w x depth), more or less corresponds with $\frac{1}{10}m^3$ or = 100 litres or = 10 buckets or = 1.2 full wheelbarrows.

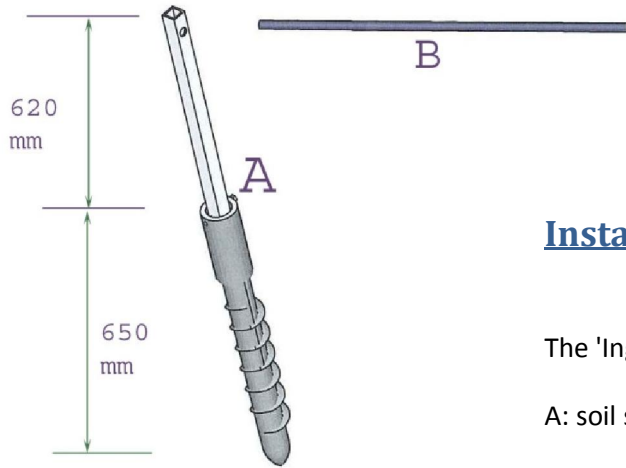


6. Add sods, tiles or other materials to your liking and remove the tape that was used.



6. The concrete anchor is ready for use.





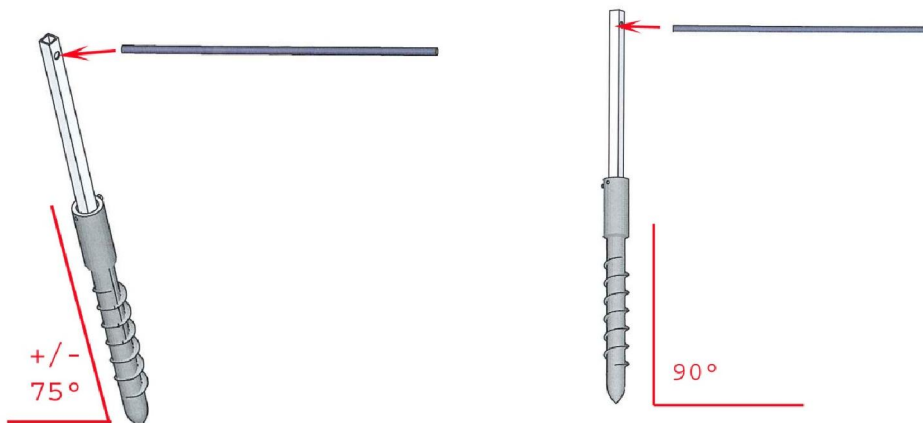
Installation ground screw

The 'Ingenua' soil screw consists of 2 parts:

A: soil screw complete

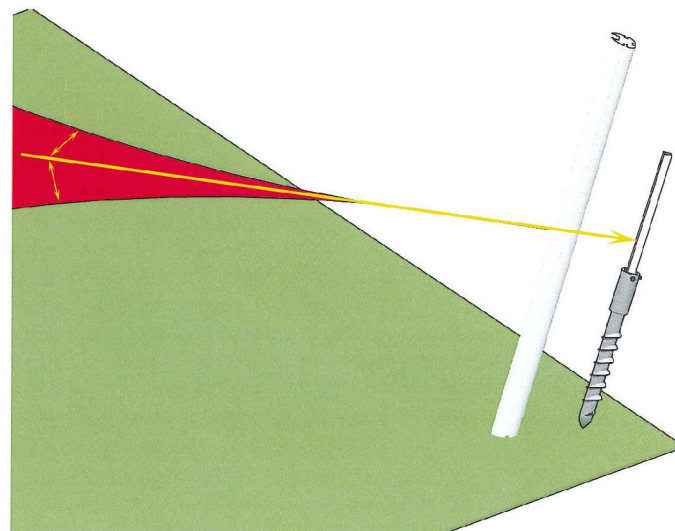
B: ingot as accessory to screw into the ground

A

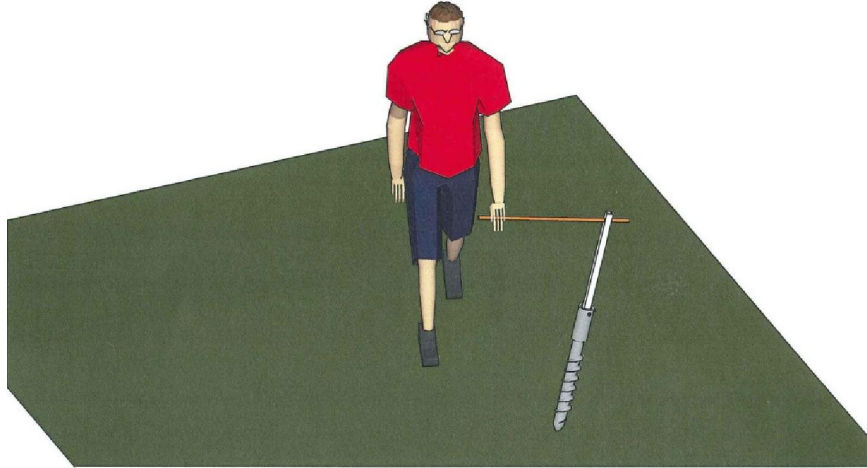


1. Position the soil screw on the required location and push the supporting bar into the hole that was previously made into the square pole.

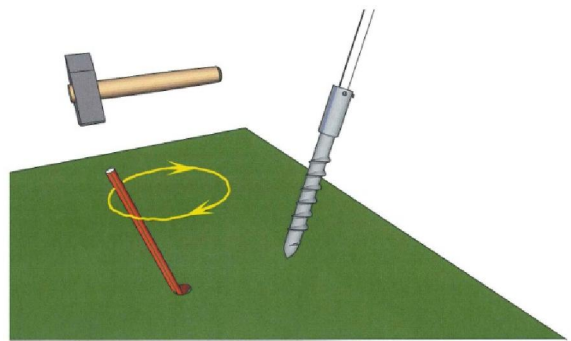
2. Should the pole be installed at an angle of 75°, tilt the soil drill backwards at about 75° in front of the imaginary line (bisecting line) which divides the angle of the shade sail that needs to be clamped into two even parts.



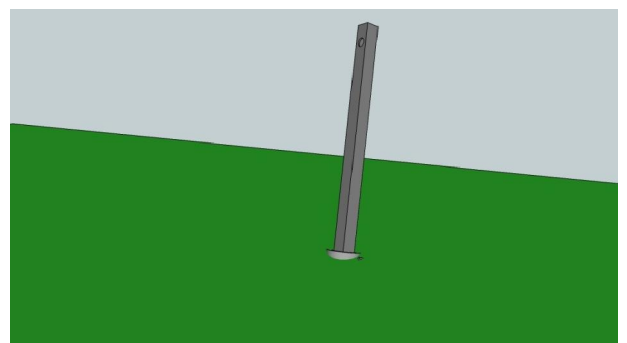
3. Use the supporting bar to turn the soil screw into the ground on the spot that is indicated. Do this until only the square pole sticks out above the ground.



In advance you should make an opening into the ground by means of a bar and a hammer. Do this with a turning movement to give the screw sufficient grip



4. Your soil screw is ready for use.



When can the soil screw be used?

Experience has learned that the soil screw is extremely suited for use in a more or less firm soil structure. As a result, the soil screw cannot be used in sandy soils (e.g. beaches), rocky terrain or sub-soil with a lot of rocks, or places where the ground was made compact due to heavy traffic (e.g. parking-lots and construction sites).

Extra advantages of the soil screw:

- Can easily be screwed loose and if necessary be used again.
- Can as a result also be used for temporary constructions.
- Preparation of concrete is no longer needed (as opposed to the concrete anchor).

