





Product Overview

ACO Industrial Building Drainage Solutions



About ACO

The ACO Group is one of the world market leaders in drainage technology. With its integrated approach, ACO stands for professional drainage, economical cleaning, and the controlled recycle, release and reuse of water.

 Stainless Steel production
 ACO organisation



CREATING THE FUTURE OF DRAINAGE

ACO employs extensive research and product innovation to stay at the cutting edge of drainage design to create the future of drainage.

Our solutions tackle two biggest concerns: reducing the risk of food contamination and optimizing cleaning costs. We incorporate hygienic design principles that are normally reserved for food contact equipment because we believe that hygienic performance is essential. As the future of drainage company we are committed to raising industry standards with regard to hygienic drainage.

We are working in partnership with commercial facility owners, managers and operators. We conduct research projects with Campden BRI, Fraunhofer IVV and flooring companies. We also cooperate with world leading sanitation experts to improve our cleaning performance. All these activities give us feedback about the latest trends and insights, and allow us to stay true to our commitment of delivering the ultimate hygienic performance.

We call it HygieneFirst philosophy.

Hygiene**First**

ACO drainage is used in applications anywhere where high performing hygienic drainage is essential:

- Food processing facilities
- Professional kitchens
- Restaurants
- Schools
- Hospitals
- Hotels
- and others

A comprehensive and detailed approach to all projects.

ACO provides its customers with a range of design and installation services to help benefit from effective and durable drainage systems.

We evaluate current drainage performance as well as helping you with the specification of drainage and accessories in new facilities. We ensure drainage systems comply with current or planned equipment and traffic within the operation, and assess any other possible risks. In a single report we can supply risk assessments, corrective measures and an action plan for your consideration.



Specification

At ACO we design high performance drainage systems that meet the specific needs of industrial production facilities. We will make sure that every aspect of your drainage project meets the highest standards including the provision of BIM files for specification.



Installation

ACO products are designed to minimise assembly time and related costs as well as ease commissioning post installation.

The ACO team can be on-hand throughout the installation of your drainage system to provide guidance and best practice advice.

A new and revised connection method enables installers to hygienically weld together long sections of drainage channel on site and is perfect for use in hygienically sensitive environments.



Maintenance support

The ACO team will evaluate the effectiveness of your existing cleaning programme and provide maintenance recommendations through our partners regarding cleaning procedures and chemicals which should be used to keep your drainage system clean.



Train

We share the global expertise of the ACO Group with dealers, planners, architects and installers, who place a big emphasis on quality. We invite you to profit from our expertise and attend a number of our CPD trainings organized by us.



ACO has become the first and only drainage company to obtain 14159-1 - Hygiene Requirements for the Design of Meat and Poultry Processing Equipment certification for its products from NSF International.

The certification has been awarded to ACO in recognition of the hygienic performance of its drainage systems

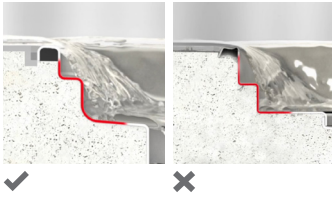
and products, and its compliance with the strict standards and procedures of the NSF.

ACO hygienic drainage fulfils stringent hygienic requirements to prevent harmful bacteria contamination. We apply relevant hygienic design principles that are reserved for food contact surfaces EN 1672, EN ISO 14159 and EHEDG documents No. 8, 13 and 44 to the design of our drainage products

