

## Information for installation and maintenance of the VOEN-system

### 1. Materials for construction:

Wooden poles:	Min.10-12 cm Ø or 12 cm milled
Top cable:	6,00 mm steel cable
Cross cable:	6,00 mm steel cable
Anchor cable:	8,00 mm steel cable
Perimeter sides anchor:	1,60 m length with 25 cm Ø plate or 1,60m impact anchor

### 2. Measurement for building the construction

- Anchoring – Perimeter poles	cross sides:	1,50 meter
	End of rows:	2,50 meter
- Distance between poles in the row:		8,00 – 10,00 meter
- Maximum row length:		cca. 250 meter

### 3. Construction maintenance

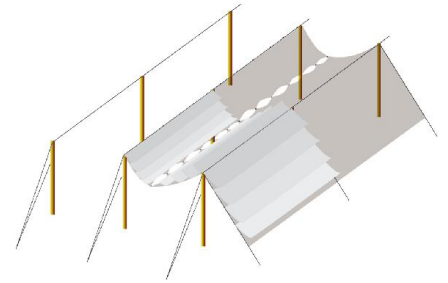
- Cable tension (top and cross cable) needs to be checked and re-tensioned before fixing the covers.
- Ensure the locking on each cable tensioner.
- Check protection cap / PVC-ball on each short pole on the sides.
- Anchoring and depth of perimeter side anchors to be checked.

#### 3.1 Additional security for constructions:

Installation of two 6,5mm cable clamps on the cross cable close to each pole.

**We recommend refitting in all existing support structures.** In new support structures it is a standard installation.





#### 4. Fixing of VOEN - covers

*Please note: depending on row width different cover sizes are delivered. In general the covers for perimeter sides are produced with wider dimensions. Please check cover sizes with enclosed delivery note to ensure cover installation in designated rows.*

##### 4.1 Top clips

- **First plastic sheet of a row:** Fix with top clips every 3,00 m (see picture 1).

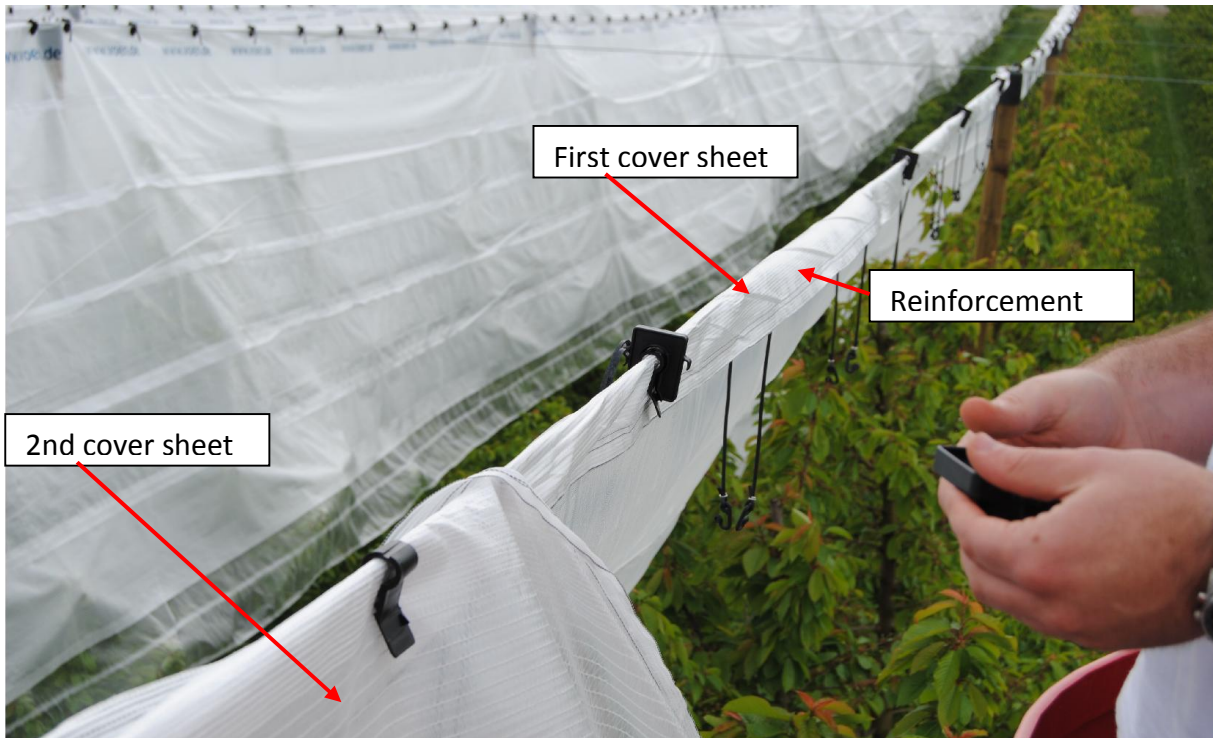
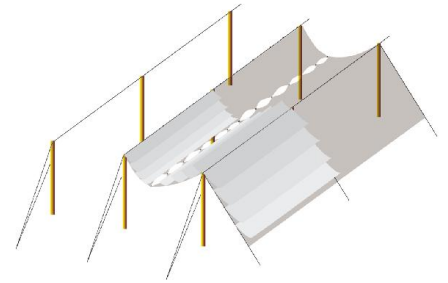
##### 4.1.1 Covers are installed and removed every season