2

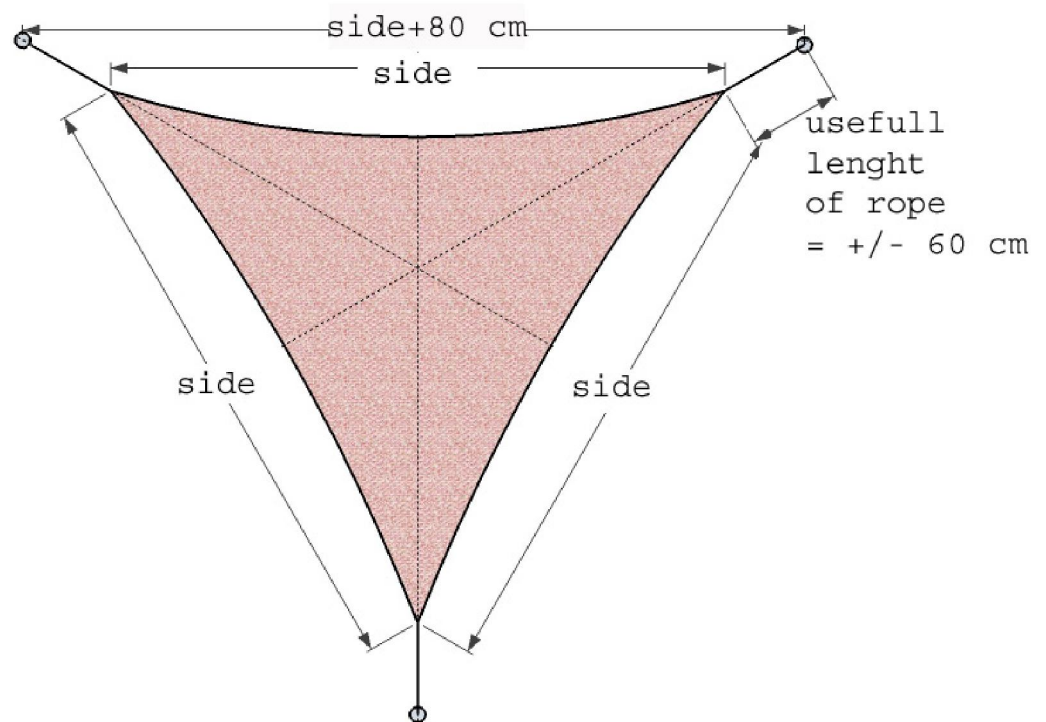
—

As the soil drill will always look for the easiest way into the sub-soil it is difficult to find a vertical position or a well-defined angle.

- Due to the pressure that is later on exerted onto the pole, the position may change slightly.
- Should the position of the soil drill with regard to the ground surface be placed at an angle of 90° (because of the use of more than 1 soil fixture to this pole), it is advised to anticipate this by already foreseeing a slight angle in the opposite direction of the traction force that will later on be exerted.

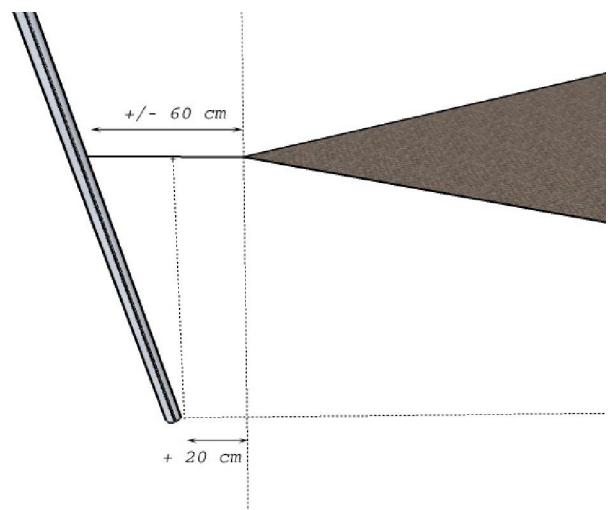
Triangle 400x400x400 of 500 x 500 x500

General rule:

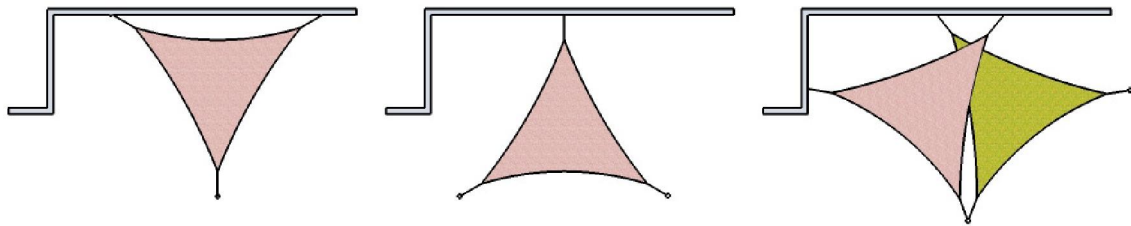


- Distance between poles or fixation points = side + 80 cm.
- Results in a useful rope length of 50 to 60 cm (distance between sail point and fixation point)
- Fixation points that lie on the bisecting line (= imaginary line which divides the angle into two even parts: see dotted line)
- Important remark: if two sails are mounted to a pole, this pole should always be positioned in an angle of 90°.
- The poles cannot support more than two sails.

- If mounted on sloping poles (75°), the distance between the fixation points can optionally be reduced to minimal 'side + 40 cm'.



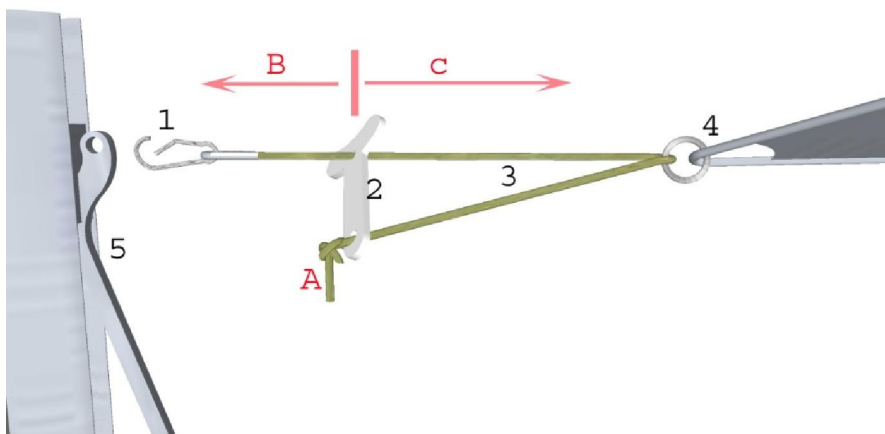
Particularly for the fixation of one or more sail points to a fixed, solid wall



Examples

- Should existing constructions be used for the fixation of the sail, start by indicating one or two points, starting from the existing construction. Next, position an equilateral triangle with the required side and also determine the bisecting lines.

Fixation and stretching of the sail to the 'Ingenua pole'

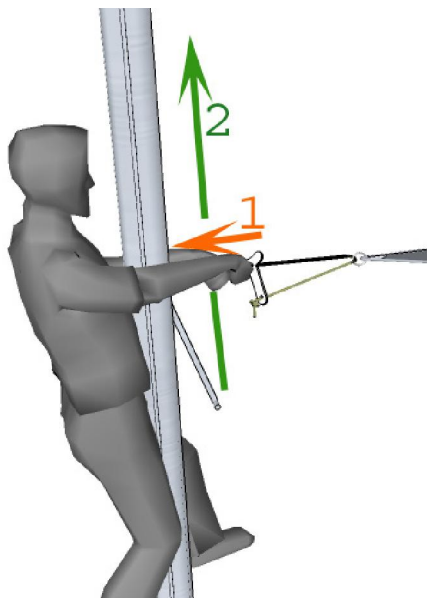


1. Bayonet hook
 2. Tightener
 3. tightening rope
 4. hook shade sail
 5. sliding unit
- A. Shortening rope according to necessity
 - B. stretching
 - C. relaxing

Fixation and tensioning of the sail to a solid wall (e.g. bricks)



Tensioning of the sail in real life situations



First, bring the tightening ropes that are hard to reach to length

Next, do the same for the tightening rope to a (possibly) straight pole.