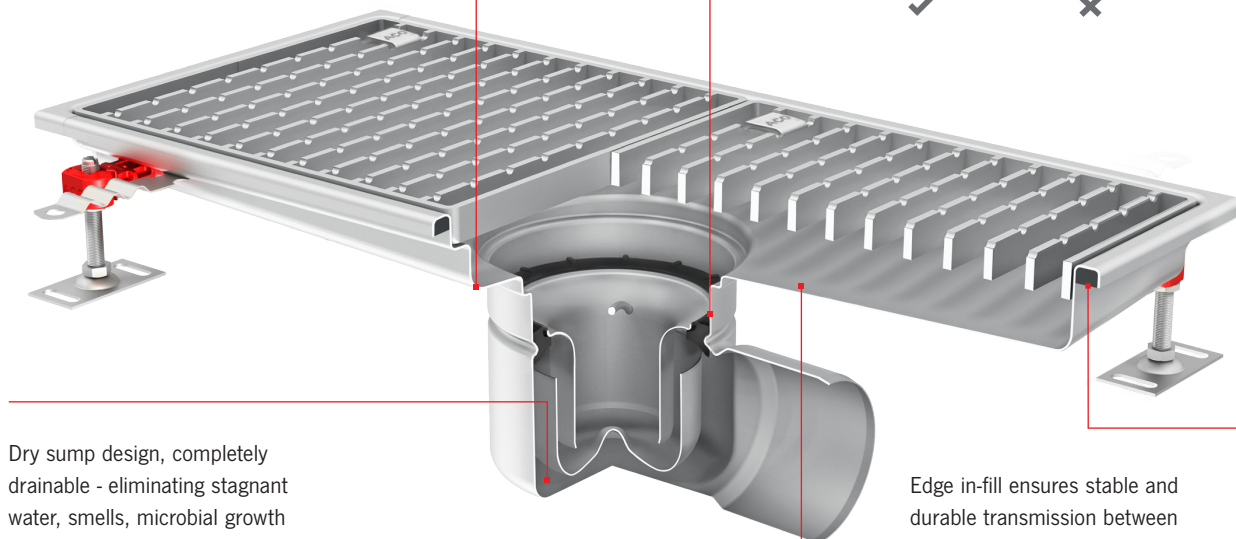
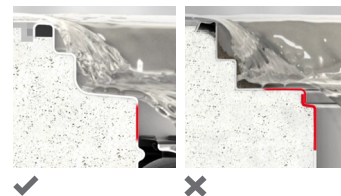
ACO drainage is manufactured from austenitic stainless steel, grades 1.4301 or 1.4404 according to EN 10088 (304 or 316L according to AISI) and is ideal for applications including food processing, leisure, dairy, brewing, pharmaceutical, chemical and petrochemical industries.

Hygienic design principles

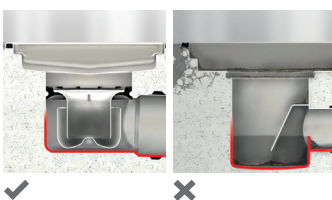
All internal radii equal or larger than 3 mm which greatly increases cleaning effectiveness



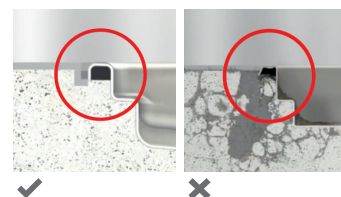
Hygienic joints: deep-drawn body ensures smooth contours eliminating crevices that can harbour dangerous bacteria



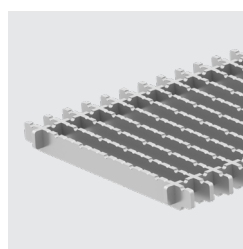
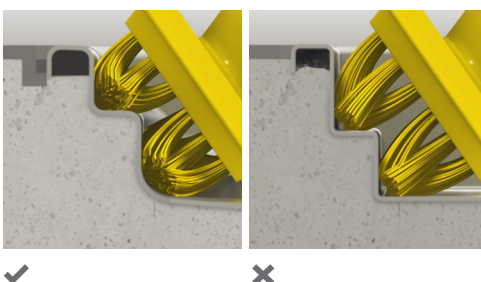
Dry sump design, completely drainable - eliminating stagnant water, smells, microbial growth and potential chemical hazards.