Second plastic sheet of row is to be put over the clips from the first plastic. Clips from first plastic are not removed.

##### 4.1.2 Covers are hibernated on the top row cable

If covers are hibernated in the orchard clips from first plastic are not completely locked.

By installation of second plastic sheet please remove clip of first sheet and put over both plastic sheets. Finally all clips are visible on the 2nd plastic sheet (see picture 1)



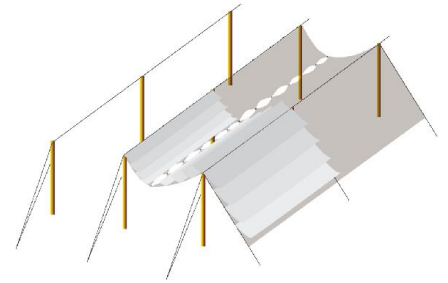
*Picture 1:*

There is a reinforcement of about 10cm on top of the plastic. Please ensure it is turned over the top cable. So – about 5cm reinforcement on the left and on the right side of the steel cable. Please do that way with the first cover sheet and with the second cover sheet.

**-Second plastic sheet:**

Fix top clips at a distance of 0,80 to 0,90 m.

- The VOEN-covers have a reinforced border around 5 to 7 cm, this doubled over the cable and the two sheets are then clipped together.
- To simplify the closing of the top clips, the outer section of the clip should be pulled over the inner part towards the driving direction. It is advisable in every case to close all top clips in the same direction (except the clips near the poles).
- At each pole fix a clip (see picture 2).

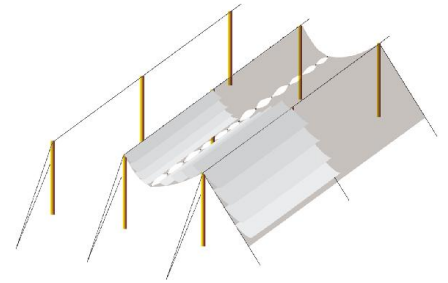


*Picture 2:  
Fix a clip on both sides of the pole.  
The two clips are closed in direction  
of the pole.*

- Within each 10 meters poles fix 12 to 13 clips. For ease of installation use the writing „www.voen.de“ on the flap at the top of the covers. For example „u“ to „u“, it is a distance of about 0,80 meter (see picture 3).



*Picture 3:  
12 to 13 clips are used between two poles.  
Use „u“ to „u“ from “www.voen.de” as a guide for the distance of 0,8 metre.*



- The top clip is securely locked when the outer section is completely pulled over the
- barbed hook of the inner part. (see picture 4).

