



INSTALLATION HANDBOOK



The future of drainage

**First Edition:
November 2015**

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Guidelines For Installing **Polymer Concrete Drain**

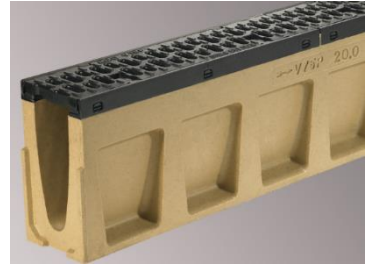


Polymer concrete products are made from sand and gravel held together by polymer resin. Polymer concrete products provide a strong and robust solution if correctly installed. This booklet offers basic installation guidance but local ground and site conditions may vary and engineering advice may be required from experts.

Dimensions of the concrete bedding mentioned in the drawings are minimum and required to achieve the intended load class.

CONTENTS

1. Required Tools
2. Site Preparations
 - Channel Identification
 - Excavation
3. Laying Of Channels
4. Locating Gratings
5. Finishing Installation.
6. Maintenance
7. Installation Drawing



1. REQUIRED TOOLS

Polymer concrete products should be handled with some care as they can be damaged by impact from other Products, or machinery, and can break if mishandled.

Typical equipment necessary for installation may include:

- Excavating equipment
- String-line and laser level
- Measuring tools
- Masonry drill, diamond grinder
- Cut-off saw with diamond blade
- Rubber Hammer and Torque Wrench For Bolting the Grates (Between 35 to 50 Nm)
- Concrete – M 25 Grade.

2. SITE PREPARATIONS

Measure area where products are to be installed. Position stakes/markers and levels to help identify location and height of finished surface. Locate and identify drainage connections.

The channels are installed in continuous trenches, bedded on a concrete foundation and with concrete haunching designed to prevent lateral forces from acting on the sidewalls. All foundations must be designed to withstand the service loads without differential settlement. (See the Installation drawings provided by ACO)

□ CHANNEL IDENTIFICATION

Multiline Channels have are of 0.5 and 1 metre in length. Arrows on channel help installation direction identification. All channels easily can be cut to required length using a cut-off saw with diamond blade.

□ EXCAVATION

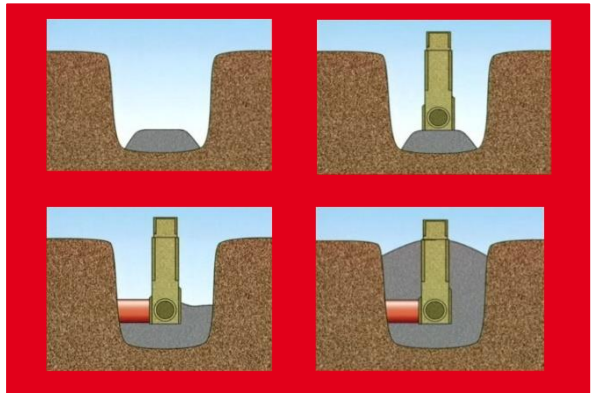
Once product locations are identified, excavate trench to accommodate a minimum of 100mm on either side and beneath the product or refer installation drawing provided by ACO.

3. LAYING OF CHANNELS

Always start laying the channels form the outlet point. Ensure string-line and laser are set at required channel height – this may vary from finished surface height depending upon System and type of surface used.

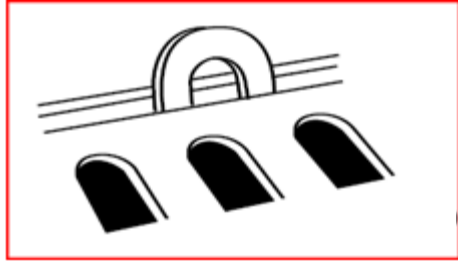
Always start laying the channels from the outlet point. Ensure string-line and laser are set at required channel height – this may vary from finished surface height depending upon System and type of surface used.

- Identify the outlet point and start pouring the bedding concrete in the excavation. Allow the concrete to settle down for few minutes.
- Lay the sump unit and connect the sump unit outlet pipe to the underground Drainage pipe system. Start haunching equally from both the sides to avoid tipping of channels and proper alignment of the sump unit. In case ACO sump unit is not then consider the Sump / Chamber made at Site .
- Next start laying the channels one after another on top of the unhardened bedding concrete. Join the channels with help of the tongue and groove arrangement.
- Refer the installation drawing for detailed haunching details.



- Align the channels properly and start haunching equally on both the side of the channels.
- Ensure the channels are laid at proper height with help of the string line.
- Finally adjust the channels so that it is in marked position and correct height with respect to the surrounding area if necessary.

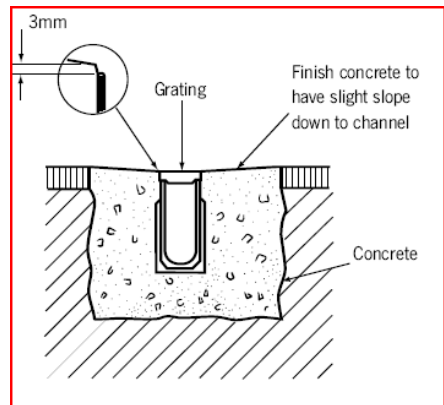
4. LOCATING GRATINGS



To prevent the channel wall and joints being distorted by the weight of concrete, the gratings (or 20mm plywood) should be installed in the channel. The gratings should be suitably wrapped to protect from concrete contamination. Shims (or washers) placed along each side allow easy removal of the grating.

5. FINISHING INSTALLATION

The finished surface of the adjacent pavement or haunch should be 3–5mm above the grating surface (except Q System channels), with slight down slope to channels. The run should be completed by using the appropriate closing end cap.



Once the surrounding concrete has been placed and allowed to cure, the knockout between the gully or sump unit and the first channel should be removed using a sharp chisel and hammer from inside the gully or sump.

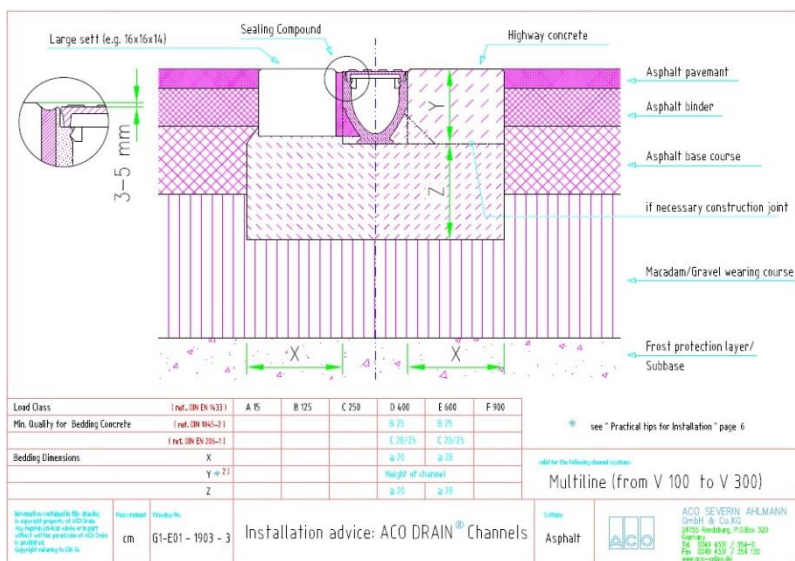
The grating should be removed, and the channel flushed out. Then all protective covering should be taken off the grating, Concrete splashes cleaned off and the grating re-installed with locking bar. Ensure the grating is properly bolted (using a torque wrench to between 35 and 50Nm). Install sump or gully buckets.