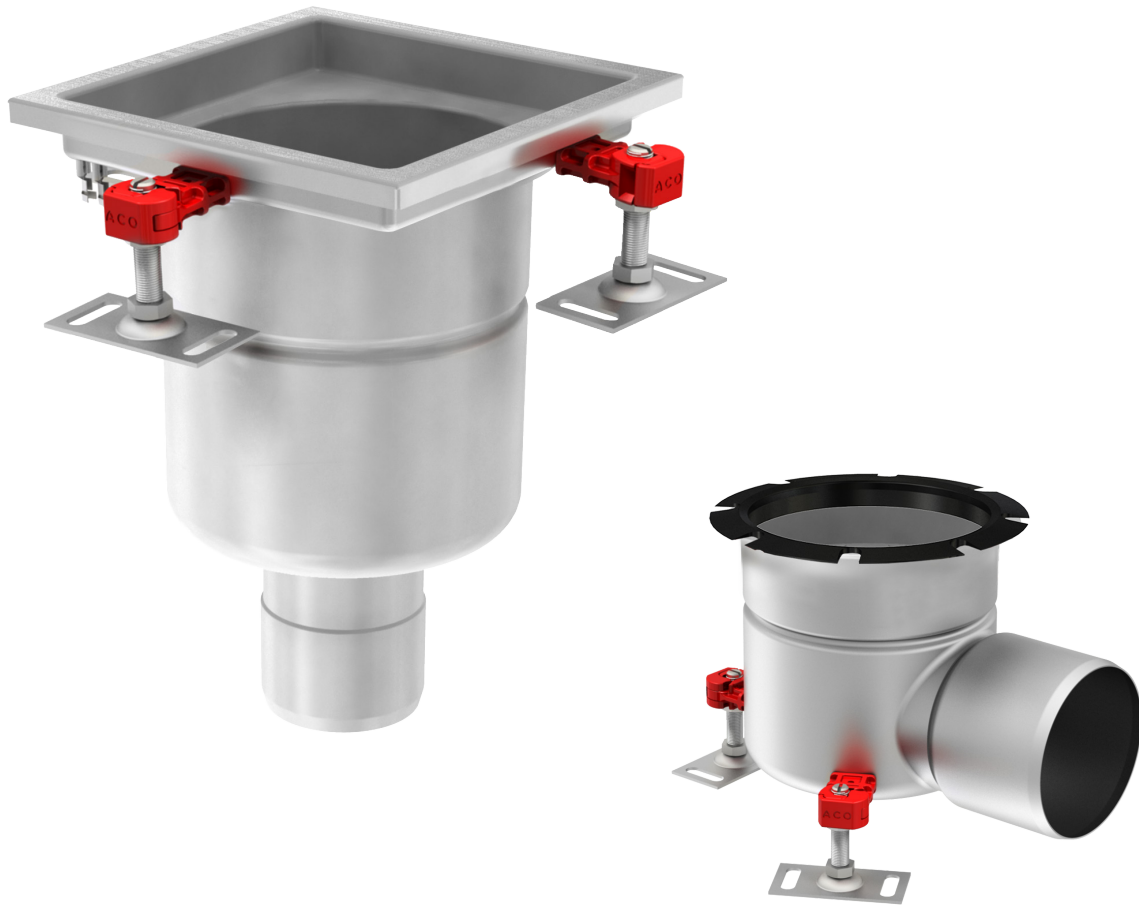
Edge in-fill ensures stable and durable transmission between the gully and surrounding floor and helps to minimise the risk of floor cracks which could harbour microorganism



Cleaning performance



The **ACO frameless ladder grating** is a unique solution designed to prevent debris accumulation between drainage edge and grating frame. Accumulated debris can restrict water flow and worsen grating removal.



ACO gully

The ACO hygienic gully range incorporates the hygienic design principles to ensure the top hygienic performance. Available in three body sizes, this range caters for various flow rates and construction requirements including shallow construction depths. Fire protective solution is also available for applications where preventative measures are required.

Gratings for load classes up to N 250 (EN 1253) available.

ACO hygienic gully is tested and certified according to EN 1253-1 and EN 14159-1.



Find out more about ACO gully online

Hygienic design



No standing water



Internal radius larger than +3 mm



Fully inspectable

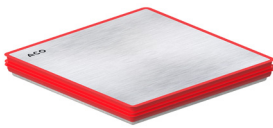


Enhanced floor integration



ACO gully - high capacity

The biggest size of ACO gully is the ACO hygienic gully - high capacity. It is capable of handling flow rates of more than 20l/s. The gully is available as a stock item and is targeted for the most demanding flow rate applications.



ACO odour proof gully cover

The ACO odour proof gully cover hermetically separates the floor surface above the gully from the space within it. It has been designed specifically for use in hygienically sensitive areas where dry processing and controlled wet cleaning take place, and in areas where foul air traps have become dry and so a new form of odour protection is required.

