Backfilling & compacting

Only non-cohesive materials may be used for backfilling, which must take place immediately after installation (e.g. sand-gravel mixture). In addition, a slip or studded membrane must be attached to the shaft beforehand. Place and compact the homogeneous filling material in layers. DIN 18300 must be heeded during this work. Use a vibrator and tamper to maintain sufficient distance from the light shaft (at least 0.3 m).
A light shaft width of 1520 mm and above carries the risk of cracking due to heavy pressure loads on the front of the shaft during filling and compacting. The light shaft should therefore be supported over its entire width from the inside by squared lumber with a pressure-absorbing crossbar after it has been mounted on the wall or before being compacted.

For light shaft heights above 1800 mm, two horizontally supported squared timbers must be evenly distributed. Backfill and compress gradually and with low compressive load.

Further notes:

Concrete light shafts must not be used as supports (for scaffolding or similar).

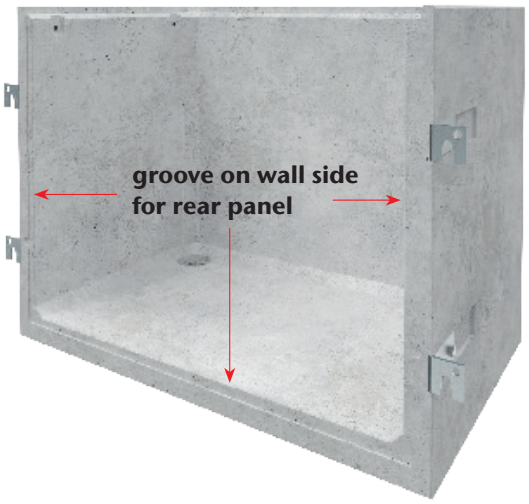
Installing the lift-off guard

Insert the four lift-off guard plates through the four oblong holes in the supporting bar of the grating (two on each side).

Screw all four sheets to the light shaft.

Using a rear panel

1. Slide the rear panel into the groove near the rear panel.
2. Mark the window recess from the inside. To do so, use the insulation already installed as a guide. Take the outside dimension of the insulation connection profile into account. Cut the insulation if necessary.
3. Remove the rear panel and cut out the window cut-out with a jigsaw. Remove the protective film.
4. Push the rear panel back in.
5. Assemble and insert the insulation connection profile according to the assembly instructions.
6. Apply adhesive sealant on the upper side behind the rear panel. Press on the rear panel.
7. Apply the adhesive sealant again in the transition from back wall to insulation and groove.



ACO concrete light shafts

Pressurised watertight Installation on concrete walls

Ladies and gentlemen, we are very pleased that you have chosen a concrete light shaft from ACO and thank you very much for your trust. These installation instructions form the basis for a clean and safe installation of your light shaft by the installer. Our products are intended for installation by qualified personnel. In case of doubt, overriding regulations such as building site ordinances, accident prevention regulations, safety guidelines and industrial safety measures take precedence over the specifications in this manual. The same applies to health and safety requirements.

Transporting the concrete light shaft on the construction site:
If the weight of the light shaft exceeds 1000 kilos, it may only be transported or moved on the construction site by crane. In this case, transport via excavator or similar is no longer permitted.

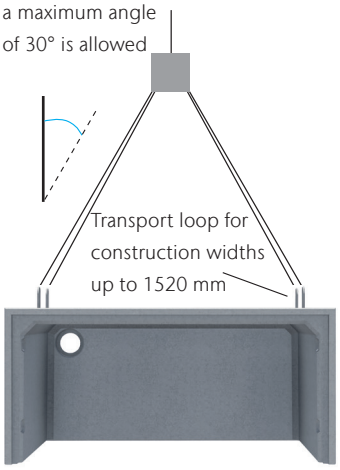
Transport by means of transport loops set in concrete on the side of the cover
When transporting using the concrete transport loops, always use all 4 loops. The transport loop may only be loaded up to a maximum of 30° in a diagonal pull along the plane of the component. Diagonal pull perpendicular to the surface of the panel (=cross pull) is not permitted. Therefore use sufficiently long 4-leg chain slings. The radius of the load hook should at least correspond to the curve of the rope loop to avoid crushing.
If the loop is damaged (e.g. by kinking, strand breakage, crushing or bulging), it must not be used.