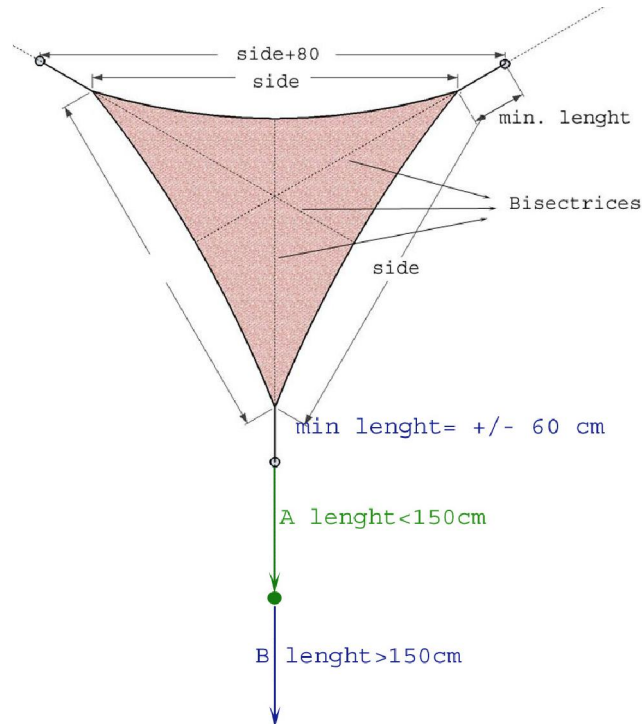
Finally, bring the tightening rope that is fixed to a sloping pole (75°) under tension by means of the socket wrench and glide part that is positioned on shoulder height and next, push upwards.

This last movement will bring extra tension to the rope, because of the distance between the sail and the pole getting bigger (see figure).

Possible deviations for the position of the fixation points

1.

- If required, one or more of the fixation points can be shifted in relation to the initially fixed position, provided the fixation point always lies on the bisecting line.



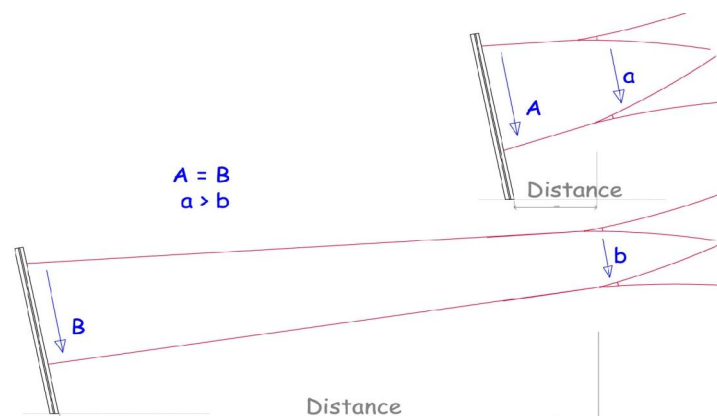
Length of the tightening rope = min. 50 to 60 cm

A: can be extended up to 1.5 metres with the rope that is a standard accessory (delivered length of rope = 2 metres - {min} return rope for rope tightener)

B: can be extended further with extra rope if required

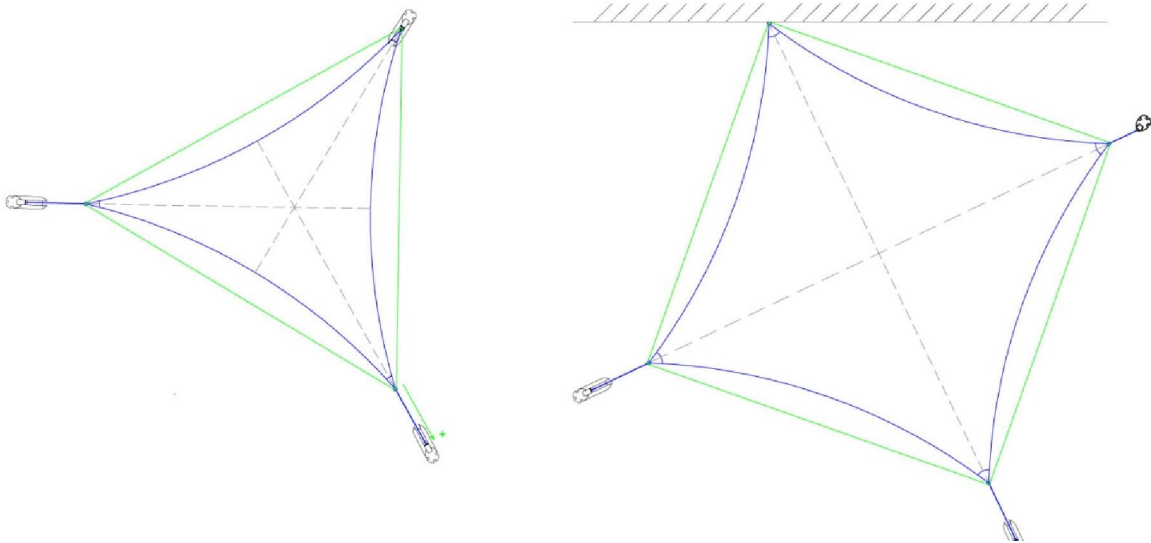
Can e.g. be useful if the pole needs to be fixed just outside the hardened terrace.

- **Attention:** The longer the rope, the less wind resistant it will be (flapping of the sail due to the wind) and the less possibility of adjusting the height (because of the distance from sail point to fixation)
-



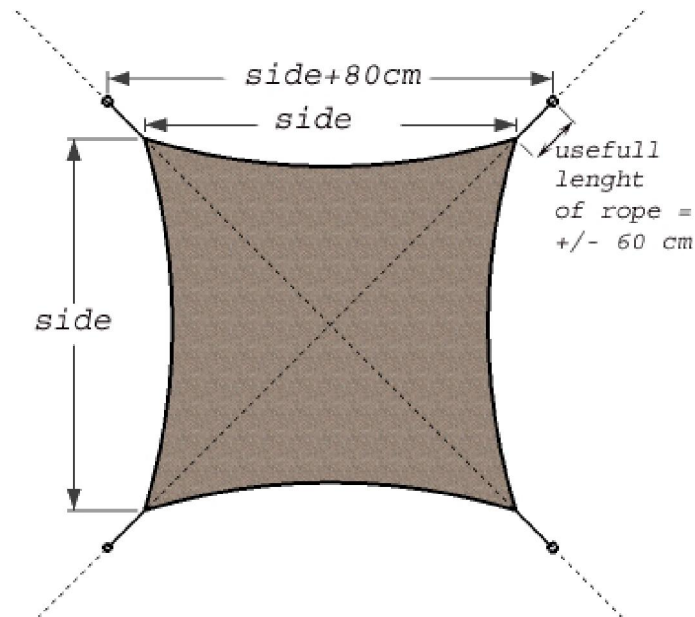
2.

- For each sail, only one sail point can be coupled directly to a fixation point without rope. So on the condition that the remaining sail points can be brought under tension by means of a rope.



