

## Silage covers

In order to facilitate the installation and operation of silage covers, it is recommended to install the Firestone GeoSmart EPDM membranes transversely to the silo, the different panels are simply overlapped by 20 cm. Prior to installation, it is therefore necessary to pre-cut the rolls into panels where the length is equivalent to the width of the silo (transverse profile of the dome) + 1 m.

The proper preparation for the installation work will ensure the appropriate functioning of the system.

### Material list

- GeoSmart EPDM 0.8 mm membrane
- Lifting gear
- Sharp tailor's scissors
- Tape measure of at least 20 m
- Biological protection film (40 µm). This is not needed for silages related to biogas production units
- Sand bags for ballast

### Work area

Define a work area near the silo. This area should be level, clean and dry and must not contain aggressive elements that could damage the GeoSmart EPDM membrane. The length of the working area should be at least equivalent to the width of the silo (+ 1 m).

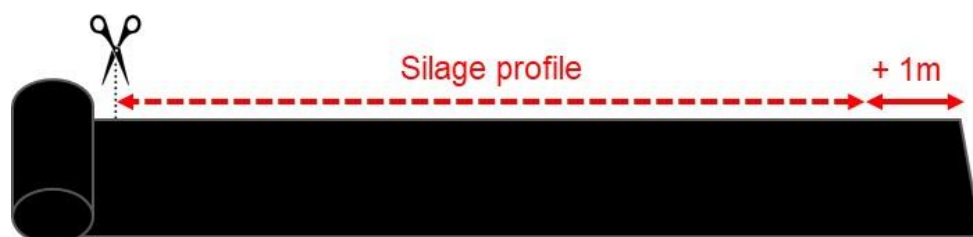
### Profile measurement

The exact width of the silo should be measured with a tape measure. The “width” is defined by the transverse profile of the dome formed by the material to be ensiled. This measurement will determine the length of the panels to be cut. In the case of a heap silage, it is advisable to take measurements at different places of the dome after compaction of the silo.



### Cutting

After having unrolled the GeoSmart EPDM roll of a length equivalent to the width of the silo + 1 m (measure the 2 sides), the membrane must be cut using sharp tailor's scissors. The use of any other sharp object (cutter, knife, etc.) is strongly discouraged .



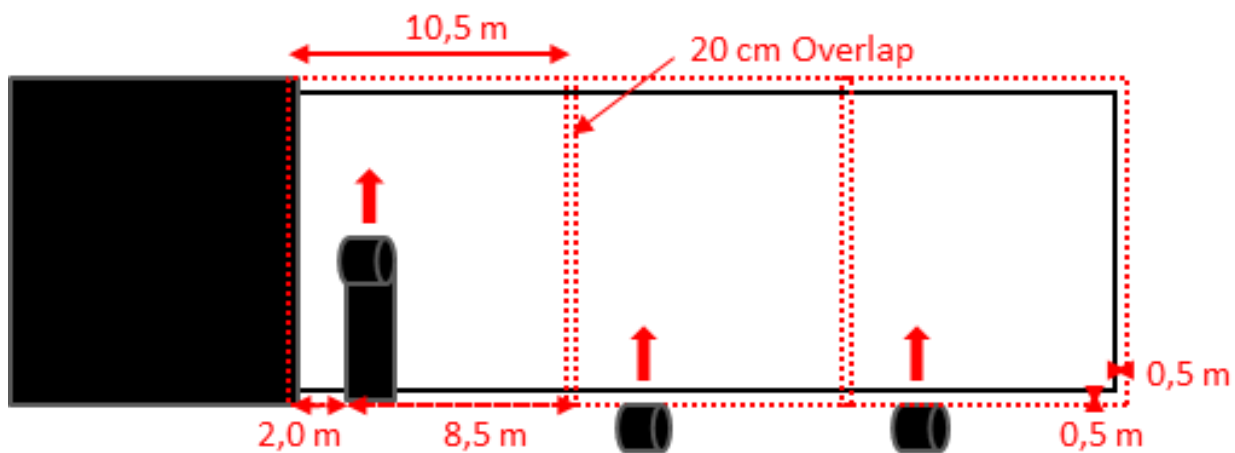
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The different layers of membrane should be cut at the same time. It is necessary to hold the membrane firmly to avoid any movement during cutting. The cut should be clean, straight and smooth. If there is a hitch, it is strongly recommended to round it off carefully with the scissors. The cut panels are then rewound. It is advisable to use a mandrel to facilitate handling.