6. INSPECTION AND MAINTENANCE

- A. Inspections should be frequent and regular, depending on local conditions and environment, but at least annually. Inspections should cover: gratings, covers and locking bolts; sumps and sump buckets; exposed Concrete surround and adjacent paving.
- B. All items should be inspected as appropriate for damage, blockage or movement, and compared with site drawings or sketches if reference is needed. If required, contact ACO for advice.
- C. Maintenance is simple via the easily removed gratings or inspection covers. After flushing the channel with water or high pressure jetting (do not use boiling water or cleaning agents), repair damaged surfaces where necessary with an appropriate Sealant, and renew joint seals as required.
- D. Empty silt buckets and clean out sump/gully and connections. Replace bucket and replace any gratings, ensuring they are correctly fitted

7. INSTALLATION DRAWING

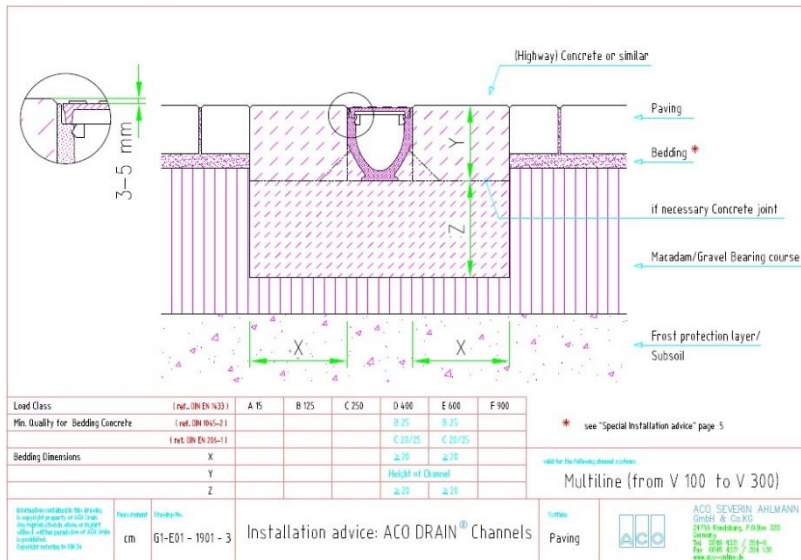
□ ASPHALT PAVEMENT



□ HIGHWAY CONCRETE



□ PAVING



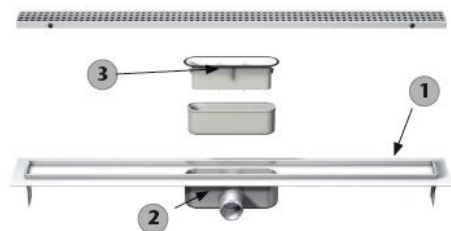
Guidelines For Installing **Shower Channel**



ACO Shower Drain offers the perfect way to create generously sized, uniform bathroom designs without any interruptions, changes in materials or barriers. Whether the design incorporated discreet lines, curved point drainage areas, designer grating made from stainless steel or glass covers, a hotel/company logo or integrated LED modules – with this option, the possibilities are endless. ACO's premium products for bathrooms guarantee maximum safety, load resistance and hygiene.

ACO Shower Drain can make a graphic statement wherever you want it to: on the wall, running parallel to the shower partition, or in the room itself. ACO Shower Drain product range offers solutions for the floor-level installation requirements and for safe, assembly friendly installation.

High quality stainless steel has been adopted in many different fields of applications where stringent requirements apply in relation to hygiene, operational safety and material stability. ACO uses high-alloy stainless steel 304 grade to make the cleaning easier, and to prevent dirt adhering in the first place, the surfaces of ACO Shower Drain are produced without any seams or cracks. Flat welded joints avoid the presence of any corners which could collect dirt.



1. Thin bed flange peripherally
2. Drain body with welded connection DN 50
3. Two-piece odour trap (pre-assembled)

Contents

1. Required Tools
2. Installation
3. Maintenance

1. REQUIRED TOOLS

Stainless steel material can be handled safely to make the perfect installation at site.

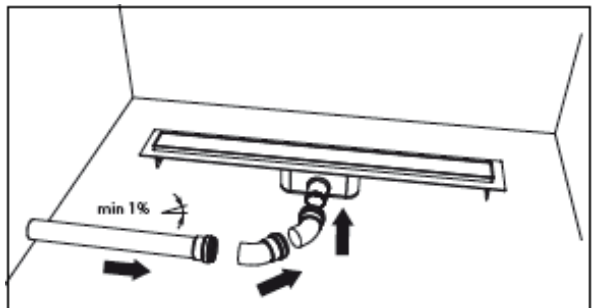
Typical equipment necessary for installation may include:

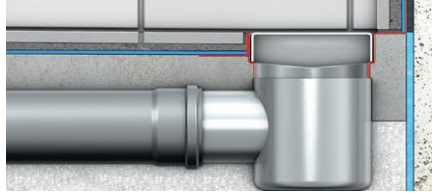
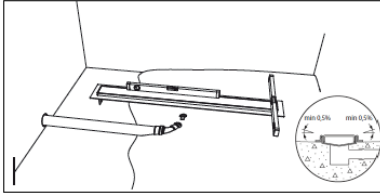
- Chipping equipment
- String-line and laser level
- Self-adhesive tape
- Emery paper
- Cleaning agent
- Silicon sealant
- Measuring tools

2. INSTALLATION

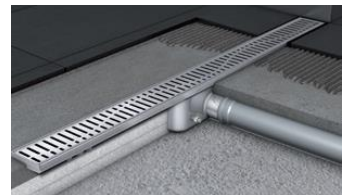
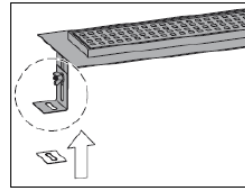
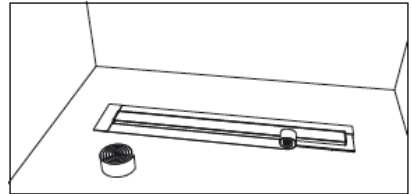
- The installation of the gutter must be cleaned before assembling. The raw concrete is to be dried properly.
- Before installing the shower channel, please remove the grating in order to avoid the damage, and apply the adhesive tape to the edge of shower channel.
- Make sure that no impurities (mortar, etc.) can get into the shower channel during assembly and installation work. It is temporarily covered during this process.
- We recommend using the emery paper to roughen the side and bottom sections of shower channel, then use degreasing agent to achieve better adhesion to the floor materials.
- Choose the right length of the shower channel to fix between the walls to avoid any additional tiles.
- Place the channel inside the installation location and connect the pipe connection. The connection to the drain pipe via a spigot and socket joint. The pipe can be adjusted by using corresponding bends to the structural conditions. The drain connection of the shower drain is a stainless steel pipe DN 50, which suits for all common plug pipe socket systems.

- The screed must be created with a slight slope flush to the thin bed flange of the gutter/channel.

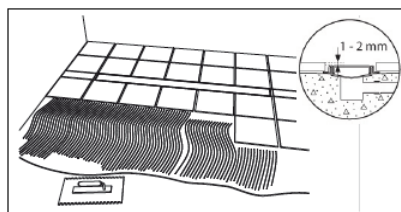




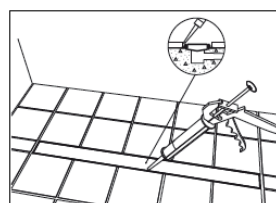
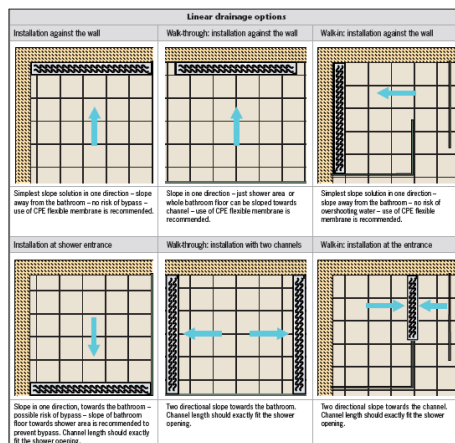
- It is always important to ensure that the thin bed seal is properly connected to the thin bed flange of the shower drain, mostly carried out via these sealing strips (not included), which are applied to the thin bed flange of the gutter.
- Level the channel with the help of the extension brackets (fasten these brackets with screws) or install the channel in mortar
- Fill in the space under the channel and around it with cement mortar, taking into account the thickness of the tiles.
- The tiles are laid with the tile adhesives. It is important to ensure that the tiles are not directly on the frame of the channel Set. It is to provide a permanently elastic expansion joint to make an elastic grouting.