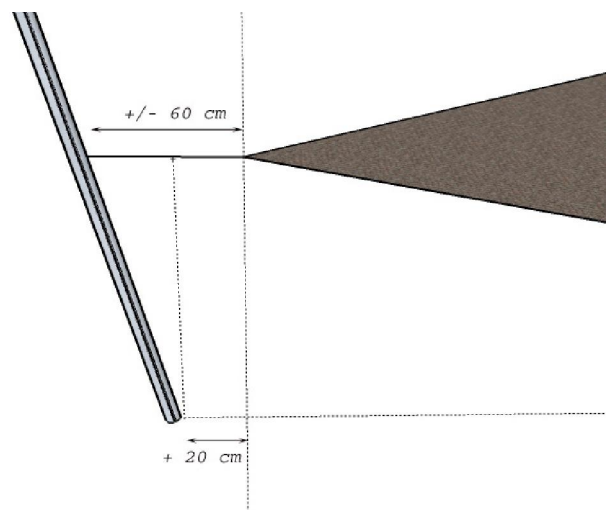
Square 300x300 of 400x400

General rule:

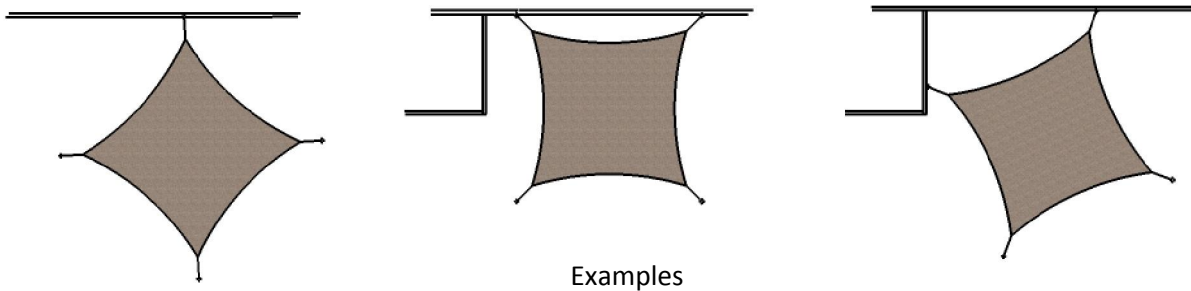


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- Important remark: if two sails are mounted to a pole, this pole should always be positioned in an angle of 90°.
- The poles cannot support more than two sails.

- If mounted on sloping poles (75°), the distance between the fixation points can optionally be reduced to minimal 'side + 40 cm'.

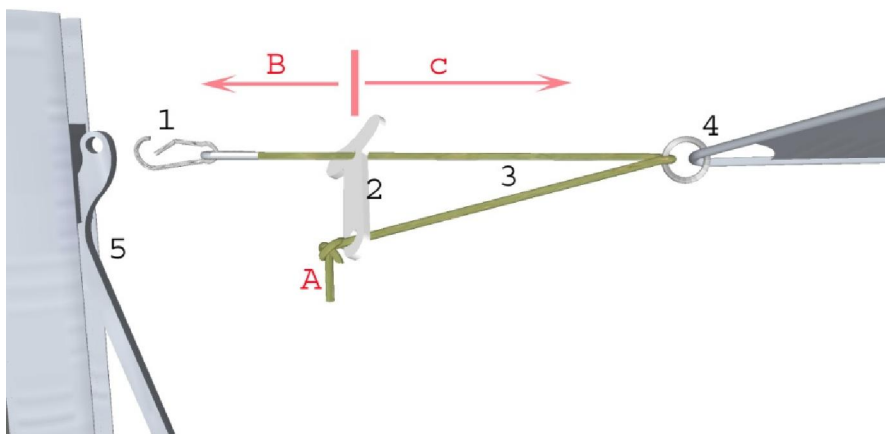


Particularly for the fixation of one or more sail points to a fixed, solid wall



- Should existing constructions be used for the fixation of the sail, start by indicating one or two points, starting from the existing construction. Next, position an equilateral square with the required side and also determine the bisecting lines.

Fixation and stretching of the sail to the 'Ingenua pole'

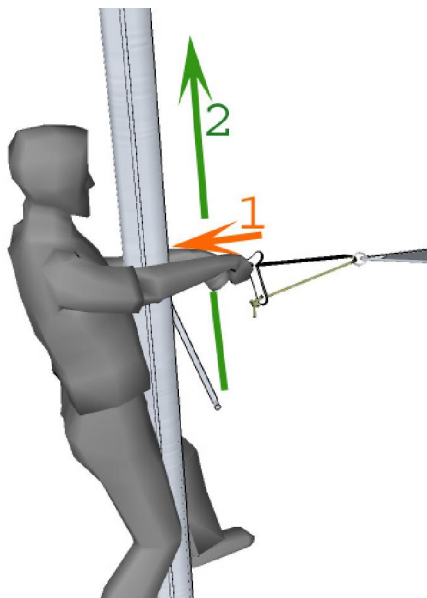


1. Bayonet hook
 2. Tightener
 3. tightening rope
 4. hook shade sail
 5. sliding unit
- A. Shortening rope according to necessity
 - B. stretching
 - C. relaxing

Fixation and tensioning of the sail to a solid wall (e.g. bricks)



Tensioning of the sail in real life situations



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Next, do the same for the tightening rope to a (possibly) straight pole.

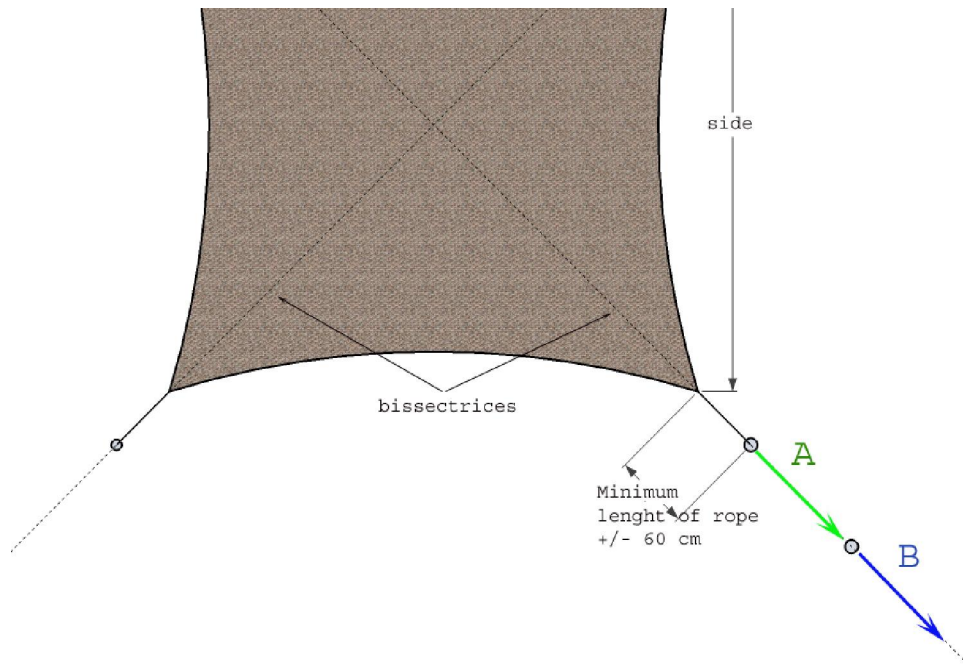
Finally, bring the tightening rope that is fixed to a sloping pole (75°) under tension by means of the socket wrench and glide part that is positioned on shoulder height and next, push upwards.

This last movement will bring extra tension to the rope, because of the distance between the sail and the pole getting bigger (see figure).

Possible deviations for the position of the fixation points

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- If required, one or more of the fixation points can be shifted in relation to the initially fixed position, provided the fixation point always lies on the bisecting line.