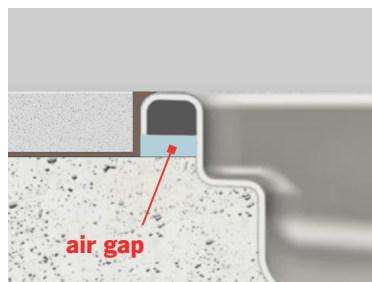
Fixed height solution



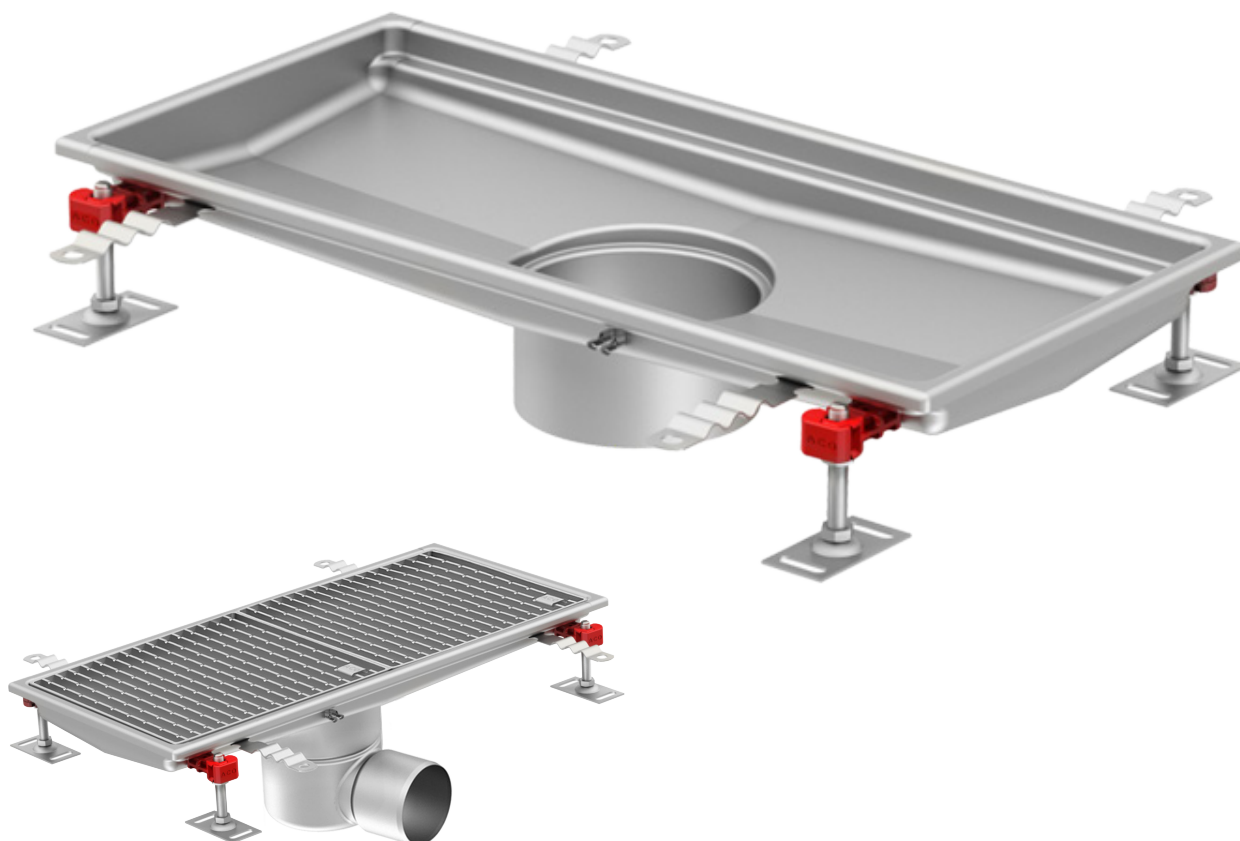
Telescopic solution



- 1 Grating
- 2 Silt basket
- 3 Foul air trap
- 4 Foul air trap support
- 5 ACO gully body
- 6 Gully top
- 7 Friction ring
- 8 ACO EasyFix levelling feet



The ACO hygienic gully portfolio now also contains products with new type of edge. Fixed height gullies and gully tops can now be ordered with 20 mm high vertical edge and durable PUR infill, an ideal solution for installation of floor tiles, where 10 mm high edge is not sufficient.



ACO channel

The ACO hygienic box channel range incorporates the hygienic design principles to ensure the top hygienic performance. The ACO hygienic box channel range is ideal for applications where there is a need to retain large volumes of fluid.

Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44.

Gratings for load classes up to N 250 (EN 1253) for ACO box channels and C 250 (EN 1433) for ACO modular box channels available.

ACO hygienic box channels are tested and certified according to EN 1253-1 and EN 14159-1.

- Minimal slope 1% longitudinal and across on all areas
- Reinforced bottom for widths larger than 300 mm
- Fire protective solution available