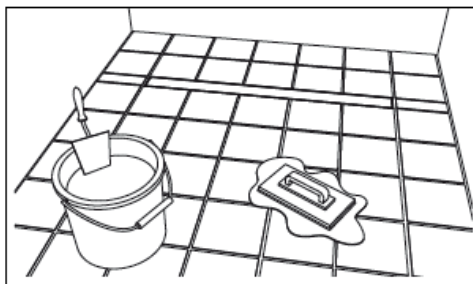
- While laying the tiles, it is necessary to make sure that the gradient in the shower area is always directed towards the shower channel. Place the tiles at least 1 to 2 mm higher than the upper side of the shower channel edge, in order to avoid pooling along the channel.
- After tiling, seal the tiles to the channel with a silicon sealant, complying with the recommendations of the manufacturer. For best results, make sure the silicon joint has the same width and colour as the joint between the tiles.



- Remove any cement or jointing agent residue carefully with the help of a plastic wool/sponge.
- Remove the protective film from the grating then install the grating back into the channel.
- The length of the waste pipeline from the shower channel to the vertical waste stack of the system must be as short as possible, avoid as many as bends in the system and make sure that the waste pipe has a sufficient gradient for the discharge required.

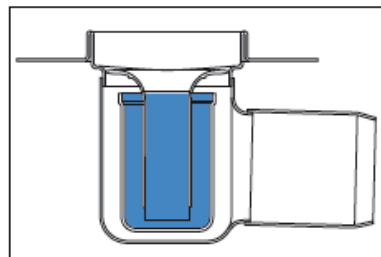


- If the tiles are acidified after installation is to ensure that subsequently the channel body including rust and odor trap can be sufficiently purged. It can be otherwise lead to rusting due to the acid.



FAT (Foul-Air Trap)

ACO Shower Drain channels are operated with drain traps with water seal (50 mm water trap). It is therefore necessary that the pitch used at regular intervals or the trap is filled with water as needed. Otherwise there is a drying up of the water trap and an unpleasant odor is likely. Removal of the drain trap is in principle only permissible for short periods.



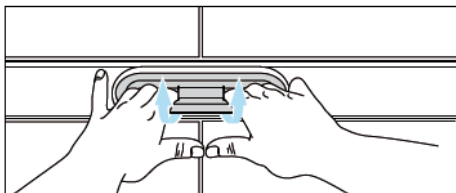
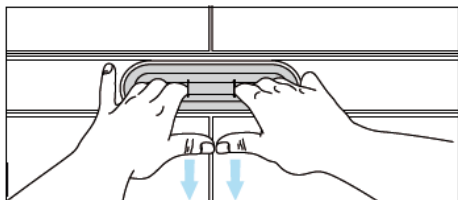
3. MAINTENANCE

The maintenance of the shower channel is very easy and time saving, Kindly follow the below steps to do the maintenance of the shower channel.

If there is any blockage in the shower channel, the grating should be removed by using the lifting aid tool which supplied along with the shower channel and flush out completely inside the shower channel and check the FAT to be cleaned.

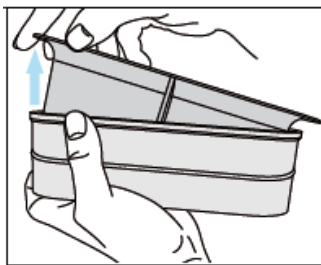
▪ Removal of FAT

The FAT can be removed as shown in the below pictures.



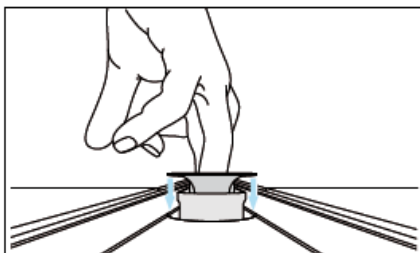
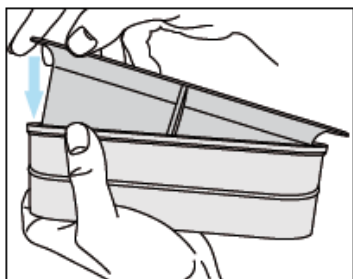
▪ Cleaning FAT:

To clean the FAT is to be stripped by squeezing in two parts as shown in the below pictures.



▪ Fit it Back

After cleaning the foul air trap, need to put it back to the channel to avoid the odour smell coming into the bathroom as shown below.



Guidelines For Installing **Shower - Point Drain**

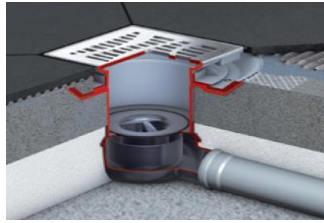


ACO floor drains are available in a clearly structured range to help simplify choice and combination to create a tailor-made system the right system for your needs. Our floor drains come in a wide range of standard sizes. They are supplied complete and ready to install. The drain body can be enhanced with a complementary range of practical accessories – creating customized solutions to fit basically all situations as they occur in homes and buildings.

ACO floor drains are designed to provide hygienic, quick, simple and economic trapped drainage solutions for washrooms, 'wet' bathrooms, changing rooms, swimming pools, hotels, apartments and toilets. ACO point drains can be installed on all floor finishes including all cementitious and resin screeds, ceramic tiles, and flexible vinyl sheet in solid and suspended flooring applications.

CONTENTS

1. Required Tools
2. Installation
3. Maintenance



1. REQUIRED TOOLS

Typical equipment necessary for installation may include:

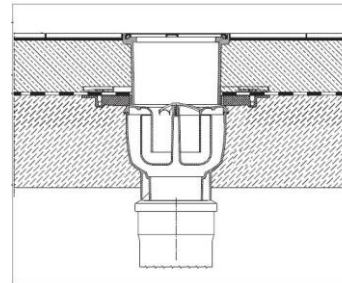
- Chipping equipment
- String-line and laser level
- Self-adhesive tape
- Cleaning agent
- Silicon sealant
- Measuring tools



2. INSTALLATION

i. Easy flow floor drain:

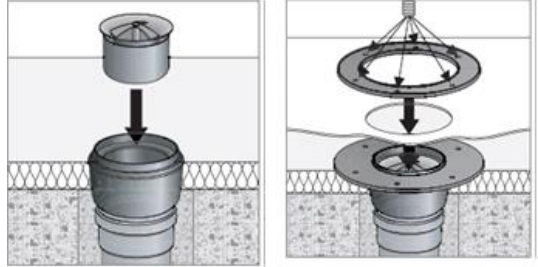
- The installation of the gully must be cleaned before assembling. The raw concrete is to be dried properly.
- Initially need to prepare the top section before installation. Apply leakage openings to the top section to drain the leakage water from the floor. Because the gully body is fixed with the integrated rubber sealing for the water tightness.



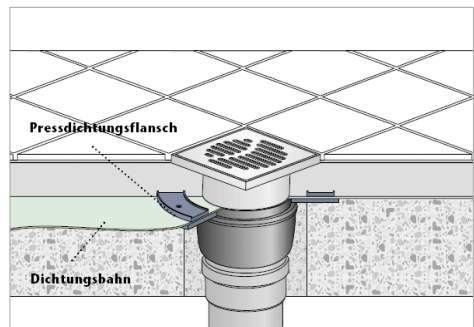
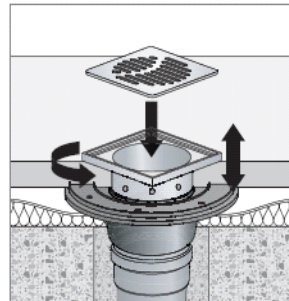
▪ Compression Sealing Flange

- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Remove any protective tape/film from the unit.

- Apply compression sealing flange to the gully body, unscrew loose flange to lay the sealing membrane. Then loose flange can be re-fitted.