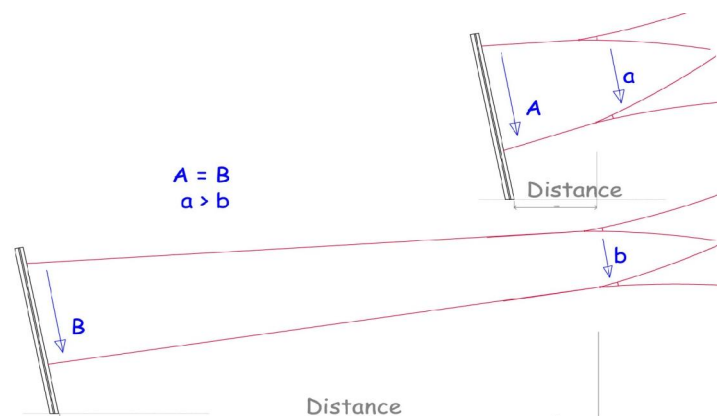
Length of the tightening rope = min. 50 to 60 cm

A: can be extended up to 1.5 metres with the rope that is a standard accessory (delivered length of rope = 2 metres - {min} return rope for rope tightener)

B: can be extended further with extra rope if required

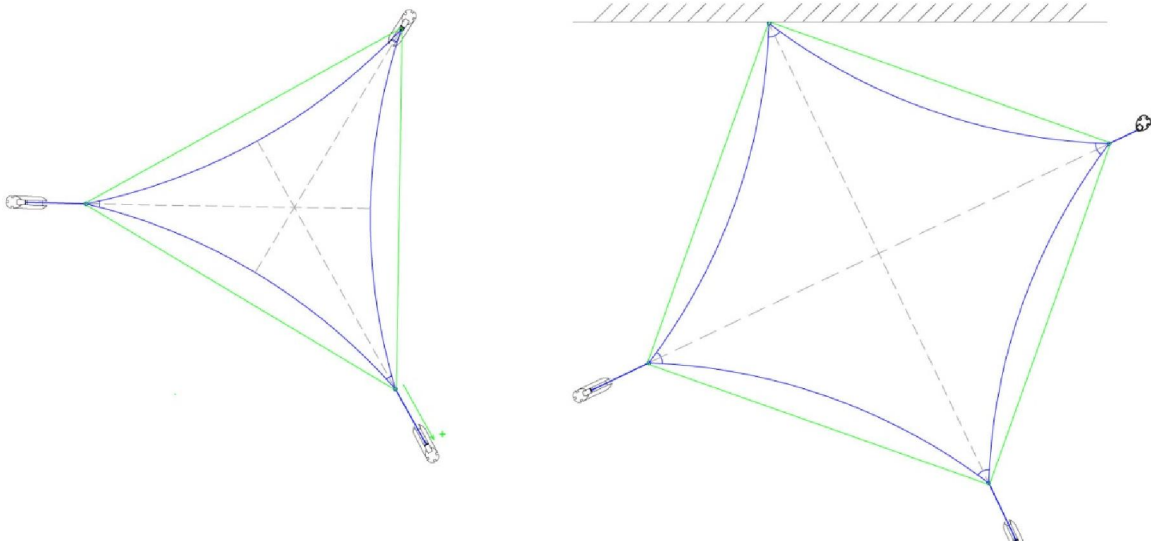
Can e.g. be useful if the pole needs to be fixed just outside the hardened terrace.

- **Attention:** The longer the rope, the less wind resistant it will be (flapping of the sail due to the wind) and the less possibility of adjusting the height (because of the distance from sail point to fixation)
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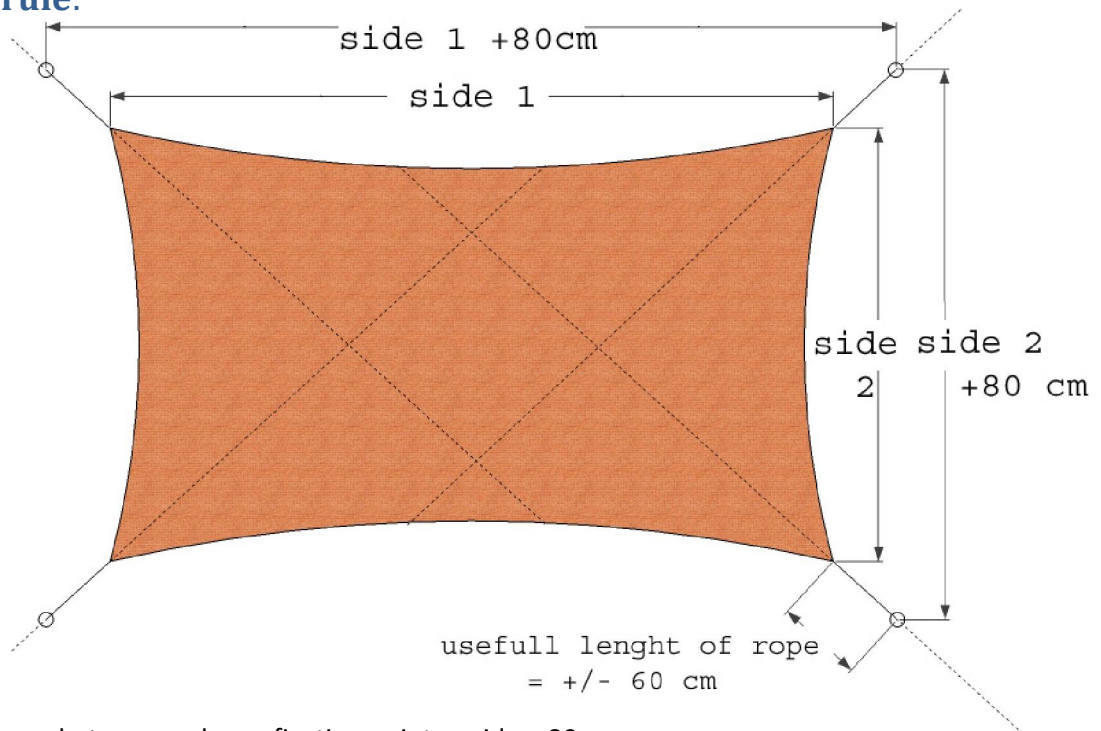
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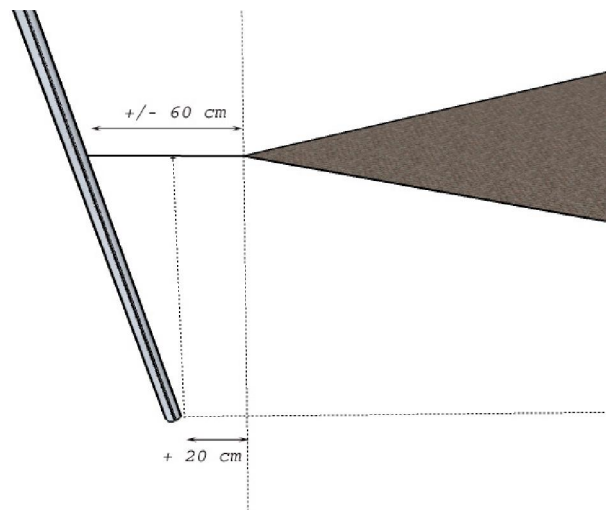
Rectangle 300 x 500 of 300 x 400

General rule:

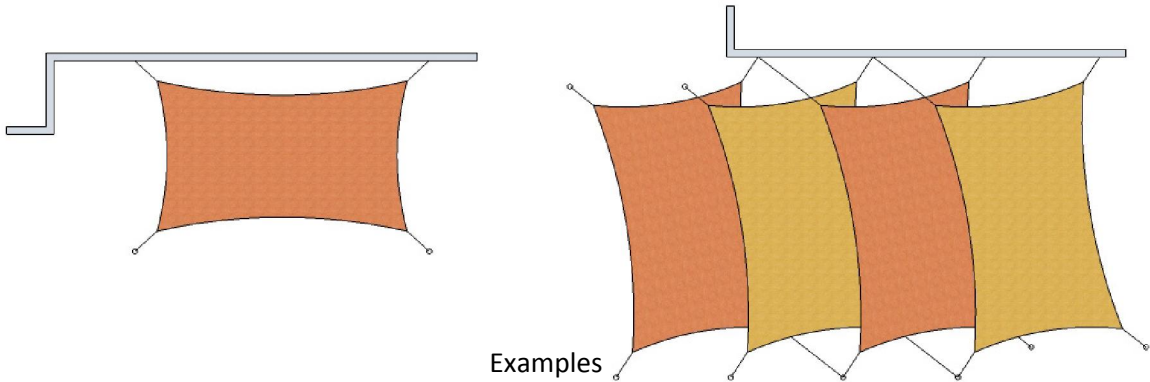


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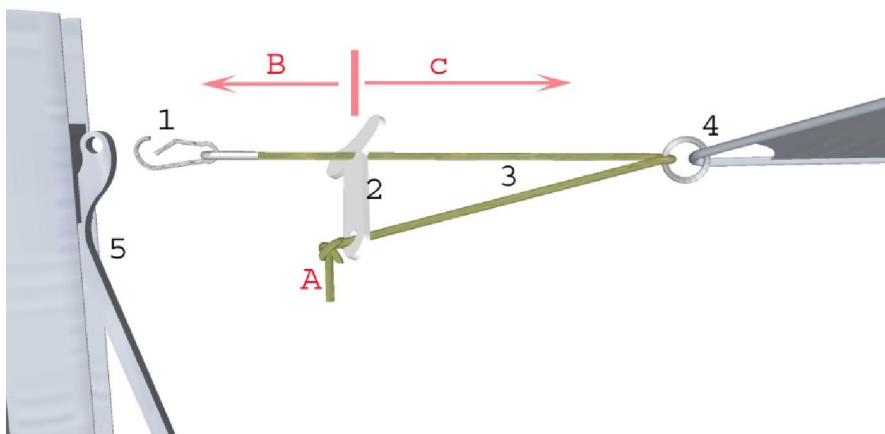


Particularly for the fixation of one or more sail points to a fixed, solid wall



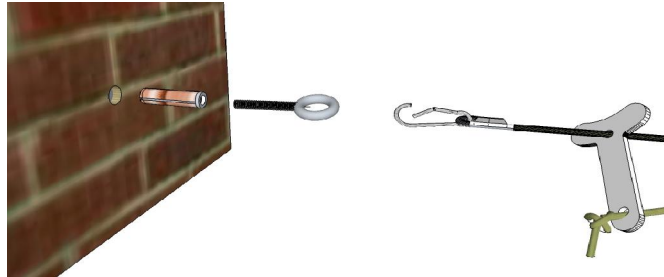
- Should existing constructions be used for the fixation of the sail, start by indicating one or two points, starting from the existing construction. Next, position an equilateral rectangle with the required side and also determine the bisecting lines.
-

Fixation and stretching of the sail to the 'Ingenua pole'

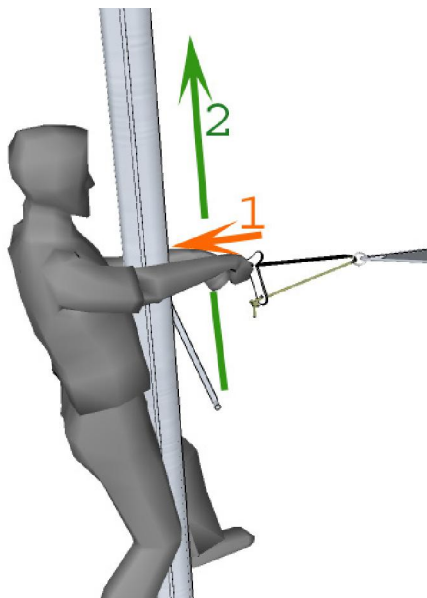


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Fixation and tensioning of the sail to a solid wall (e.g. bricks)



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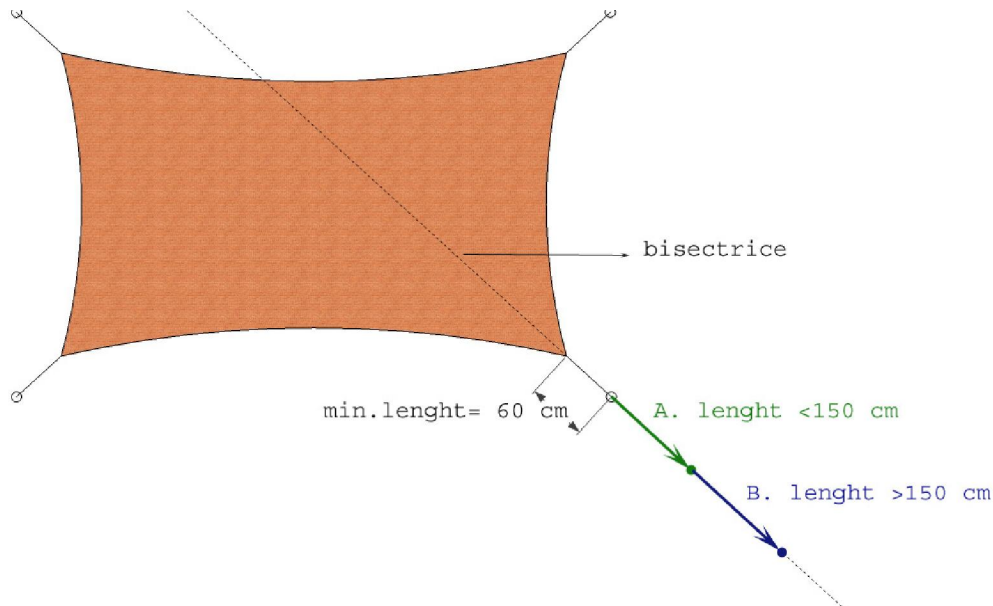
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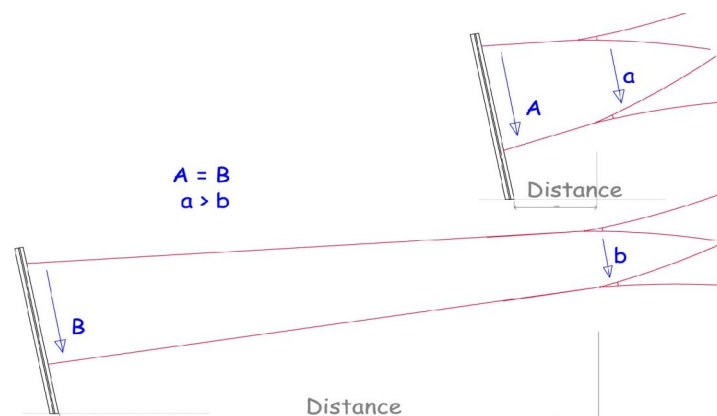
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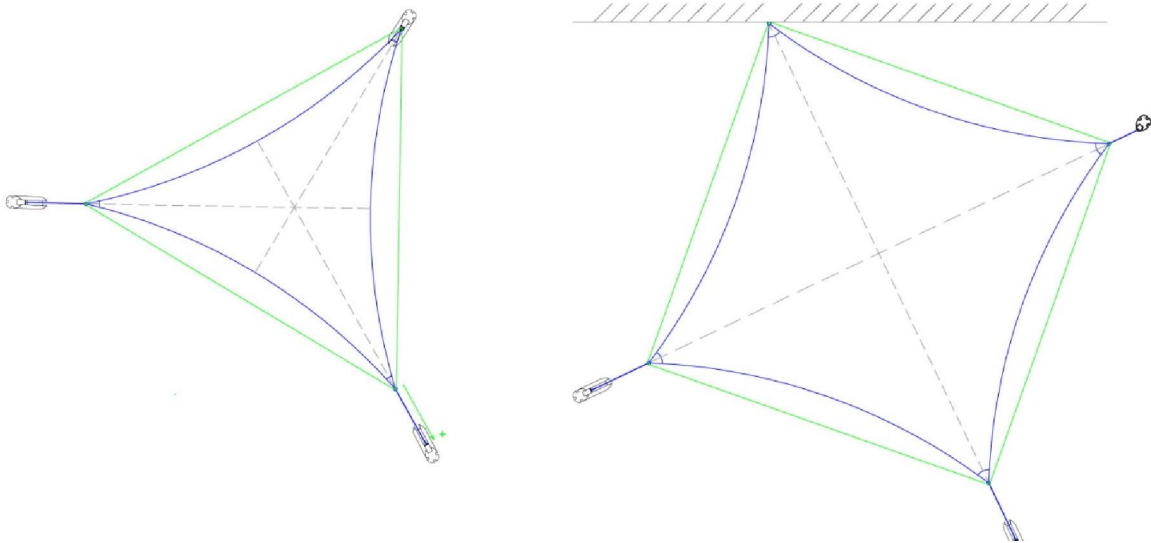
Can e.g. be useful if the pole needs to be fixed just outside the hardened terrace.