Transport by means of threaded sleeves embedded in concrete on the lid
Necessary for light shafts with widths of 2050 and 2520 mm. Screw in 4 rope loops M 16. Ensure that the load is evenly distributed over the chain sling. Light shafts weighing more than 1000 kg may only be moved by crane. The permissible maximum load of the rope loops must not be exceeded.
The rope loop may only be loaded up to a maximum of 30° in a diagonal pull along the plane of the component. Diagonal pull perpendicular to the surface of the panel (=cross pull) is not permitted. Therefore use sufficiently long 4-leg chain slings.
The radius of the load hook should at least correspond to the curve of the rope loop to avoid crushing. If the loop is damaged (e.g. by kinking, strand breakage, crushing or bulging), it must not be used.

Offsetting the concrete light shafts via the internally threaded sleeves:
Please screw in 4 rope loops M 16.
Ensure that the load is evenly distributed over the chain sling. Light shafts weighing more than 1000 kg may only be moved by crane. The permissible maximum load of the rope loops must not be exceeded.
The rope loop may only be loaded up to a maximum of 30° in a diagonal pull along the plane of the component. Diagonal pull perpendicular to the surface of the panel (=cross pull) is not permitted. Therefore use sufficiently long 4-leg chain slings.
The radius of the load hook should at least correspond to the curve of the rope loop to avoid crushing.
If the loop is damaged (e.g. by kinking, strand breakage, crushing or bulging), it must not be used.

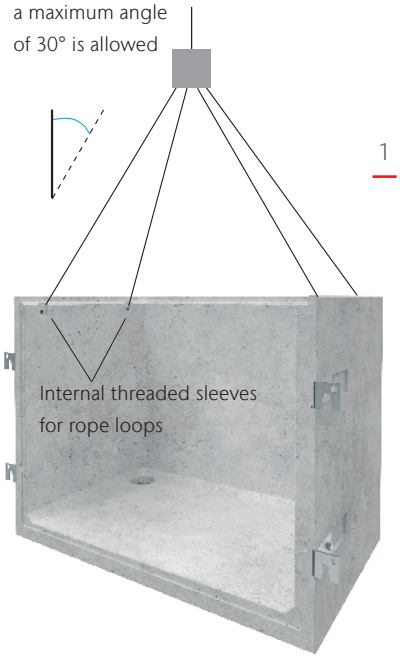
Rope loop
Art No. 377220:

Transport:
a maximum angle of 30° is allowed



For widths 2050 and 2520 mm there are threaded sleeves M 16 in the cover. Use rope loops here.

Moving:
a maximum angle of 30° is allowed



Important information before installation:

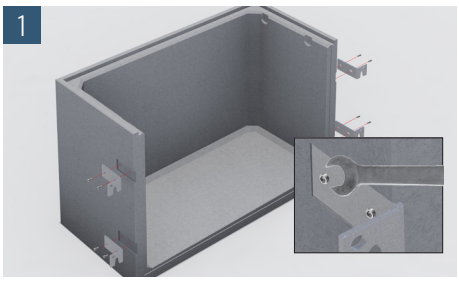
Light shafts that are installed **so that they are impervious to pressurised water** always require **double fastening (4 brackets)** .
Pressurised watertight light shaft installation may only be carried out at temperatures between +5°C and +40°C.

For...
- Light shafts with a total weight **from 1500 kg** and
- **Car-accessible** Light shafts in pressurised watertight design

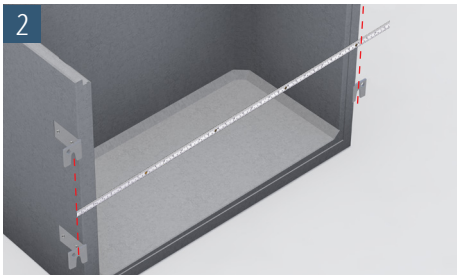
... a load-bearing base or a strip foundation of 30x30 cm (WxH) and a length of light well width + 40 cm must always be created. The strip foundation must be positioned under the well on the cover side. When using the drainage opening, the strip foundation should be positioned behind the drainage opening.