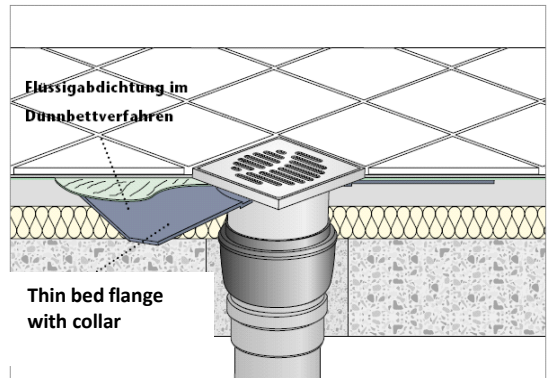
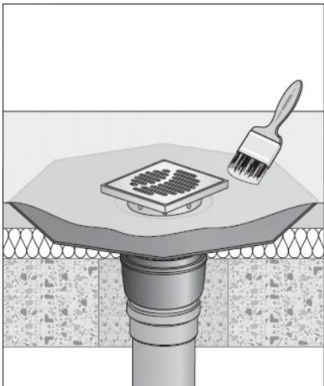
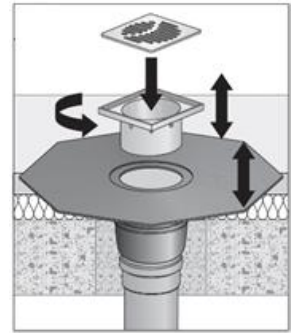
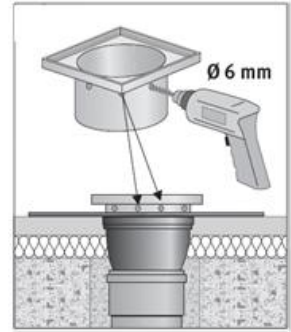


- Insert the top section to the gully body; ensuring top section is inserted into gully body properly. If required, the top section can be cut and insert into the gully body to match the finished floor level.
- Connect the outlet pipe into the waste pipe line by push-fit joint; make sure the connection is proper and no leakage.
- After that complete the remaining floor structure and align the grating frame based on the tile fixing.



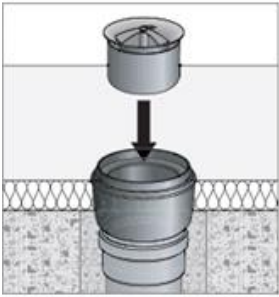
▪ Thin Bed Flange

- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Remove any protective tape/film from the unit.
- Apply leakage opening to the top section.
- Apply thin bed flange to the top section and the leakage opening should be aligned properly.
- Adjust the top section with thin bed flange to construct the height.
- Thin bed sealing can be applied as shown below.
- After that complete the remaining floor structure and align the grating frame based on the tile fixing.

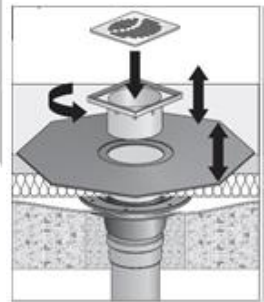
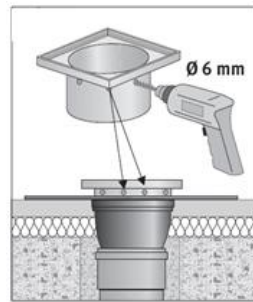


▪ Compression Sealing Flange and Thin Bed Flange

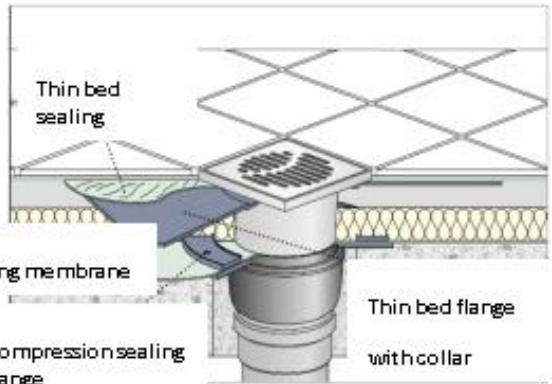
- Apply compression sealing flange to the gully body, unscrew loose flange to lay the sealing membrane. Then loose flange can be re-fitted.



- Apply leakage opening to the top section.
- Apply thin bed flange to the top section and the leakage opening should be aligned properly.
- Adjust the top section with thin bed flange to construct the height.



- Thin bed sealing can be applied as shown below.
- After that complete the remaining floor structure and align the grating frame based on the tile fixing.



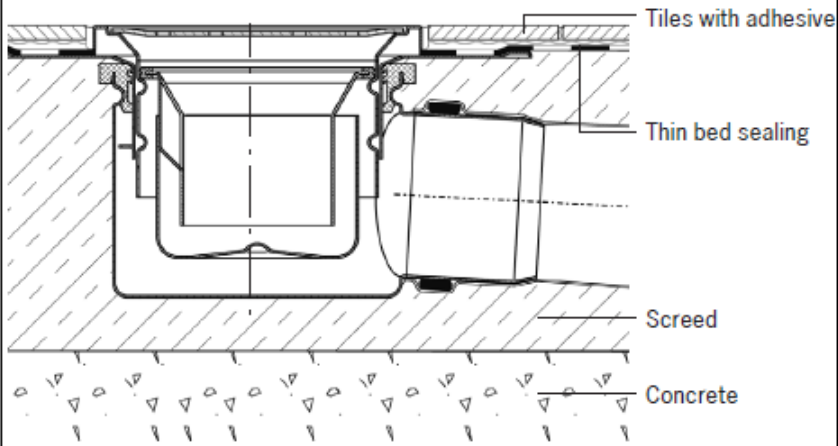
ii. EG 150

- The installation of the gully must be cleaned before assembling. The raw concrete is to be dried properly.
- The grating and sides of the gully should be covered with the tape to protect the gully from the concrete/mortar.
- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Make sure the grating is placed 2-3mm below the floor finish level for the free flow of water to the drain.
- Connect the outlet pipe into the waste pipe line by push-fit joint; make sure the connection is proper and no leakage.
- Connect the side inlet connections, if any.
- Pour the concrete around the gully body up to the required height.
- Pour the screed above the slab to match the level as per the site requirement.
- Trowel the mortar up to the required height to fix the tile to match with finish floor level.

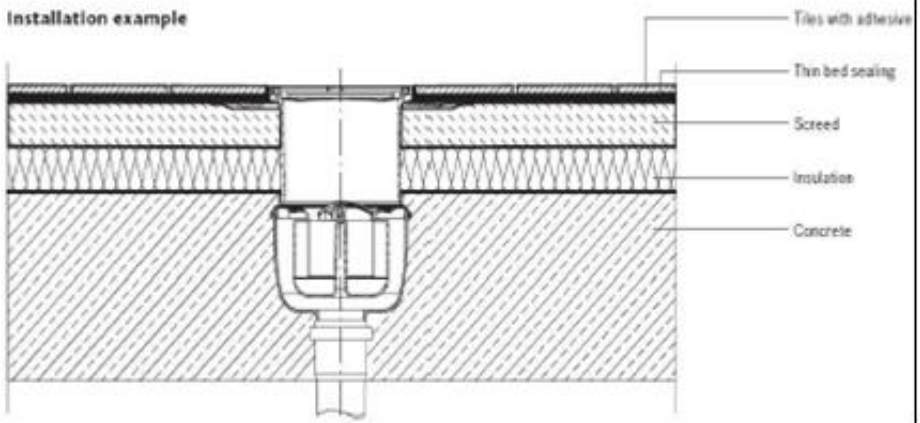


- Install the tiles to match with the finish floor level around the gully.
- A mastic sealant of bead width 5–8mm is recommended between the gully and the floor finish.
- Remove the tape covered from the gully.

