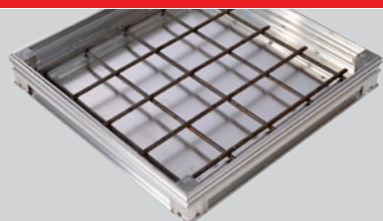


## ACO Floor Access Covers



### *ACO Floor Access Covers*

### **Installation, operation and maintenance guide**

# Introduction to the ACO Group

Throughout the world ACO branded drainage, access covers and surface water management systems are recognised for their innovative design, high quality manufacture, environmental excellence and industry leading performance.

Today the ACO Group has a research and production base that reaches across four continents. This unmatched resource pioneers the development of solutions that are tailored to individual applications, meeting the need for high performance, sustainable products that deliver optimum value throughout their operational life.

## ACO Technologies plc

ACO operates as ACO Technologies plc in the United Kingdom. Founded over 30 years ago, the company has grown quickly on a reputation for design innovation and customer service.

ACO Access is a division of ACO Technologies plc, dedicated to providing market leading access covers with outstanding customer service and support.



## ACO Access

### Sales Enquires Team:

Tel: +44(0)1462 810421

Email: [acsales@aco.co.uk](mailto:acsales@aco.co.uk)

### Technical Team:

Tel: +44(0)1462 810431

Email: [actechnical@aco.co.uk](mailto:actechnical@aco.co.uk)

### Marketing and Media Support:

Tel: +44(0)1462 810400

Email: [acmarketing@aco.co.uk](mailto:acmarketing@aco.co.uk)



The ACO Group / [www.aco.com](http://www.aco.com)



# Installation, Operation and Maintenance Guide

## Installation guide

ACO provides the following installation recommendations and guide as a suitable method of installing ACO UniFace™ and ACO UniTop™ single floor access covers and ASSIST versions. However, customers should ensure the minimum dimensions and installation guidance provided are suitable for the intended application and place of installation. Further engineering advice may be required.

Installation should be made using acceptable levels of workmanship and according to the National Code of Practice (UK BS 8000-0:2014) series of standards.

ACO floor access covers are intended for horizontal installations so that the upper surface of the cover and frame are either flush or slightly below (approximately 2mm) the surrounding finished floor/pavement level. It is recommended that covers remain fitted to their frame at all times during installation. If not there is a possibility the cover will not fit correctly after installation.

We do not recommend the use of our access covers in applications where the temperature will exceed 70°C.

Care must be taken if any surface of the cover or frame may come into contact with installation materials such as high alkaline mortars, concrete, grouts or additives which may react adversely with metallic materials. If in any doubt we recommend that all contact surfaces are primed prior to installation with a suitable barrier paint e.g. bitumastic paint for steel or zinc chromate paint for aluminium.

## Mortar and concrete specifications

To enable covers to carry their intended service loads the following minimum material specifications must be used or exceeded.

Frame bedding mortar—minimum class M6 to BS EN 998-2:2016.

Frame haunch and recessed cover structural infill concrete—minimum grade C35/45 concrete to BS EN 206:2013 (maximum aggregate size 10mm).

If access covers are to be used in a wet area, waterproofing additives may be required. Fast-curing cementitious mortars or concrete may be used as long as the performance is at least equivalent to those stated above.

The concrete specified above must not be replaced by screed.

## Special instructions for ASSIST installations

For ACO UniFace™ GS and SS ASSIST recessed access cover installations always ensure the safety stay is engaged when the cover is fully open (see image 1). The gas spring must only be fitted once the frame has been installed and the cover has been fully filled with structural concrete as specified in step 7 of this installation guide. Mortar bedding, concrete haunch and structural infill must be fully cured before attempting to fit the gas spring. When fitting the gas spring please note it must be correctly orientated to operate correctly (see image 2). Failure to follow this advice may lead to injury and damage both the access cover and surrounding floor/pavement.