ACO generally recommends using only 1 top element for all types of installation.
As a matter of principle, top elements are not to be installed so that they are water pressure-tight.
If necessary, please consult ACO application technology.

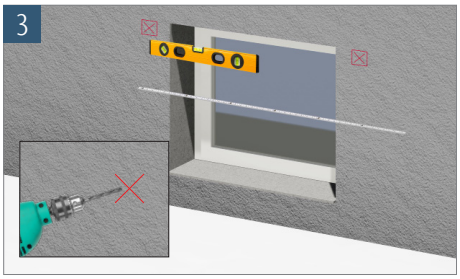
Please have the following tools ready for assembly:
Socket spanner (24 mm), measuring stick, spirit level, carpenter's pencil, drill, drill bit (Ø 16 mm), hammer, knife.



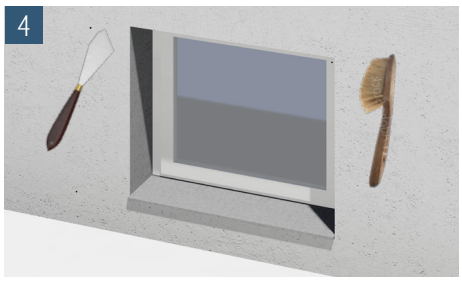
First install the mounting brackets on the outside of the side walls of the light shaft using 2 of the M16x30 screws supplied. The brackets are already installed for light shafts that intended for pressurised watertight installation.
Note: For pressurised watertight installation, 4 mounting brackets are always required during installation.



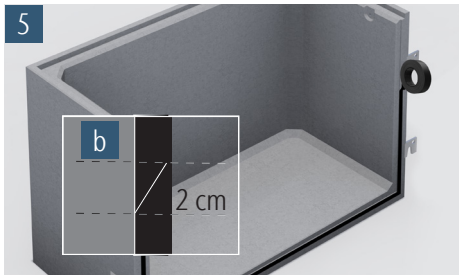
Now measure the axial dimension of the round holes of the previously mounted securing anchors.



Then mark the 4 holes so that they are aligned horizontally and centrally on the basement wall. A distance of at least 15 cm, ideally 30 cm, should be maintained between the light shaft floor and the bottom edge of the window. Then you can drill and clean the holes.



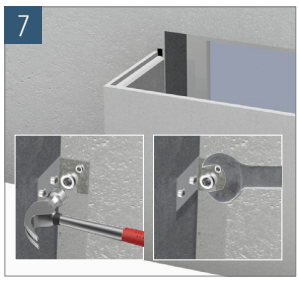
The contact surfaces of the light shaft and the building wall must then be thoroughly cleaned and any formwork sheeting residue must be removed. Also clean the contact surface (front side) of the light shaft.



The contact surface must be dry and dust-free! Apply and press the sealing tape fully and centrally against the contact surface of the light shaft. Please note that butt joints are only permitted in the upper third of the light shaft and only with a 2 cm overlap (Figure 5b). Remove the protective film from the sealing tape. Check again that the sealing strip is seated correctly.

The light shaft can now be set and fixed. Please observe the notes on transport and relocation in these assembly instructions. The correct position of the sealing tape must also be checked again and again.

Important: The light shaft must remain secured until after the complete assembly has been carried out in accordance with these instructions!



Finally, fasten the light shaft to the basement wall with even pressure. Using the hammer, the heavy-duty anchors can then be set and the screws alternately tightened crosswise with the socket spanner. Compress the sealing tape to approx. 3 mm.

Further notes:

Galvanised mounting parts and brackets must be coated with a solvent-free bitumen-based paint after installation. This is not necessary for stainless steel mounting parts.

Concrete light shafts must not be used as supports (for scaffolding or similar).