Installation example

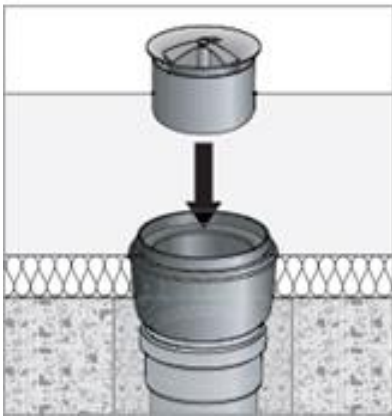


Installation example



3. MAINTENANCE

- The maintenance of the easy flow floor drain is very easy and time saving, Kindly follow the below steps to do the maintenance of the drain.
- If there is any blockage in the drain, the grating should be removed and flush out completely inside the drain and check the FAT to be cleaned.
- The FAT (Foul Air Trap) should be removed from the gully body.
- Check there is any blockage and then cleans it properly.
- Then re-insert the FAT to the gully body
- Insert the grating back to the top section.



Guidelines For Installing **Kitchen – Point Drain**



ACO gully ranges are designed, manufactured, tested and certified in accordance with EN 1253. We apply the relevant hygienic design principles reserved for food contact surfaces EN 1672, EN ISO 14159 and EHEDG documents No. 8, 13 and 44.

Hygienic design features are edge in-fill, rounded internal corners, no metal to metal contact and full drain ability.

Based on the basic application, the type of drainage needs to be selected according to the layout of the operational space and

Technology employed. The chemical mixture of the waste water from the process and/or from the cleaning as well as the temperature of the final mixture influences the material resistance of the drainage system.

ACO drainage is manufactured from austenitic stainless steel; grades 1.4301 or 1.4404 according to EN 10088 (304 or 316L according to AISI) and is ideal for applications within food processing, dairy, brewery, commercial kitchen, pharmaceutical, chemical, petrochemical industries and leisure.

ACO gullies – all the seals are made of NBR (acryl nitrile-butadiene rubber)

Depending on the composition of the floor construction; the appropriate type of gully or channel should be selected. If there is insulation in the floor structure, the O-ring needs to be removed from the friction ring, which will allow the water from the insulation to be drained to the gully body.

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- 1. Required Tools**
- 2. Installation**
- 3. Maintenance**



1. Required Tools

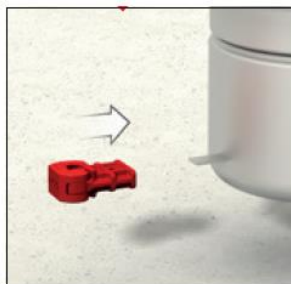
Typical equipment necessary for installation may include:

- Chipping equipment
- String-line and laser level
- Self-adhesive tape
- Cleaning agent
- Silicon sealant
- Measuring tools
- Rubber Hammer

2. INSTALLATION

i. Levelling feet:

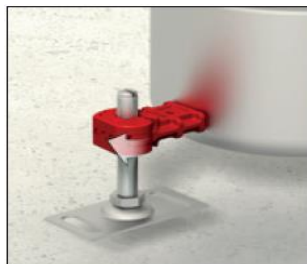
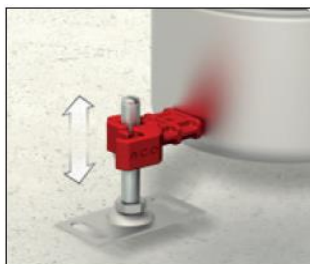
- The leveling feet should be fixed with the gully properly before installing the gully on the floor.
- The rubber stud should be fixed properly by using the rubber hammer in the gully as shown.



- The rubber stud should be opened and insert the leveling feet as shown below,

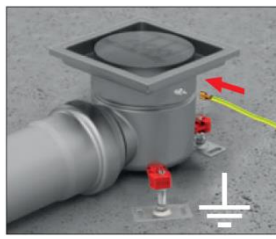


- The leveling feet should be adjusted to match with the floor finish level and then close the stud properly for the proper installation of gully as shown below,

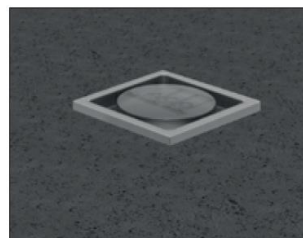
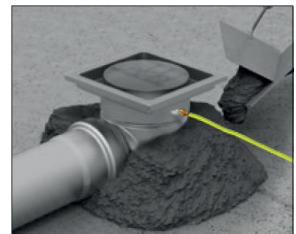


ii. Fixed Height Gully

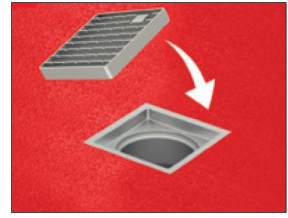
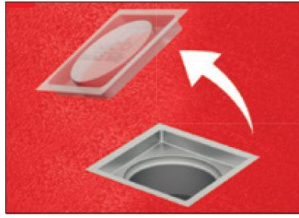
- Fixed height gullies are convenient and free-standing units which are suitable for cementitious, resin or tiled floors.
- Before installing the gully, please remove the grating in order to avoid the damage, and apply the adhesive tape to the edges.
- Make sure that no impurities (mortar, etc.) can get into the gully during the installation. It is temporarily covered during this process.
- Locate the gully at the right position and align the levelling feet should be adjusted properly to match with the floor finish level.
- The waste pipe line should be connected from the gully outlet by push-fit joint.
- There is a provision provided to connect the electrical earth connection to the gully as shown below,



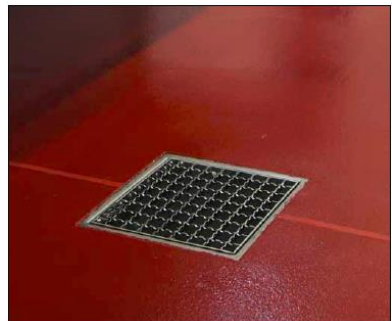
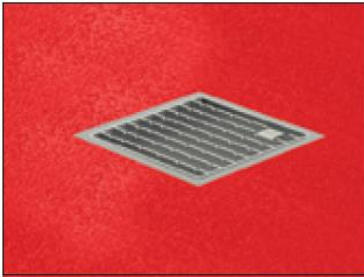
- Once the levelling feet is arranged as per the floor finish level, the concrete should be poured around the gully to fix it properly.



- The water proofing membrane should be placed properly, then pour the screed and trowel the mortar up to the required level as per the thickness of the tile.
- Place the tile/floor finish which matches the gully grating.
- The tape should be removed and then SILK BASKET, the grating should be placed on the gully.



- Now the gully is fixed properly and ready for the operation.

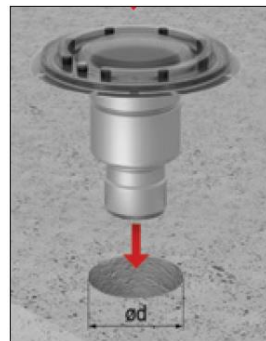


iii. Telescopic Gully

- Telescopic gullies can be installed either with a gully top or ACO channel in most flooring constructions, including floors with waterproofing membranes.
- Before installing the gully, please remove the grating in order to avoid the damage, and apply the adhesive tape to the edges.
- Make sure that no impurities (mortar, etc.) can get into the gully during the installation. It is temporarily covered during this process.

□ Mechanical Clamping Flange:

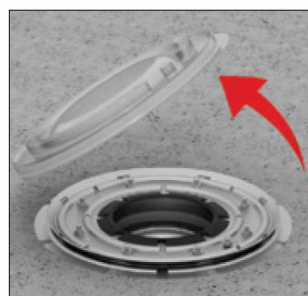
- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Connect the outlet pipe into the waste pipe line by push-fit joint; make sure the connection is proper and no leakage.



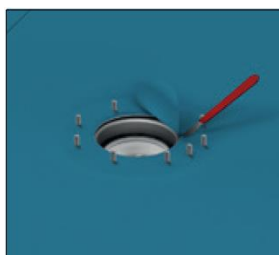
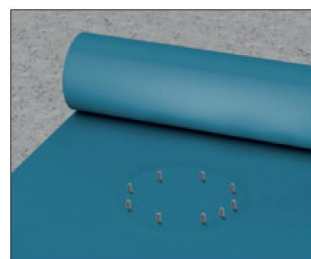
- Once the levelling feet is arranged as per the floor finish level, the concrete should be poured around the gully to fix it properly.