Image 1 — Safety stay engaged

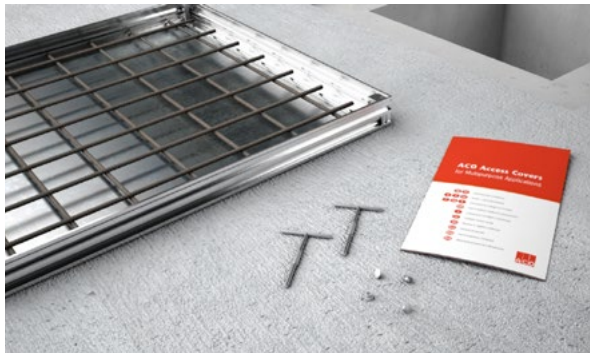


Image 2 — Correctly fitted gas spring

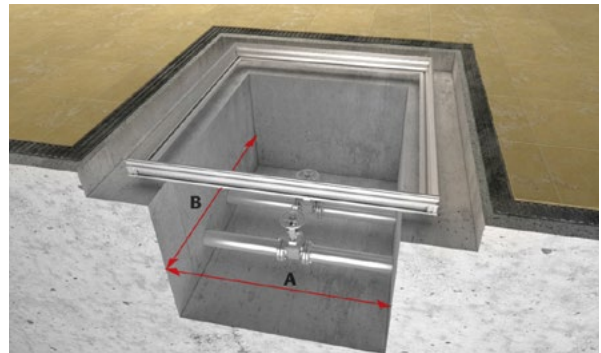




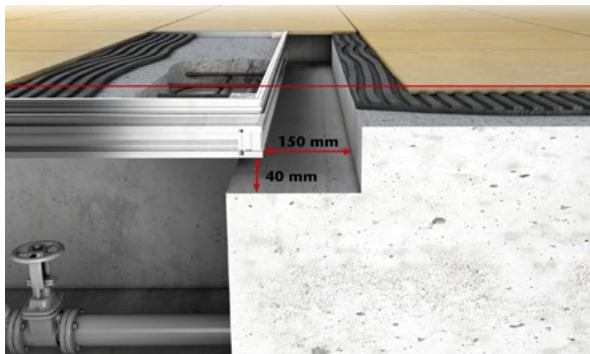
## INSTALLATION STEPS



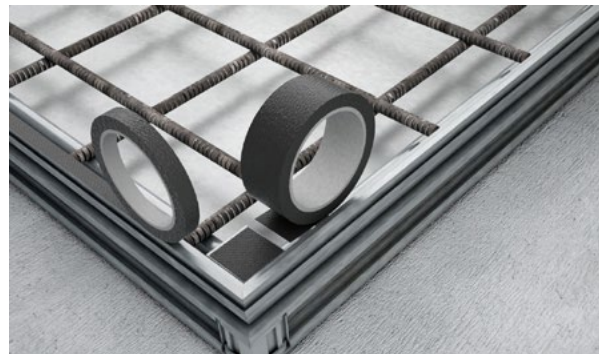
**Step 1:** All single access covers are delivered with an installation and maintenance booklet, a set of lifting/locking keys, locking screw dust caps, spacer shims and reinforcement mesh (where required).



**Step 2:** Check that the shaft size is not larger than the clear opening dimension (AxB) of the access cover. The clear opening size of the access cover frame may be up to 20mm larger than the shaft size.



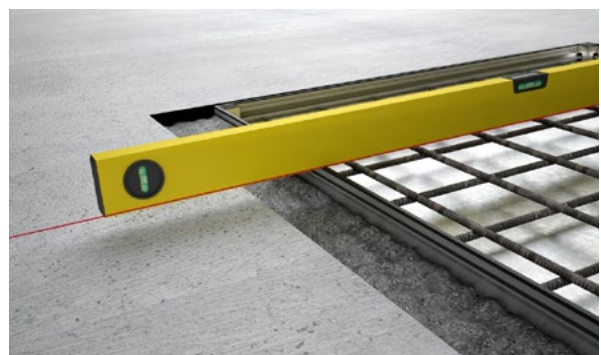
**Step 3:** A minimum rebate, 150mm wider than the over frame size and 40mm deeper (200mm for UniFace ASSIST and 160mm for UniTop ASSIST versions) than the over frame height of the access cover is to be provided for bedding and haunch material.



**Step 4:** Ensure upper surfaces of the cover and frame, joints and locking areas are protected from accidental spillages or the ingress of installation materials. This will help reduce the need for cleaning at the end of the installation.

