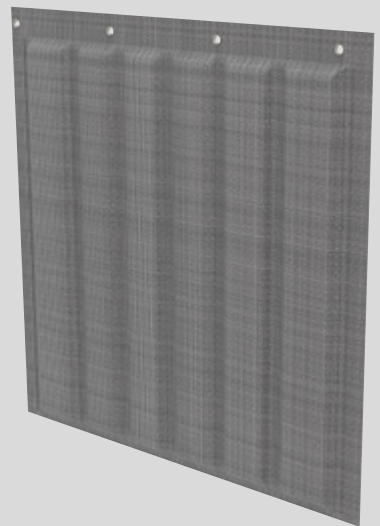




INSTALLATION INSTRUCTIONS

Cisilent Type E on birdcage scaffolding



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These installation instructions describe how to install and fasten Cisilent Type E on a scaffolding system. The work steps should be carried out in reverse order to dismount the panels. Cisilent Type E can be attached to a wide variety of different supporting structures. These instructions are thus not able to include all special characteristics of attachment. Our consultants will gladly help you with any questions you may have.

The scaffolding system as a supporting structure for Cisilent Type E must be erected as per the scaffold manufacturer's or their representative's specifications. The scaffolding system's stability must be verified with the full surface covering included in the analysis. Before installation, the supporting frame must undergo a visual inspection to ensure that it is in perfect condition and that there is no damage. Any reservations regarding the suitability of the substructure must be reported to the local site management immediately. The scaffolding should only be installed after the person in charge has made a decision on the reservations expressed.

There is a potential fall hazard when Cisilent Type E is installed and dismantled. Work should be planned and carried out in such a way that it prevents or at least minimises risks to the persons doing the work. The person carrying out the installation work must take appropriate measures based on their risk assessment.

The person responsible for installation and the skilled labour performing installation work must have access to and must be familiar with the installation instructions. The statutory provisions in the German Operations Safety Regulation (BetrSichV) must be observed during work on the scaffold. The mandatory inspection can be used to check that the Cisilent Type E is installed correctly. The findings must be documented.

Use

Covering scaffolding surfaces with Cisilent Type E is used to insulate and absorb air-borne noise. The system can also be used as screening and a dust protection wall. Cisilent Type E is suitable for outdoor use as temporary or permanent noise barriers or indoors in enclosed spaces. They are supported on modular scaffolds or customer-supplied structures.

Two fitting variants of Cisilent Type E are suitable for installation on scaffolding systems.

The first version features eyelets 16 mm in diameter. These are located at about every 30 cm along the surrounding fastening edge. Each eyelet can bear a load of around 1 kN. Cisilent Type E panels are fastened to the scaffolding poles through the eyelets with cable binders or similar.

The second version is fastened to scaffolding poles using buckle straps. These buckle straps are fitted to the cover layer. Each buckle strap can bear a load of around 1kN when secured firmly by hand.





Scaffolding system erection instructions

The scaffolding system must be fully erected and ballasted or anchored for the intended height of the covering. The specifications in the scaffolding system approval must be observed.

As a general rule, two qualified persons are required to install Cisilent Type E. You should always allow for the possibility that a panel can fall. The person in charge must implement suitable safety measures for installation. Cisilent Type E panels are tailored to the dimensions of the scaffolding system. If scaffolding sections are mounted at an oblique angle, you must check the tightness of the overlap areas along all four sides of panels carefully. Sound will radiate through any gaps, thus reducing the effectiveness of the desired insulation.

Orientation of the scaffolding system and the Cisilent Type E

Cisilent Type E's sound absorbing surface comprises two layers of mesh fabric. The closed outer surface restricts sound transmission and acts as a load-bearing layer. A patented manufacturing method is used to bond chambers filled with special, highly effective acoustic mineral wool to achieve excellent sound absorption and insulation properties. The absorbing surface should be installed facing the source of noise. If the aim is to reduce sound transmission, it is irrelevant which side faces the source of noise.

Erection of the scaffolding system should be planned based on the desired effect.

- Cisilent Type E with eyelets on its fastening edge can be freely installed no matter which direction the birdcage scaffolding is facing with regard to the source of noise.
- If Cisilent Type E is fastened with buckle straps, this means that the panels will face the source of noise.
- Cisilent is positioned between the source of noise and the scaffolding if an absorbing effect is required.
- If the aim is to insulate sound transmission, Cisilent can be positioned between the source of noise and the scaffolding or on the side of the scaffolding furthest from the source of noise.