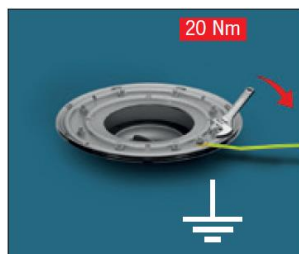
- Remove any protective tape/film from the unit.



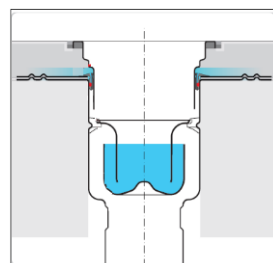
- Apply compression sealing flange to the gully body, unscrew loose flange to lay the sealing membrane. Then cut the sealing membrane as per the gully outlet.



- Then loose flange can be re-fitted and tightened the flange and then connect the electrical earth connection to the gully body where the provision provided.



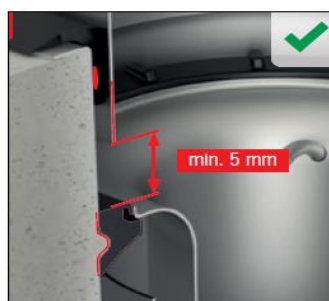
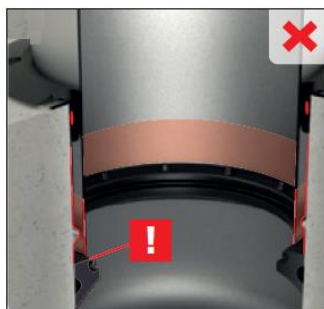
- The sealing ring should be placed properly to the gully body for the leakage water flow from the floor to the water proofing membrane and then to the gully body.



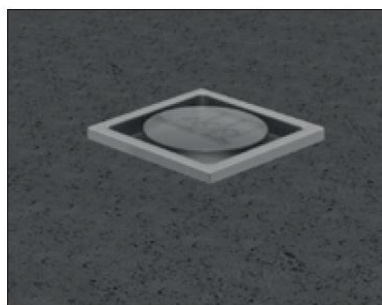
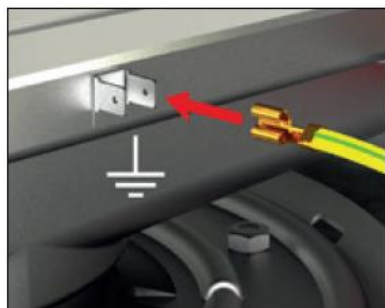
- The top section should be placed on the top of the gully and then pour the concrete to place it properly.



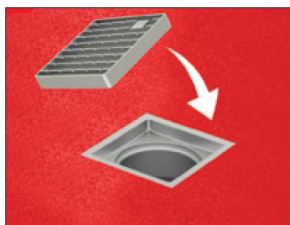
- The gap between top section pipe bottom and the gully body sealing ring should be minimum of 5mm. This will help to free flow the water from the membrane to the gully.



- Connect the electrical earth connection to the top section where the provision is provided.
- Check the grating level and the floor finish level and pour the concrete around the gully top and pour the screed to match the thickness of the tile/floor finish.
- Then place the tile/floor finish to match with the grating top level.

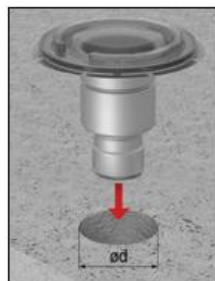


- The tape should be removed and silk basket then the grating should be placed on the gully.
- Now the gully is fixed properly and ready for the operation.

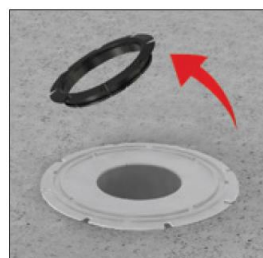


❑ **Adhesive Bonding Flange:**

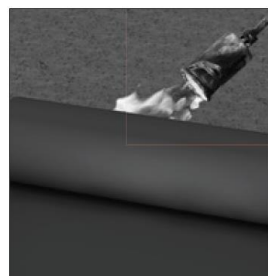
- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Connect the outlet pipe into the waste pipe line by push-fit joint; make sure the connection is proper and no leakage



- Once the levelling feet is arranged as per the floor finish level, the concrete should be poured around the gully to fix it properly.



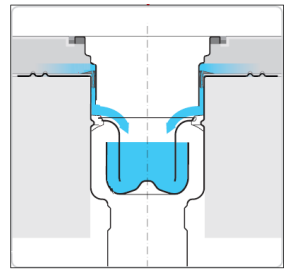
- Remove any protective tape/film from the unit.
- Remove the sealing ring from the gully body.
- Apply the adhesive layer to the flooring as shown below.



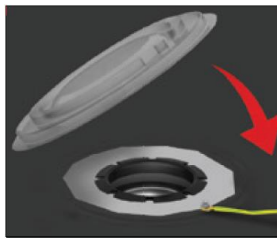
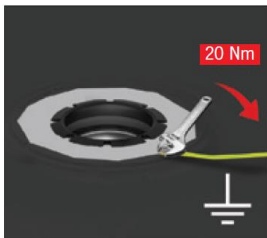
- Then cut the adhesive layer as per the gully outlet. Shown below.



- The sealing ring should be placed properly to the gully body for the leakage water flow from the floor to the water proofing membrane and then to the gully body.



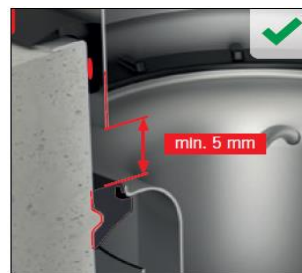
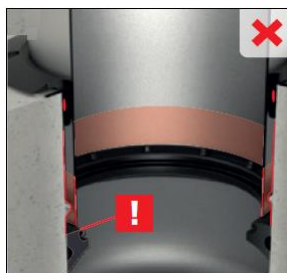
- Connect the electrical earth connection to the gully body where the provision is provided.
- Re-fit the protective layer to the gully body.



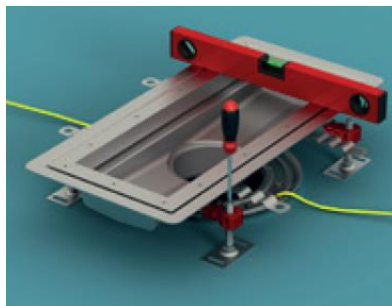
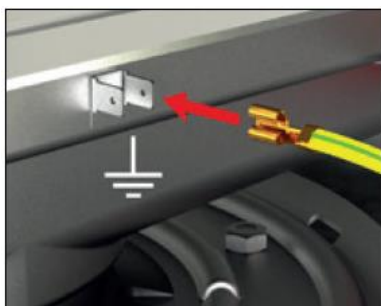
- The top section should be placed on the top of the gully and then pour the concrete to place it properly.



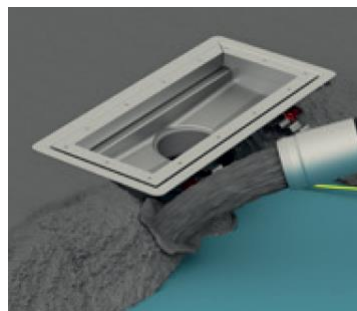
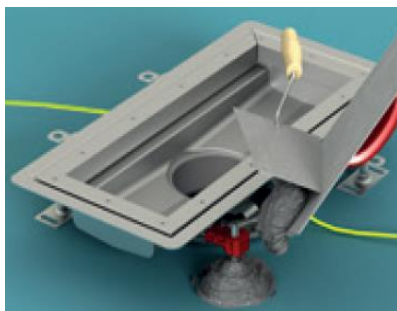
- The gap between top section pipe bottom and the gully body sealing ring should be minimum of 5mm. This will help to free flow the water from the membrane to the gully.