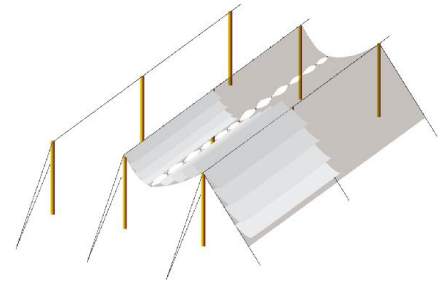


*Picture 4:  
The top clip is closed securely when  
the outer section is completely pulled  
over the barbed hook of the inner  
section.*

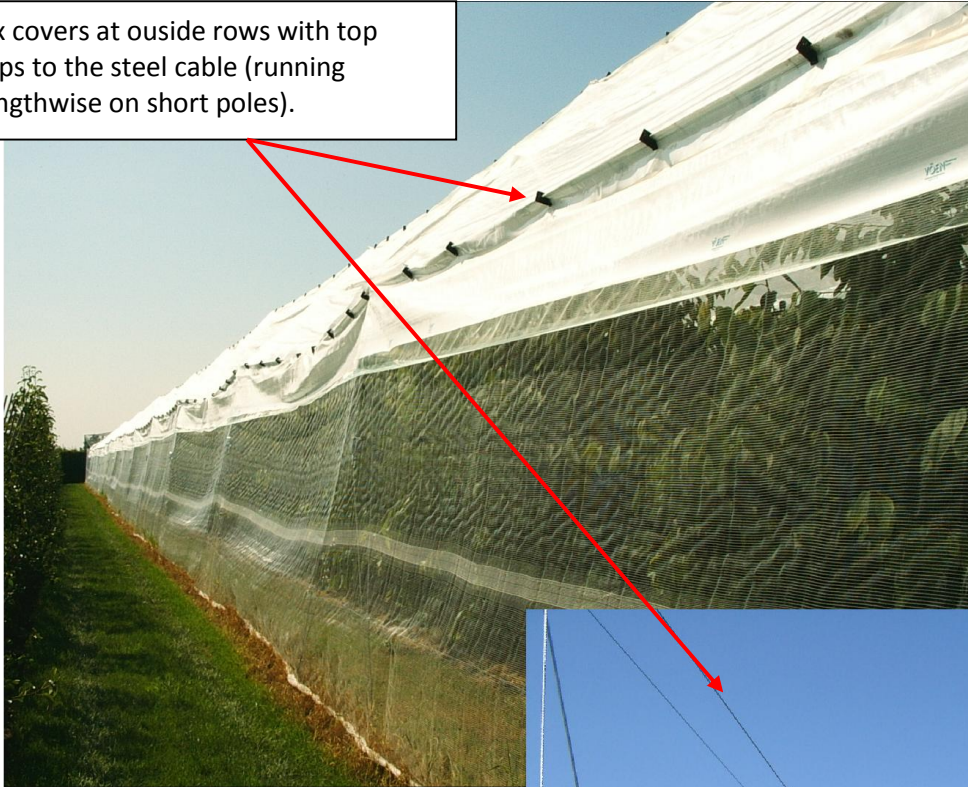
- The top clips are produced from hard plastic. It is a tight fit in the first season. Spraying silicon on inside of both parts of the clips.
- If the covers are hibernated for winter the distance between the top clips should be 0,80 meters.

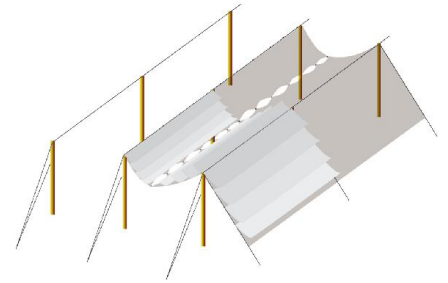
*Never leave the covers opened too long—with just the top clips. It is advisable to fix 2 or three rows of top clips and to start then at latest with closing of the cover joining clips. As there is a potential for winds the cover can be damaged from hitting against the tree branches and poles.*





Fix covers at outside rows with top clips to the steel cable (running lengthwise on short poles).





#### 4.2 Cover joining clips

- Distance between clips: 1,50 meters
- Higher risk of bird damage: 0,80 – 1,00 meter

*Picture 4:*  
*Tip: Gather the two sheets together. Insert the key through both sheets. Then close the other side of the clip and lock key.*



#### 4.3 New VOEN joining clip V10

The clip consists of 4 parts. The outer sections are of similar conditions. Pointing arrows at all parts show the top side. It is recommended to install one inner section and one outer section in a first step. After that please fix second inner section to the installed inner section.

Last step: install net / joining area of the opposite plastic sheet with the second outer section of the clip. Like that it is possible to ensure there are no “displacements” of the net borders.