- **Attention:** The longer the rope, the less wind resistant it will be (flapping of the sail due to the wind) and the less possibility of adjusting the height (because of the distance from sail point to fixation)
-



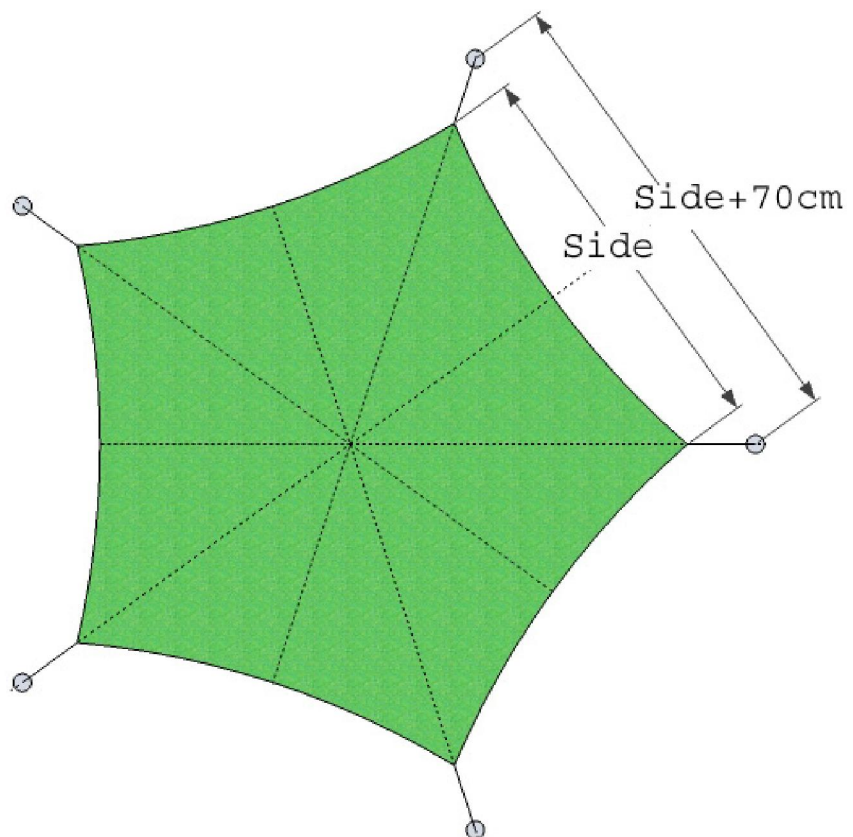
2.

- For each sail, only one sail point can be coupled directly to a fixation point without rope. So on the condition that the remaining sail points can be brought under tension by means of a rope.



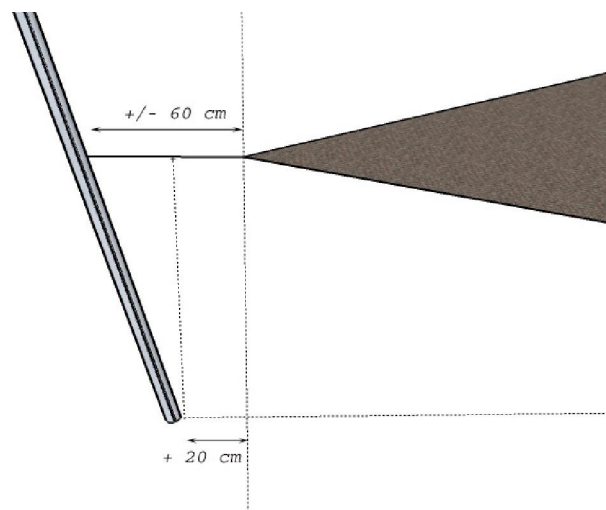
Penta 3,5

General rule:

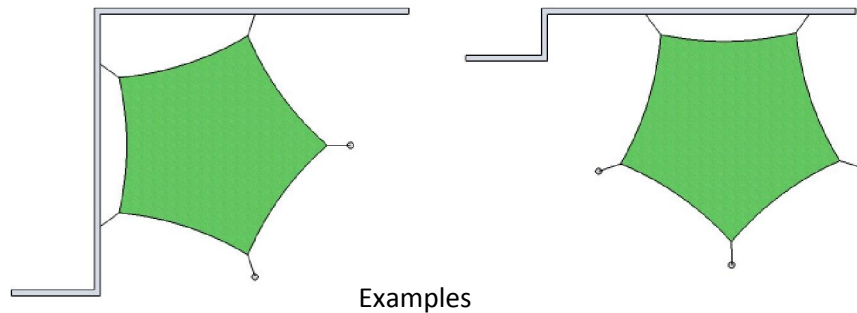


- Distance between poles or fixation points = side + 70 cm.
- Results in a useful rope length of 50 to 60 cm (distance between sail point and fixation point)
- Fixation points that lie on the bisecting line (= imaginary line which divides the angle into two even parts: see dotted line)
- Important remark: if two sails are mounted to a pole, this pole should always be positioned in an angle of 90°.
- The poles cannot support more than two sails.

- If mounted on sloping poles (75°), the distance between the fixation points can optionally be reduced to minimal 'side + 40 cm'.

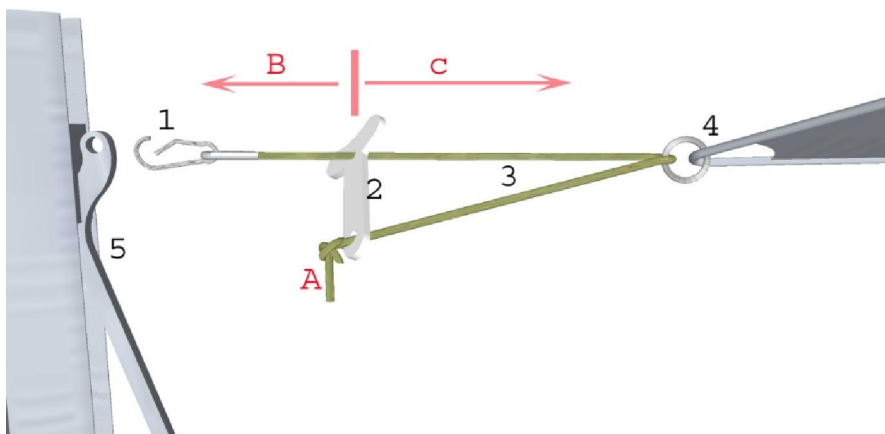


Particularly for the fixation of one or more sail points to a fixed, solid wall



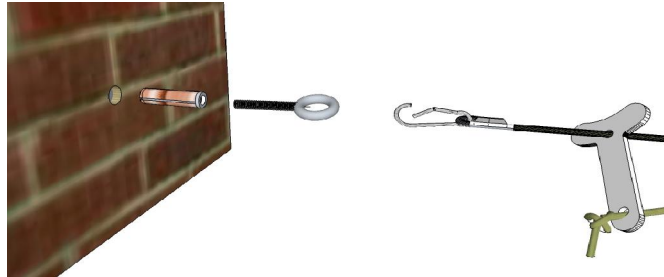
- Should existing constructions be used for the fixation of the sail, start by indicating one or two points, starting from the existing construction. Next, position an equilateral penta with the required side and also determine the bisecting lines.