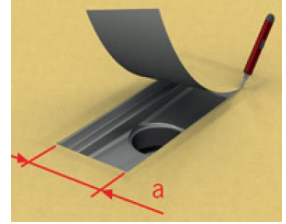
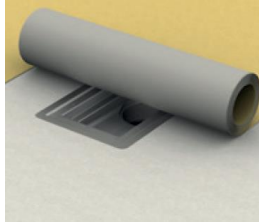
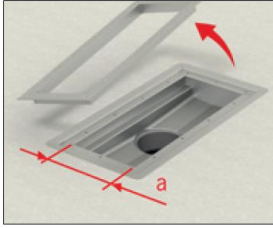
- Connect the electrical earth connection to the top section where the provision is provided.
- Check the grating level and the floor finish level.



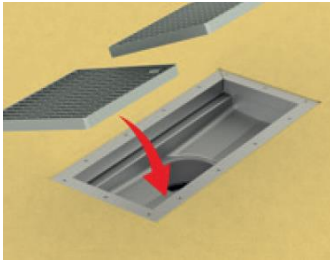
- Pour the concrete around the gully top and pour the screed to match the floor finish.



- Remove the flange and then place the floor finish and cut the floor finish on the top of the channel (grating location).

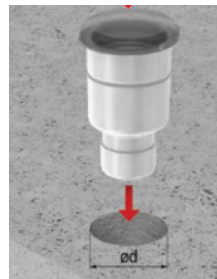


- Now place the silk basket and grating on the top of the channel. Now the gully is ready for the operation.

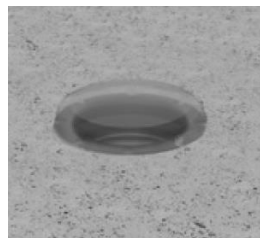


❑ Location Flange:

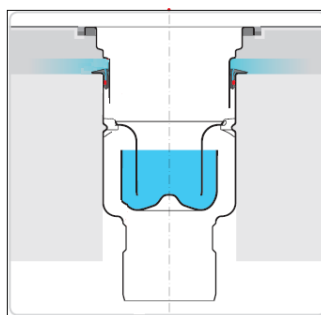
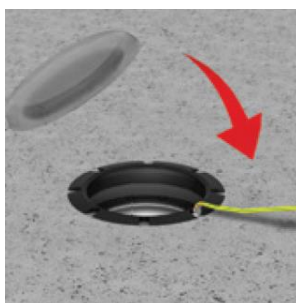
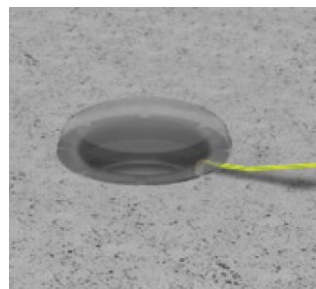
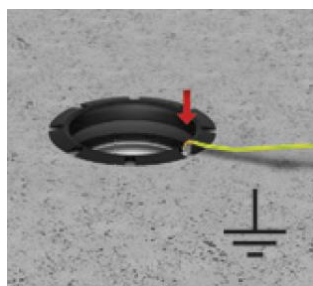
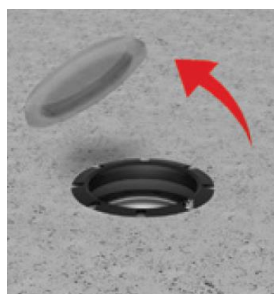
- Place the gully body at correct position of the sub base over concrete slab and insert the FAT (Foul-Air-Trap).
- Connect the outlet pipe into



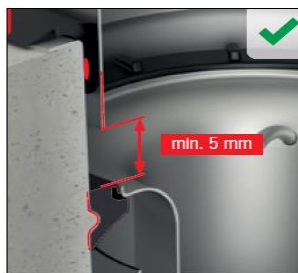
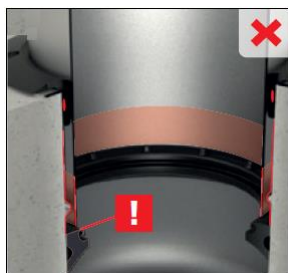
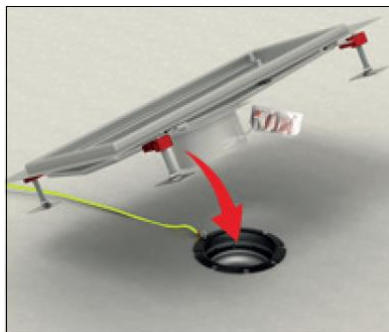
- Once the levelling feet is arranged as per the floor finish level, the concrete should be poured around the gully to fix it properly.



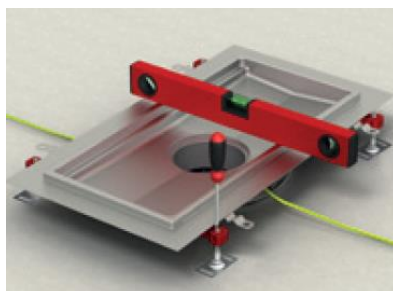
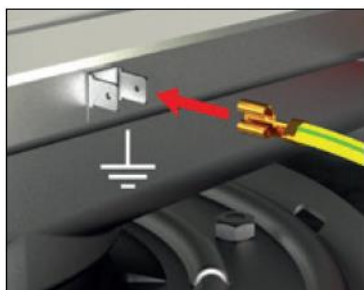
- Remove any protective tape/film from the unit.
- Connect the electrical earth connection to the top section where the provision provided.
- Re-fit the protective layer to the gully body.



- The top section should be placed on the top of the gully and then pour the concrete to place it properly
- The gap between top section pipe bottom and the gully body sealing ring should be minimum of 5mm. This will help to free flow the water from the membrane to the gully.



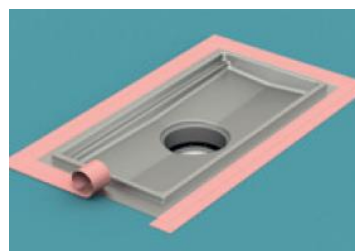
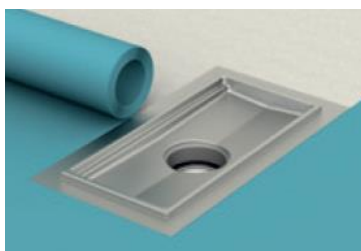
- Connect the electrical earth connection to the top section where the provision provided.
- Check the grating level and the floor finish level.



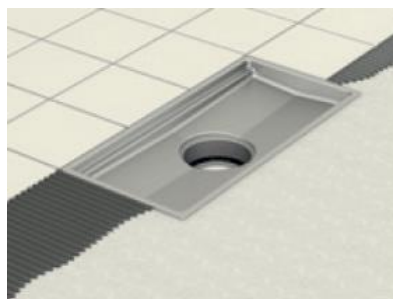
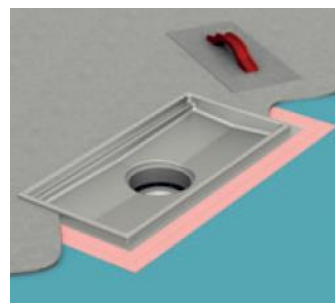
- Pour the concrete around the gully top and pour the screed to match the floor finish.



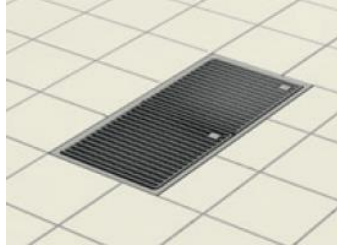
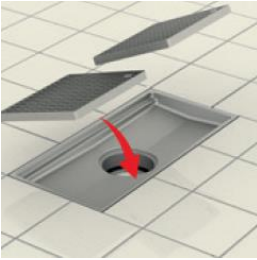
- Place the water proofing membrane on the floor and around the channel.