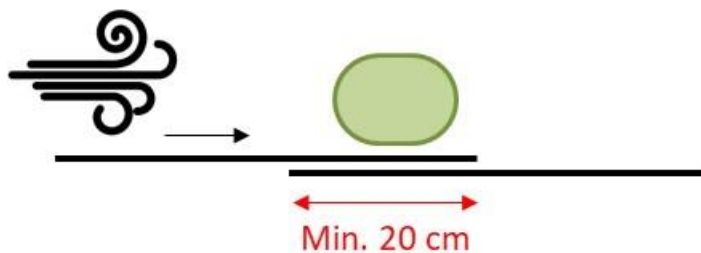
## Transport and positioning of the panels

It is recommended to use a lifting device to transport the rewound panels and put them in place for installation. The membrane shall not be dragged on the ground.

For silage heap, the panels should be placed at the foot of the silo, at a distance of 0.5 m. In the case of bunker silos, the panels should be mounted at the edge of the silo. In both cases, the initial location of the panel must consider the unfolding: 8.5 m to the right, then 2.0 m to the left + 20 cm overlap with the previous panel (tiling). A good initial positioning will save time during installation.



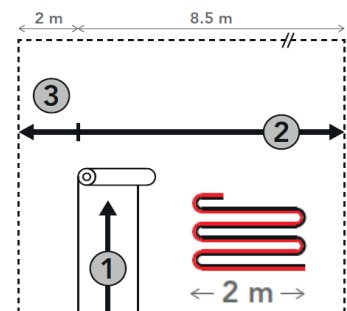
To reduce the risk of wind uplift of the overlap between the different panels, it is recommended to install the top layer in the direction of the dominant winds, as shown in the drawing below.



## Unrolling and unfolding

After the installation of the biological protection film (not necessary for silos of biogas production plants), the panels should be unrolled manually. It helps to keep the alignment as much as possible.

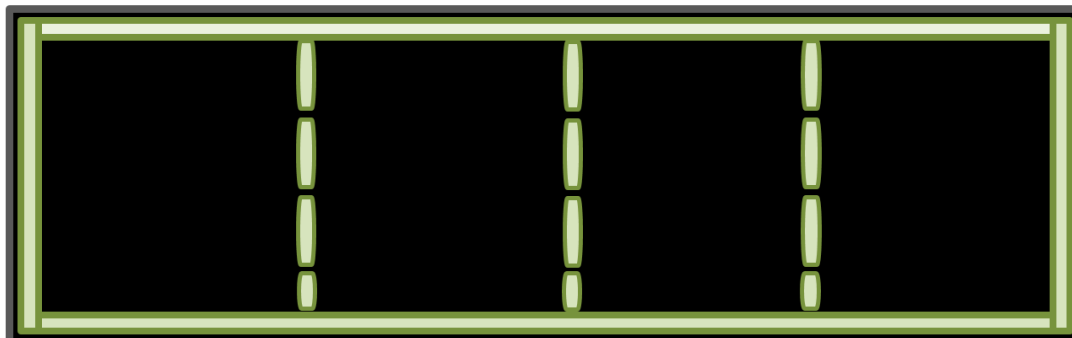
Each roll comes with a label showing the unfolding instructions and the folding system. The panel should first be unfolded to the right (8.5 m), then to the left (2.0 m). It is useful to unfold the membrane while creating waves, in order to get air underneath the panel and move it on an air cushion.



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## Ballast

The sandbag ballast should be installed continuously over the entire perimeter of the silo and transversely every 10.5 m on the overlapping areas. In areas of high wind, it may be necessary to increase the ballast.



## Repairs

In case of damage, the GeoSmart EPDM membrane can easily be repaired using Firestone EasySealant.

Before carrying out the repair, the damaged area must be properly cleaned and all edges of the damage must be rounded, so that it cannot propagate underneath the target piece.

A patch of GeoSmart EPDM membrane should be used for the repair. The repair patch must extend a minimum of 10 cm beyond the perimeter of the damaged area (see below drawing). All corners of the repair piece should be rounded.

A continuous and homogeneous bead of EasySealant should be installed at 1 cm from the edge of the repair patch and at 5 cm from the perimeter of the damaged area. The 2 beads of EasySealant should be minimum 5 mm wide. Softly roll the 2 EasySealant beads. At the edge, the sealant must come out slightly from the border. Softly push with your finger where the sealant doesn't come out from the edge. After 10 minutes, roll again applying moderate pressure. Wait min. 48 hours before applying moderate tension onto the detail. The EasySealant will be completely dry after ±10 days.