Hygienic design



No standing water



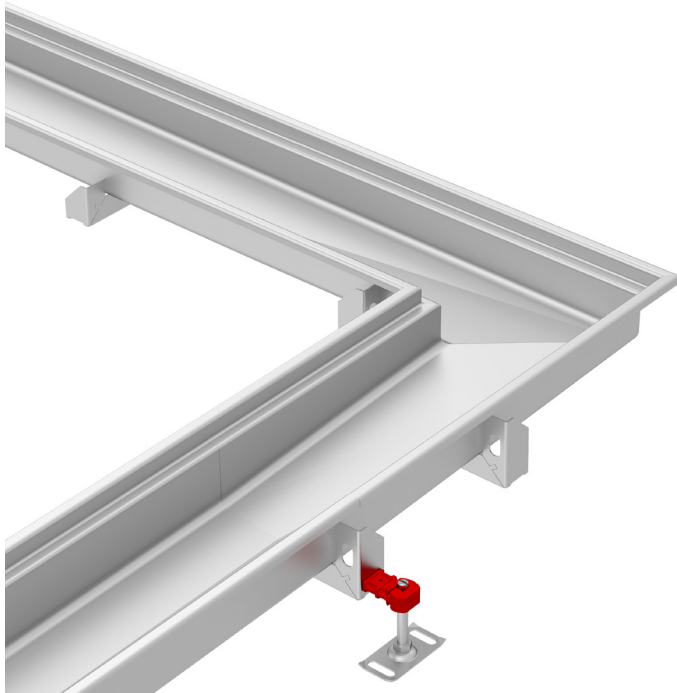
Internal radius larger than +3 mm



Fully inspectable



Enhanced floor integration



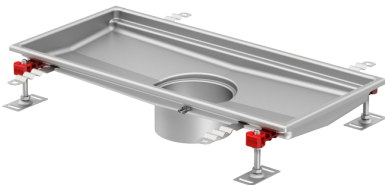
ACO box channel is highly customizable

All dimensions can be modified up to customer request. It is also possible to specify L-shape or T-shape hygienic box channel.

Extra-deep box channel with depth of up to 360 mm provides extended flow rates and higher retention capacities than standard channel product portfolio, making it perfect for use in breweries, soft drinks manufacturing facilities and any application which has to process high volumes of water.

Narrow box channel with width 150 mm is suitable for production areas, where other narrow linear drainage solutions like modular or slot channels are not recommended for hygiene sensitive production environments.

ACO channel portfolio overview

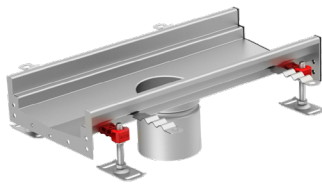


ACO box channel

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Find out more about
ACO box channel online

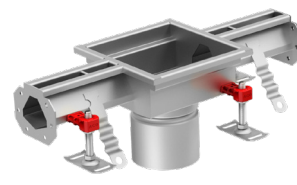


ACO modular box channel

Our modular range with standardized 125 and 200 mm widths provides a versatile system with off-the-shelf availability. Components such as corner and branch units and a choice of gratings for wide range of load classes make this system a perfect option for any application.



Find out more about
ACO modular box channel online



ACO modular slot channel

Our modular range with standardized 20 mm width provides a most versatile system with off-the-shelf availability. Components such as corner and branch units and a choice of gratings for outlet sections make this system a perfect option for many applications. Certified to EN 1433, CE marked.



Find out more about
ACO modular slot channel online



ACO pipe

The stainless steel push-fit pipe system is designed for grey or black water. ACO pipe offers 40+ years product life thanks to its material properties.

Easy installation and handling on site is ensured by push-fit assembly system and available cutting tools.

ACO pipe is more hygienic, robust and durable when compared to plastic, cast iron or welded steel connection pipe systems for gravity and vacuum drainage.



Find out more about ACO pipe online

Reference standards

ACO pipe stainless steel pipe work systems are designed, manufactured, tested and checked under the standards EN 1124-1 and EN 1124-2 Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems.

The following standards will assist the designer to select the correct size of pipe system for the particular application.

EN 12056 gravity drainage systems.
EN 752 drain and sewer systems.

Testing:

ACO pipe stainless steel pipe systems are tested for the following points:

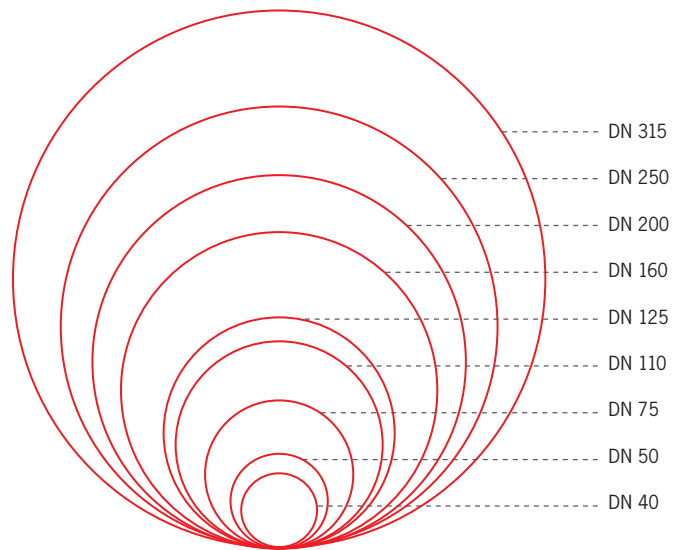
- Pressure & vacuum, Noise, Fire, Tightness

Resistance:

- Rise, CSI

ACO pipe portfolio

The portfolio consists of pipes and fittings with socket and lip sealing ring included. It is available in 40 - 315 mm pipe diameters. Straight pipes are available in lengths from 150 to 6000 mm.