- Check the grating level and the floor finish level and pour the concrete around the gully top and pour the screed and mortar to match the thickness of the tile/floor finish.
- Then place the tile/floor finish to match with the grating top level.



- Place the grating and silk basket on the top of the gully, now the channel is ready for the operation.



3 . MAINTENANCE

The maintenance of the hygienic gully is very easy and time saving, Kindly follow the below steps to do the maintenance of the drain.

- If there is any blockage in the gully, the grating should be removed and flush out completely inside the gully and check the Silk Basket and FAT.
- The Silk Basket and FAT (Foul Air Trap) should be removed from the gully body.
- Check there is any blockage and then cleans it properly.
- Then re-insert the Silk Basket and FAT to the gully body
- Insert the grating back to the top section.

Guidelines For Installing Box and Modular Channel



ACO hygienic drainage fulfills stringent hygienic requirements to prevent harmful bacterial contamination. We apply the relevant hygienic design principles reserved for food contact surfaces EN 1672, EN ISO 14159 and EHEDG document to the channel design.

The ACO box and modular channel range includes channels for all common applications and all common floor types (concrete, tiles, resin or vinyl). The ACO box channel portfolio is designed with respect to hygienic design requirements. Selecting a channel from the range is easy.

Based on the basic application, the type of drainage needs to be selected according to the layout of the operational space and technology employed. The chemical mixture of the waste water from the process and/or from the cleaning as well as the temperature of the final mixture influences the material resistance of the drainage system.

ACO drainage is manufactured from austenitic stainless steel; grades 1.4301 or 1.4404 according to EN 10088 (304 or 316L according to AISI) and is ideal for applications within food processing, dairy, brewery, commercial kitchen, pharmaceutical, chemical, petrochemical industries and leisure.

In addition all ACO box and modular channels can be designed with:

- Special outlet position
- Special depth
- Special slope
- Special channel width
- L-shape and T-shape lay out
- Special side inlets



CONTENTS

- 1. Required Tools**
- 2. Installation Maintenance**

1. REQUIRED TOOLS

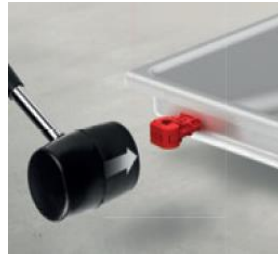
Typical equipment necessary for installation may include:

- Chipping equipment
- String-line and laser level
- Self-adhesive tape
- Silicon sealant
- Measuring tools
- Rubber Hammer

2. INSTALLATION

❑ Levelling feet:

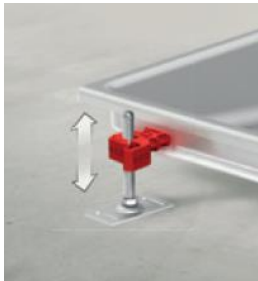
- The leveling feet should be fixed with the gully properly before installing the gully on the floor.
- The rubber stud should be fixed properly by using the rubber hammer in the gully as shown below,



- The rubber stud should be opened and insert the leveling feet as shown below,

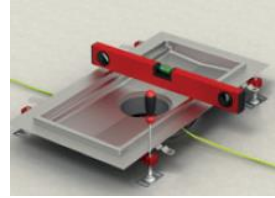
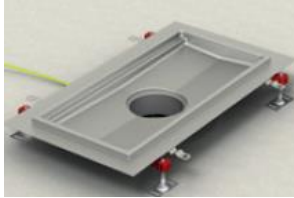
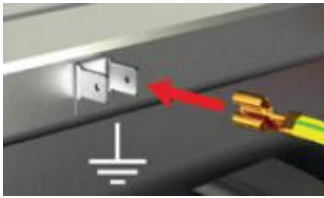


- The leveling feet should be adjusted to match with the floor finish level and then close the stud properly for the proper installation of gully as shown below,

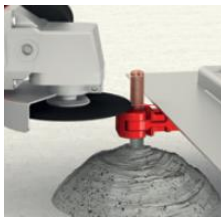


➤ ACO BOX CHANNEL:

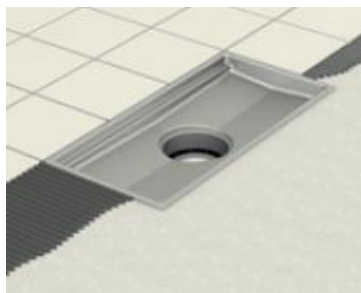
- Provide the temporary cover to prevent unwanted debris entering to the channel.
- Layout the channel at correct position over slab with the help of leveling feet
- Check the alignment to maintain the line and level of channel to the finished floor level with the help of spirit level.
- Connect the outlet point to the wastepipe or gully which is already fixed into the ground, and test for the leakage.
- Connect the electrical earth connection to the channel where the provision provided.



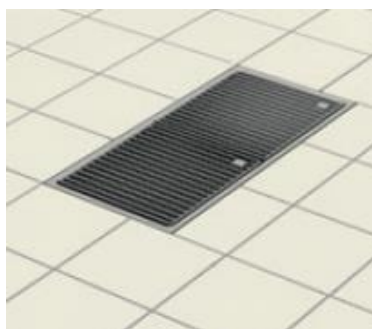
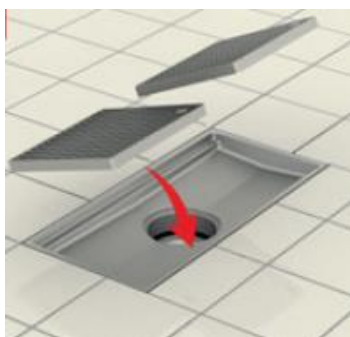
- Check the grating level and the floor finish level.
- Pour the concrete around the body of the channel.
- If required, cut the leveling feet to match the level



- Pour the screed and mortar to match the thickness of the tiles/floor finish level.
- Over the screed and mortar, install the tiles or floor finish around the channel.



- Remove the protected tape from the channel.
- Insert the FAT and Silt basket inside the channel outlet.
- Lay the grating into the channel.



➤ **ACO MODULAR CHANNEL:**

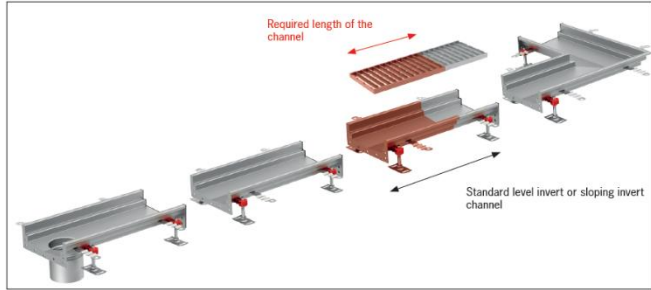
- Provide the temporary cover to prevent unwanted debris entering to the channel.
- Layout the channel at correct position over slab with the help of leveling feet
- Check the alignment to maintain the line and level of channel to the finished floor level with the help of spirit level.
- Between the channels, place the rubber gasket and tighten with nut and bolt supplied along with the channel for the water tightness



- Connect the outlet point to the wastepipe or gully which is already fixed into the ground, and test for the leakage.
- Connect the electrical earth connection to the channel where the provision provided.



- Check the grating level and the floor finish level.
- Pour the concrete around the body of the channel.
- If required, cut the leveling feet to match the level.
- Pour the screed and mortar to match the thickness of the tiles/floor finish level.



- Over the screed and mortar, install the tiles or floor finish around the channel.
- Remove the protected tape from the channel.
- Insert the FAT and Silt basket inside the channel outlet.
- Lay the grating into the channel.

➤ **MAINTENANCE**

- The maintenance of the hygienic box and modular channel is very easy and time saving, Kindly follow the below steps to do the maintenance of the drain.
- If there is any blockage in the gully, the grating should be removed and flush out completely inside the drain channel and check the silt basket & FAT.
- The silt basket & FAT (Foul Air Trap) should be removed from the drain channel.
- Check there is any blockage and then cleans it properly.
- Then re-insert the silt basket & FAT to the drain channel
- Insert the grating back to the drain channel.

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The future of drainage

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