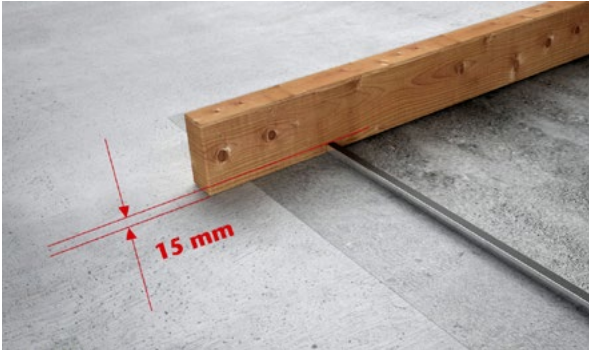


**Step 5:** Lay a mortar bed of minimum 40mm thickness all round the shaft opening covering the full width of the frame. Minimum mortar class M6 to BS EN 998-2:2016. For ASSIST covers only level the cover and frame centrally over the shaft and shutter internal clear opening. Use minimum grade C35/45 concrete to BS EN 206:2013 to anchor and bed the ASSIST frame. Allow concrete to sufficiently harden before removing shutter. Ensure the ASSIST frame is fully supported by the concrete bed with no voids.



**Step 6:** Bend out steel anchors horizontally. Bed and level the access cover and frame centrally over the shaft opening. When tapping down to level use a piece of wood to protect metal surfaces. Ensure the frame is fully supported by the mortar bed with no voids. Allow mortar to sufficiently harden. Insert spacers between the frame and cover to maintain an even gap.

## INSTALLATION STEPS



**Step 7:** For recessed covers ensure reinforcement provided is correctly positioned. Haunch the frame fully with concrete (minimum 150mm wide) and fully fill the cover to within 15mm of its upper surface. Use a notched batten to help level concrete. Vibrate concrete where necessary to ensure no voids. Minimum grade C35/45 concrete to BS EN 206:2013 (maximum aggregate size 10mm). Recommended slump S2 or S3.



**Step 8:** Allow concrete to sufficiently harden and dry out. Remove any spacers or tape protection. The cover can now be opened with the lifting/locking keys provided. If undertaking an ASSIST model installation, the gas spring can now be fitted. Point any gaps in the bedding under the frame if required. Close or refit the cover. The final floor or pavement finish can now be installed.



**Step 9:** Once the final floor or pavement has been fully installed, remove any excess adhesive or grout from around the cover and frame. Open the cover with the lifting/locking keys provided. Clean all surfaces and ensure the seating areas of the cover, rubber seals and hinges where fitted are free from debris. Lubricate all seals and hinges with a suitable silicone grease.



**Step 10:** Close/refit the cover and check that there is an even gap between the cover and frame. Insert all locking screws and hand tighten to securely lock the cover. Refit all locking screws dust caps. Once all installation materials have fully cured, the access cover is now ready for use and service loads. Retain all spare parts, the installation and maintenance booklet and lifting/locking keys for future use.



## Operation

Before attempting to open/remove the access cover, assess whether it is safe to do so. When the cover is removed there is the potential to fall into the open shaft below so take precautions to prevent accidental entry. Access covers can also be heavy so care should be taken when opening/removing them. The correct manual handling techniques and tools should be used when opening/lifting access covers. Where possible use mechanical lifting aids (supplied by others).

### OPENING/LIFTING THE COVER



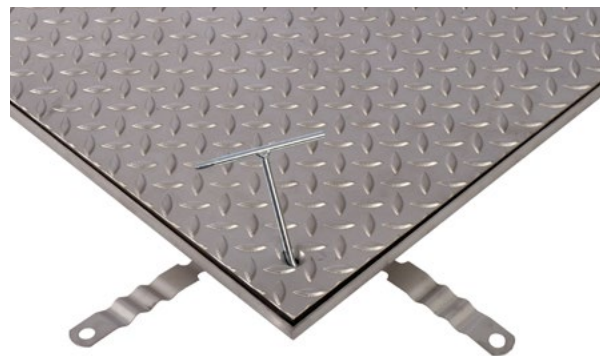
**Step 1:** Firstly remove the dust caps fitted to the locking screws with a screw driver.



**Step 2:** Unscrew and remove the locking screws with the lifting/locking keys provided. Take care when unscrewing the locking screws on ASSIST versions as the cover may start to open automatically once the screws are unfastened. If this happens simply hold the cover in place until ready to be fully opened.



**Step 3:** For recessed covers use at least two lifting/locking keys and insert the threaded section of the key into diagonally opposite locking positions (ASSIST versions insert keys into locking positions on the opposite side to the hinges). Screw in both keys evenly until the cover raises slightly. Apply one more full turn to each key. The cover is now ready to be opened/lifted.