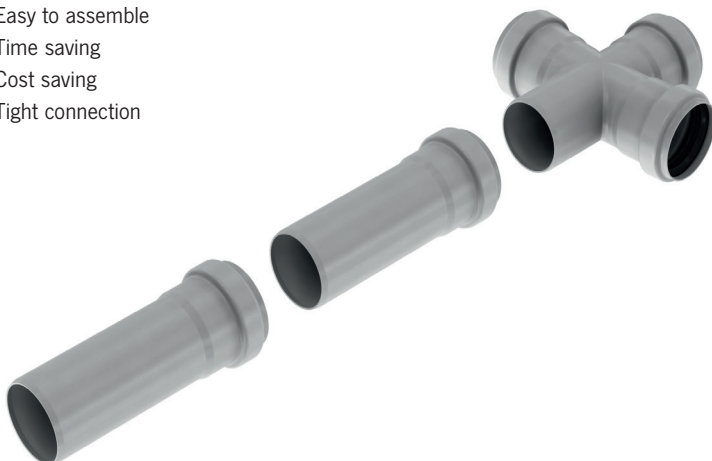
Together with the other products of ACO building drainage it creates a perfect system and offers a sustainable drainage solution with unique advantages to the customers. Especially with the ACO gully and ACO stainless steel channel systems provide a unique system for building drainage. The push-fit system ensures quick and easy assembly for a reliable installation for gravity and vacuum drainage.

The wide range of fittings available utilizes advanced cold forming techniques, thereby reducing the manufacturing cost and minimizing the amount of welded components, to provide the ultimate in system reliability. Stainless steel pipe systems are particularly suited to applications subject to thermal shock.

ACO pipe stainless steel pipe work systems offer all the key features found in traditional metal waste water systems but with the additional benefits unique to stainless steel material and the push-fit system.

Push-fit advantages

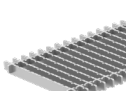
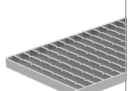
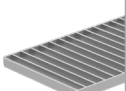


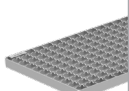
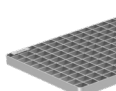
- Easy to assemble
- Time saving
- Cost saving
- Tight connection





ACO Industrial Drainage Accessories and components

ACO gratings overview

Grating type	ACO frameless ladder grating	ACO ladder grating		ACO slot cover	ACO cast grating	ACO mesh grating	
							
Surface	electropolished	electropolished	electropolished	sand blasted top	electropolished	electropolished	electropolished
Slip resistance	Yes	Yes	No	Yes	Yes	Yes	No
Cleanability	excellent	good	good	good	good	sufficient	sufficient
Potential for slip – Pendulum test BS 7976-2	Low	Low	Moderate	Low	Low	Low	Moderate
Slip resistance classification - Ramp test DIN 51130	R11	R11	R9	R11	R13	R11	R9
Load class availability acc. EN 1253 for ACO box channels	M 125	R 50, M 125, N 250, P 400*	R 50, M 125, N 250, P 400*	R 50, M 125, N 250	M 125	L 15	L 15
Load class availability acc. EN 1253 for ACO gullies	M 125	R 50, M 125	N 250	R 50, M 125	M 125	L 15	L 15

*P 400 load class available as customised solution only

ACO hygienic accessories

ACO incorporates its HygieneFirst philosophy also for all the accessories. Foul air traps and silt baskets are designed to comply with strict hygienic standards of the products which they are used with.