Fixation and stretching of the sail to the 'Ingenua pole'

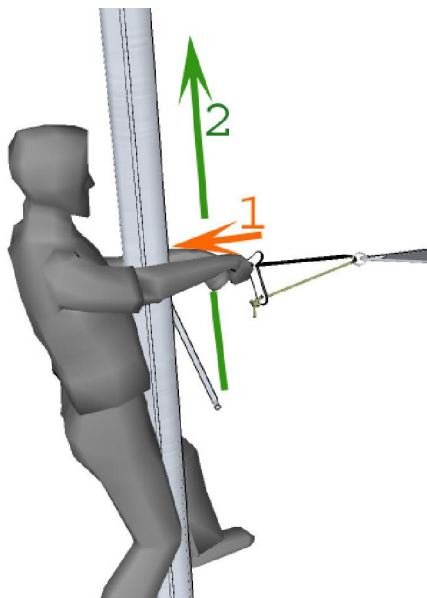


1. Bayonet hook
 2. Tightener
 3. tightening rope
 4. hook shade sail
 5. sliding unit
- A. Shortening rope according to necessity
 - B. stretching
 - C. relaxing

Fixation and tensioning of the sail to a solid wall (e.g. bricks)



Tensioning of the sail in real life situations



First, bring the tightening ropes that are hard to reach to length

Next, do the same for the tightening rope to a (possibly) straight pole.

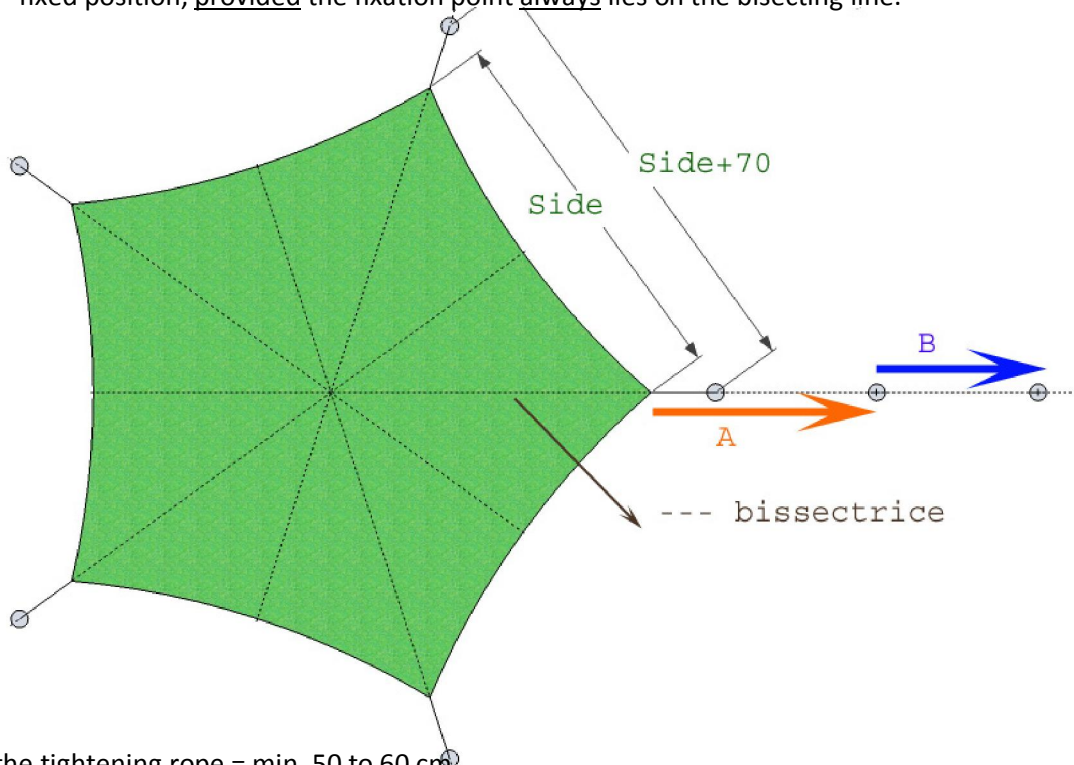
Finally, bring the tightening rope that is fixed to a sloping pole (75°) under tension by means of the socket wrench and glide part that is positioned on shoulder height and next, push upwards.

This last movement will bring extra tension to the rope, because of the distance between the sail and the pole getting bigger (see figure).

Possible deviations for the position of the fixation points

1.

- If required, one or more of the fixation points can be shifted in relation to the initially fixed position, provided the fixation point always lies on the bisecting line.



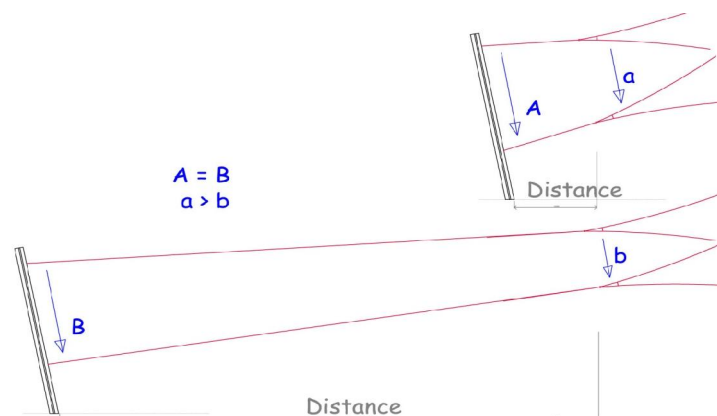
Length of the tightening rope = min. 50 to 60 cm

A: can be extended up to 1.5 metres with the rope that is a standard accessory (delivered length of rope = 2 metres - {min} return rope for rope tightener)

B: can be extended further with extra rope if required

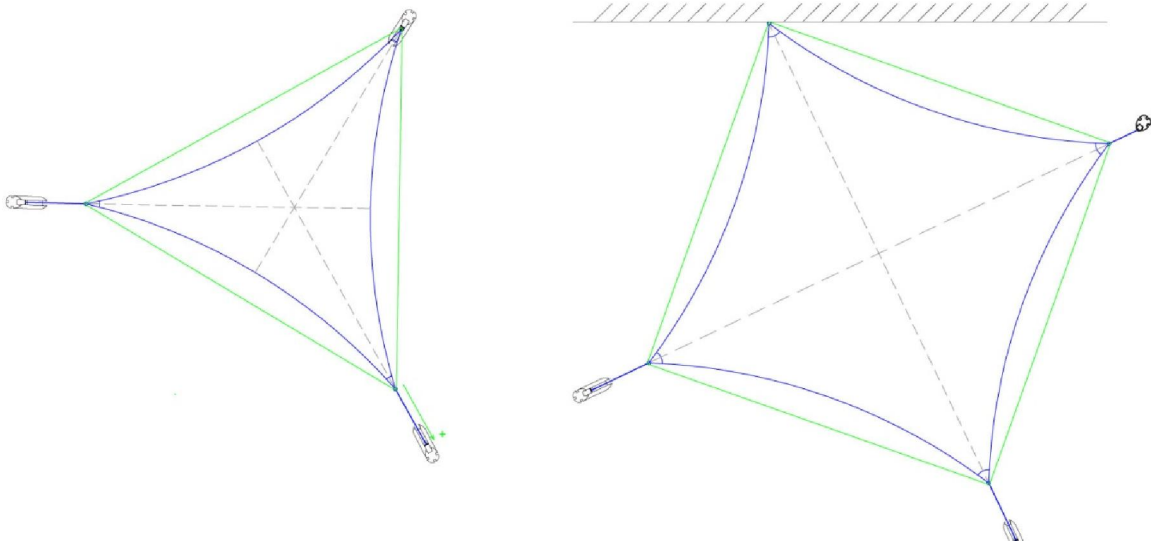
Can e.g. be useful if the pole needs to be fixed just outside the hardened terrace.

- **Attention:** The longer the rope, the less wind resistant it will be (flapping of the sail due to the wind) and the less possibility of adjusting the height (because of the distance from sail point to fixation)
-



2.

- For each sail, only one sail point can be coupled directly to a fixation point without rope. So on the condition that the remaining sail points can be brought under tension by means of a rope.





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