**Step 4:** For solid covers use at least two lifting/locking keys and insert the hook section of each key through diagonally opposite the locking positions (ASSIST versions insert keys into locking positions on the opposite side to the hinges). The cover is now ready to be opened/lifted.

**Step 5:** Using the lifting/locking keys provided (or mechanical lifting aids supplied by others), lift the cover vertically clear of the frame and slide it to the side taking precautions not to damage the surrounding floor/pavement surface. To open ASSIST covers allow the cover to rise automatically until minimal effort is required via the lifting/locking keys to fully open the cover. The cover is fully open when the safety stay engages as shown below.





## Closing/replacing the cover

**Step 1:** Ensure the seating areas of the cover, rubber seals and hinges where fitted are free from debris and undamaged.

**Step 2:** Using the methods previously described for cover opening/lifting, place the cover back into the frame ensuring there is an even gap between the frame and cover. To close ASSIST covers, open the cover slightly whilst lifting the safety stay to disengage it. Apply a slight downward pressure to the cover to close it. Take care whilst lifting or closing covers to ensure nothing is trapped during the process.

**Step 3:** Unscrew or remove lifting/locking keys and replace all locking screws and their seals (where fitted). Alternating between locking screws, evenly hand tighten each locking screw until the cover lies flush the frame.

**Step 4:** Replace all locking screw dust caps by hand.

## Maintenance

**Step 1:** All access covers and frames must be inspected every six months for any damage or wear which may impede their service performance.

**Step 2:** In order to carry out this inspection the covers must be opened/removed. This aids inspection and also helps keep opening mechanisms and gas springs where fitted in good working order.

**Step 3:** During inspection it is recommended that all components are cleaned with a mild detergent and water.

**Step 4:** All seals, hinges and locking screws should be coated and lubricated with a suitable silicone grease.

**Step 5:** Replace any damaged or worn components.

For more information about the general spares available, refer to the technical data section of the "ACO Access Covers for Building Applications" catalogue or contact the ACO Access Sales Team by calling +44 (0)1462 810421 or via [acsales@aco.co.uk](mailto:acsales@aco.co.uk).



To download a copy of this Installation, Operation and Maintenance Guide go to [www.aco.co.uk/access-cover-guides](http://www.aco.co.uk/access-cover-guides).

For further advice regarding the installation, operation or maintenance of our ACO UniFace™ and UniTop™ floor access covers please contact the ACO Access Technical Team on +44 (0)1462 810431 or email [actechnical@aco.co.uk](mailto:actechnical@aco.co.uk).

For quick access to our installation, operation and maintenance guide, scan:



## ACO Technologies plc

- ACO Building Drainage
- ACO Water Management  
Civils + Infrastructure  
Building + Landscape
- ACO Sport
- ACO Wildlife
- ACO Access



ISO 9001  
FM 13502



ISO 14001  
EMS 538781



OHSAS 18001  
OHS 524145



### ACO Access

A division of ACO Technologies plc  
ACO Business Centre  
Caxton Road, Bedford  
Bedfordshire MK41 0LF

Tel: 01462 810400  
Fax: 01462 851490

e-mail: Sales: [acsales@aco.co.uk](mailto:acsales@aco.co.uk)  
e-mail: Technical: [actechnical@aco.co.uk](mailto:actechnical@aco.co.uk)  
website: [www.aco.co.uk](http://www.aco.co.uk)

**The ACO Group: A strong family you can depend on.**

© October 2017 ACO Technologies plc. All reasonable care has been taken in compiling the information in this document. All recommendations and suggestions on the use of ACO products are made without guarantee since the conditions of use are beyond the control of the Company. It is the customer's responsibility to ensure that each product is fit for its intended purpose, and that the actual conditions of use are suitable. This brochure and any advice is provided by ACO Technologies plc (the Company) free of charge and accordingly on terms that no liability including liability for negligence will attach to the Company or its servants or agents arising out of or in connection with or in relation to this brochure or any such advice. Any goods supplied by the Company will be supplied solely upon its standard conditions of sale, copies of which are available on request. The Company's policy of continuous product development and improvement renders specifications liable to modification. Information provided in this brochure is therefore subject to change without prior notification.

#### ACO CARES ABOUT THE ENVIRONMENT

Printed on material approved by the Forest Stewardship Council (FSC) who provide a means of assuring that products come from responsibly managed forest.