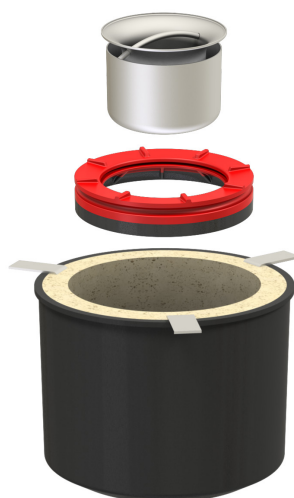
ACO protective covers

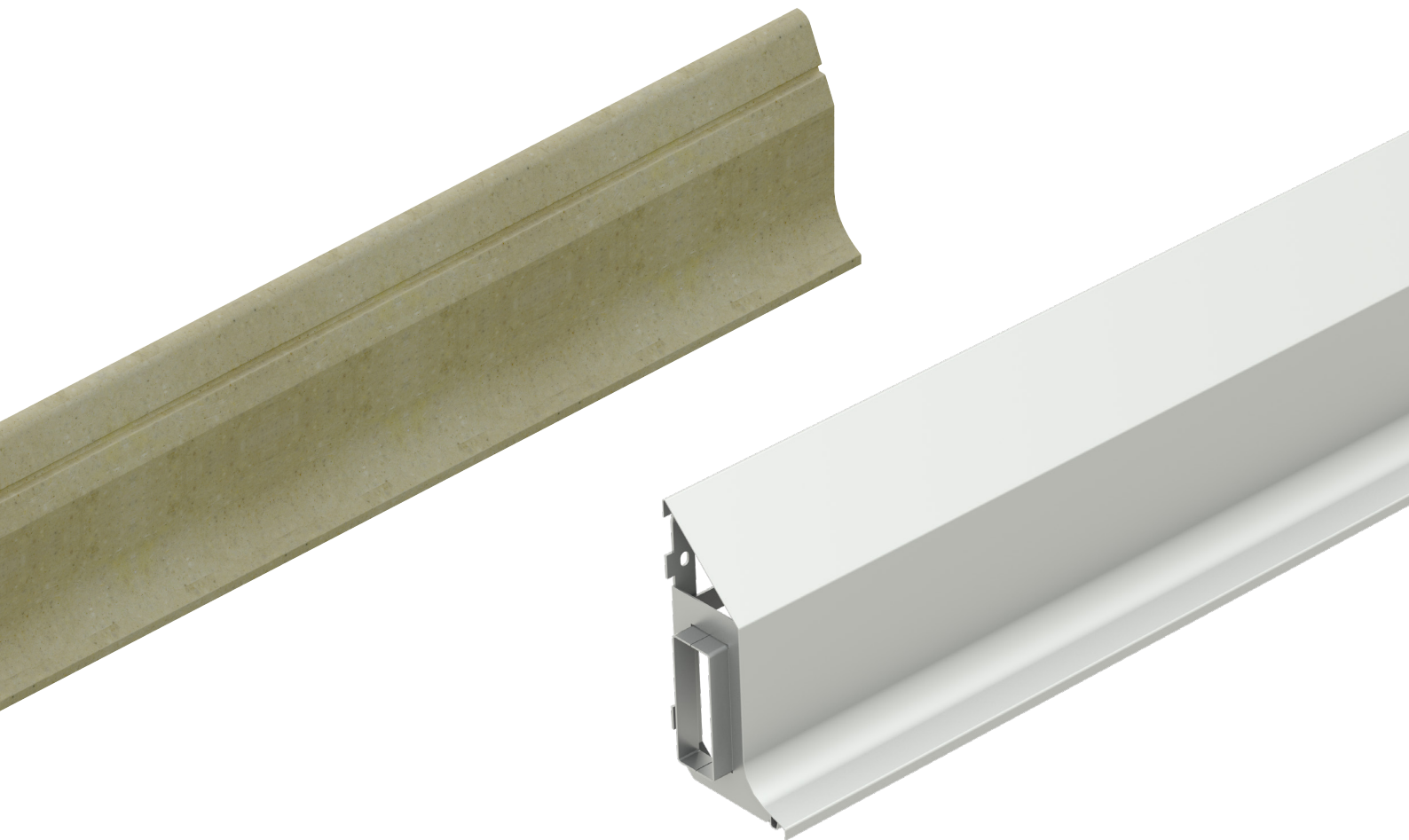
Protects drainage from building material debris and eliminates cleaning of drainage after installation. It also prevents injuries on worksite associated with open drainage during installation. It is certified according to EN 12811-1 for scaffolding load class 3 and is eco friendly and easily disposable



ACO fire protective kit

Solution which prevents the spreading of fire and high temperatures within different building's floors where ACO hygienic gully, ACO hygienic channel and ACO pipe are installed. It consists of External protection – Fit in, Internal protection, Fire protective foul air trap and fire protective foul air trap support.





ACO kerb

ACO kerb is a reliable wall protection that prevents walls from impacts (200 mm height in rooms with traffic up to 1 ton and 300 mm height with traffic up to 5 tons as recommended by EHEDG), water or chemical ingress, or other damages associated with traffic and production process. It is suitable for any indoor industrial area.