It is easy to see which way panels face. Cisilent Type E features a fastening edge about 6 cm wide with eyelets along its top. Beneath the fastening edge, a loop band is bonded onto the rear film on panels.

Five buckle straps are fitted to the top loop band.

Cisilent Type E does not feature a lower fastening edge. The loop band is positioned at the end of the chambers, where there are four buckle straps, located in the spaces between the buckle straps attached to the upper edge. The side edges do not feature a fastening edge and are fitted with two buckle straps each. The straps are offset in height from their counterparts on the opposite side.



Installation with buckle straps

Start installation from the lower left-hand corner and work toward the top right-hand corner (Image 1).

The panel can be rolled up for transportation and two people can carry it from storage in the transport container to the installation location (Image 2).

Cisilent Type E is unrolled in the scaffolding section and placed in approximate position (Image 3).

The outer and middle buckle straps are lashed to the top scaffolding pole while leaving sufficient slack. Slack makes it easier to align the panel on the scaffolding poles (Image 4).

The side loop bands are positioned in such a way that the edge of the loop band locks with the scaffolding post's visible rim (Image 5).

If the panel is positioned in the scaffolding section in this way, the upper edge of the Cisilent Type E fits perfectly to the scaffolding pole. The buckle straps can now be tightened firmly by hand. It is not wise to fasten the buckle straps too firmly since the pull of the wind will damage the pre-stretched loops on the loop strap. The side buckle straps are tightened by hand and fasten Cisilent Type E into position, so that the scaffolding section is covered (Image 5).

The lower buckle straps can stay open if the wind conditions at the installation location allow. Installation is continued in the scaffolding level below until the last scaffolding section is covered with Cisilent Type E. Cisilent panels overlap at the edges, preventing sound transmission (Image 6).

Cisilent Type E panels are installed on the next scaffolding level using the same work steps described above. The eyelets along the top fastening edge are used to handle the panels. Ropes with hooks are slung over the top scaffolding pole and lowered to the ground. The Cisilent Type E panel being installed is then attached through the eyelets and raised into a temporary position in the scaffolding section. The buckle straps are then fastened as already described, the panel straightened into position and installation completed.

Figure 1: Direction of installation



Figure 2: Transportation in a roll





Figure 3: Unrolled in a scaffolding section



Figure 4: Fastened and aligned



Figure 5: Alignment, fastening to the scaffolding post



Figure 6: Edges overlap to provide a seal





Installation with buckle straps

The lower edge of the top Cisilent Type E now overlaps the upper edge of the panel in the lower scaffolding section (Image 7).

The upper panel's lower buckle straps clasp the scaffold pole in the spaces between the lower panel's upper buckle straps. The buckle straps are tightened by hand and press the lower edge of the Cisilent® Type E against the fastening strip on the lower Cisilent Type E, so that the overlap reduces sound transmission.

The lower border is complete once the Cisilent Type E panels have been installed. If the Cisilent Type E's buckle straps are lashed to the lowermost scaffolding pole, we recommend loosening the buckle straps before fitting the protective strip. The protective strip is fastened to the lower scaffolding pole and straightened (Image 8).

Once the buckle straps on the protective strip are tightened into the final position by hand, the buckle straps on the Cisilent Type E positioned above the protective strip are also tightened by hand. The lower edge of the panel now overlaps the protective strip (Picture 9). The protective strip is backfilled with sand or a similar material up to the lower edge of the Cisilent Type E to secure it in position and restrict sound transmission.

Figure 7: Vertical overlap



Figure 8: Fastening protective strip to scaffolding pole



Figure 9: Drawing protective strip towards the source of noise



Inspection and maintenance



No maintenance is required for Cisilent Type E during its service life. You must check that the buckle straps are firmly in position depending on the strain caused by wind action and readjust it if necessary. Damaged buckle straps must be replaced. The buckle strap must be moved to a place that is clearly undamaged if the loop band is damaged.

Dismantling

The sequence of steps described above is reversed when dismantling Cisilent Type E.

Note



It is impossible for these installation instructions to cover all special cases. Installers must plan installation carefully. They must take a responsible approach to finding a solution for special cases not described to ensure stability for the overall system and achieve the required level of protection.

If you have any questions, Calenberg Ingenieure will be glad to help you on +49 553 940 00.



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