Benefits of ACO kerb

- Protects walls from impacts caused by machinery or other transport systems
- Eliminates water ingress into the wall and leakage into other processing areas
- Curved design prevents accumulation of soils and allows easy cleaning



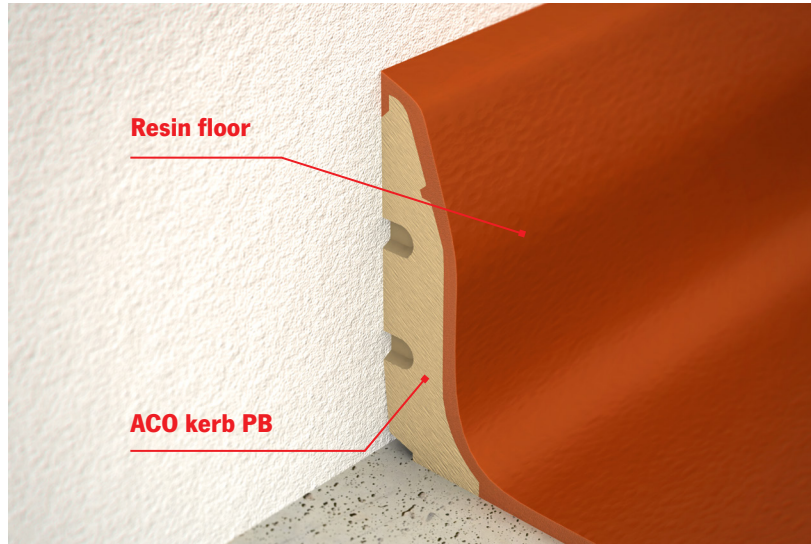
Find out more about
ACO kerb online

ACO kerb PB

Made entirely from polymer concrete composite, it is water proof and durable to withstand impacts caused by traffic. The portfolio offers two versions, one for later application of resin floor straight onto the kerb, and one for smooth gelcoat. It can accommodate for even the most complex room design and its lengths can be easily adjusted if needed.

Floor finish or resin gelcoat create uniform surface with the floor for best hygienic conditions in accordance with EHEDG guidelines.

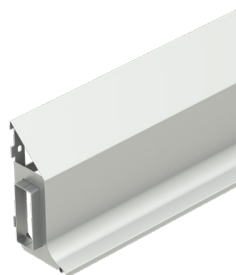
ACO kerb PB is ideal solution for new and refurbishment projects with **resin floor**.



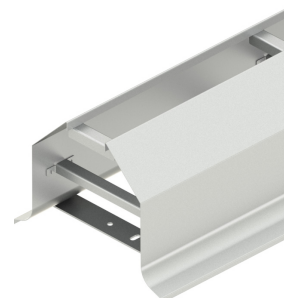
ACO kerb PB



ACO kerb PB - plain



**ACO kerb S/S
- single side**



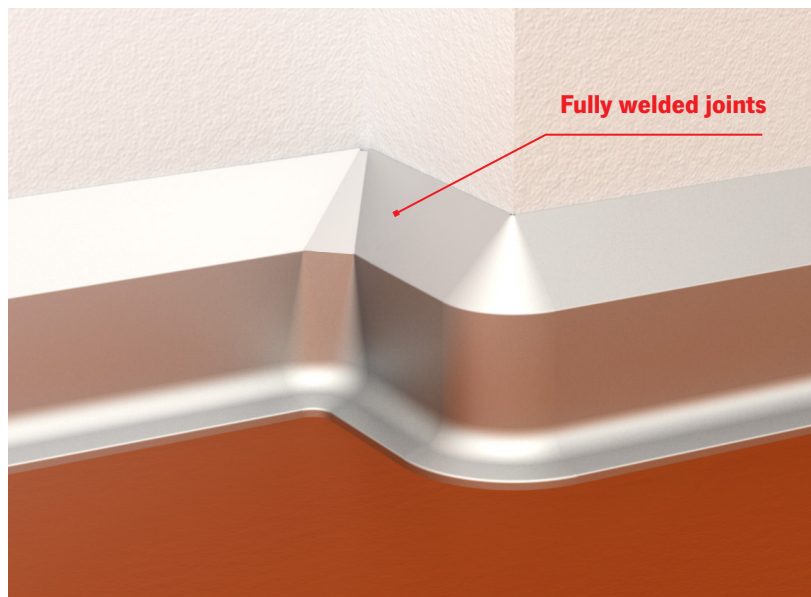
**ACO kerb S/S
- double side**

ACO kerb S/S

The stainless steel variant of ACO kerb can be designed to any building layout. It is made from 1,5 mm thick plate of stainless steel (AISI 316), which is then welded on site to ensure integrity of the whole kerb system. ACO kerb S/S is filled with concrete, which makes it a very durable solution resilient to the strongest impacts.

Hygienic design is applied along the whole kerb construction, creating smooth corners which are easier to clean.

ACO kerb S/S - single side is suitable for new and refurbishment projects with **resin or tiled floor**. ACO kerb S/S - double side is a custom made solution designed to be installed before the walls.



**ACO. creating
the future of drainage**

www.aco-buildingdrainage.com



Find out more about ACO Industrial Building Drainage products
at ACO Building Drainage website.