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Gully Systems

ACO Building Drainage





Product catalogue

ACO Commercial Kitchen & Food Processing Drainage Systems



ACO Building Drainage

Our built environment is becoming ever more complex. Applications are becoming more sophisticated and the increasing pressure of regulations and standards makes achieving design, performance and financial goals ever tougher.

Our mission: to eliminate design risk, to reduce installed and life cost and to deliver exceptional finish and performance in every product application.

Our global resources and fabrication capacity make it possible for us to deliver best value, both with our standard products and with our bespoke designs. Confidence is further assured with quality systems that are in accordance with ISO 9001-2008.

ACO Building Drainage is a division of ACO Technologies plc and part of the worldwide ACO Group. The Group has sales in excess of £600 million worldwide with production facilities in the UK, Germany, France, Switzerland, Denmark, Spain, Poland, Czech Republic, Australia and the USA. In total more than 3500 people are employed in 40 countries throughout the world.



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- Detailed design and 'Value Engineering' advice.
- Hydraulic calculations and AutoCAD drawings.
- Advice on the suitability of ACO equivalent products.

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collect:

- Stainless Steel and Galvanised Steel Channels
- Stainless Steel Gullies
- Pipe System
- Roof / Balcony Drainage
- Wetroom & Shower Drainage



clean

Grease Management Systems



hold:

 Anti-flood Backflow Protection Systems



release:

Lifting Stations

Office address and contact details:

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www.acobd.co.uk

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General introduction

Introduction

Applications for ACO Kitchen Channel Systems include:

- Commercial
- Professional kitchens
- Food processing factories
- Restaurants
- Brewing, bottling and canning plants
- Chilled warehouses
- Laboratories
- Chemical and pharmaceutical industries
- Schools
- Hospitals
- Hotels

ACO Kitchen Channel Systems are used in applications anywhere where hygienic, corrosion resistance and durable drainage performance are essential.

Why stainless steel?

Stainless steel has the following unique advantages:

- Highly corrosion resistant
- Non-porous, easy to clean and disinfect
- Aesthetically pleasing
- Resistant to temperature extremes and thermal shock
- Coefficient of linear expansion similar to concrete
- Manufactured from at least 70% recycled materials
- 100% recyclable at end of working life

All ACO Kitchen Channel Systems are manufactured from austenitic stainless steel grade 304. ACO Kitchen Channel Systems are available in grade 316 stainless steel to special order.

Why ACO Kitchen Channel Systems?

As the largest producer of stainless steel drainage systems ACO has the knowledge, experience and expertise to offer optimal drainage solutions for every application. Therefore ACO offers the designer the freedom to choose from a standard range of products as well as custom made solutions to suit any application.

Surface treatment of stainless steel

The process of cutting, forming and welding stainless steel will introduce impurities into the surface of the material and unless appropriate action is taken, the material will begin to corrode and ultimately fail in service. Therefore after fabrication into the final product, it is vital that the stainless steel material is treated with the correct surface treatment to ensure the material is fully corrosion resistant. By applying pickle passivation as the primary surface treatment, the corrosion resistance of stainless steel can be fully restored to its original state, ensuring long and reliable life performance together with the required aesthetic appearance.



Finishes used by ACO

- Pickle passivation (acid treatment). All ACO channels are pickle passivated by immersing them in a series of acid baths. This is a fundamental requirement for removing iron embedded particulates introduced in the fabrication process and also restoring the chromium depleted regions generated by the welding process. ACO has one of the largest and most modern pickle passivation installations in Europe which ensures the optimum corrosion resistance of our products.
- Electro-polishing (electro-chemical process). After pickle passivation, some products are then immersed in an electrolytic fluid in which the products become the anode of a direct current electrical circuit. This process is characterised by the selective attack on the surface of the components whereby upstanding roughness is preferentially dissolved and will yield a progressively smoother, brighter surface. All kitchen channel grates are electro-polished as standard.

System overview

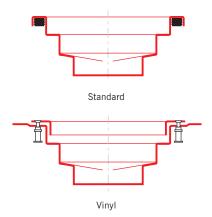
ACO Kitchen Channel Systems are designed to be used in commercial applications where hygiene, durability and performance requirements are paramount. ACO Kitchen Channel Systems are available in number of different versions featuring different channel volumes, flow rates, size and spigot outlet diameters to suit various applications.



The floor construction and depth together with use of any waterproofing membrane play an important role in selection of the appropriate type of ACO Kitchen Channel Systems.

ACO offer two generic ACO Kitchen Channel systems as shown below.

- Standard for concrete, tiled floor and resin floor applications
- Vinyl for flexible sheet flooring applications



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System overview



Benefits

Specifier benefits

- Optimum hygienic solution and easy to clean
- Fully compliant with BS EN 1253
- Stainless steel construction for durability and long life
- Channel edge infill supplied as standard for hygiene and durability
- Two channel types covering all typical floor installations: concrete, resin, vinyl flooring
- Easy and secure telescopic gully connection
- Reliable waterproofing membrane connection options
- High flow rate
- Easy to specify system

Installing contractor benefits

- Easy and secure telescopic gully connection
- Reliable waterproofing membrane connection options
- Friction ring converts easily to membrane seepage drainage
- Height adjustable for speedy installation
- Installation friendly connection of vinyl flooring
- Channel edge infill for durability and eliminates time-consuming back-filling

Client benefits

- Optimum hygienic solution and easy to clean
- Slip resistant gratings available for added user safety
- Easy maintenance and cleaning
- Fully compliant with BS EN 1253
- Stainless steel construction for durability and long life
- Optional silt basket
- Channel edge infill for hygiene and durability

ACO Kitchen Channel Systems guide

This Kitchen Channel guide helps the designer to specify the appropriate channel for each application by following five simple steps.

Step 1 - Kitchen Channel Systems type selection

Using table below, the channel type required will depend on the waterproofing and floor finish details.

Waterproofing	Floor finish	Channel type	Drawing
Slab/screed waterproofing requirements accommodated	Tiled, concrete or resin floor	Standard	
with appropriate gully selection to suit the application, refer to page 8	Vinyl floor ¹⁾	Vinyl ¹⁾	

¹⁾If vinyl sheet flooring is considered to be the waterproof membrane, additional slab/screed membrane connection to the gully is optional.

Step 2 - Kitchen Channel Systems & gully size selection

Second step of Kitchen Channel specification is related to the footprint and volume of the channel. Channel volume reflects the maximum amount of water the channel can store at once. Channel volume is determined by channel size (Width \times Length \times Height).

Channel volume litres	Width mm	Length mm	Height mm	Channel outlet mm	Compatible gully
8.6	400	400	60	200	ACO gully 218
13.4	400	600	60	200	ACO gully 218
16.5	300	1000	60	200	ACO gully 218
19.8	600	600	60	200	ACO gully 218
22.5	500	800	60	200	ACO gully 218

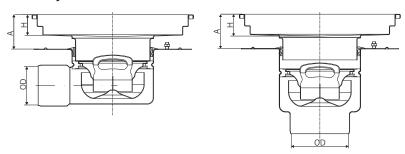
If Kitchen Channels outside the range shown above are required, contact the ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

ACO Kitchen Channel Systems guide

Step 3 - Kitchen Channel Systems flow rate

Step 3 relates to flow rate selection. Access selected channel volume capacity in Step 2 and select an appropriate gully flow rate requirement for the application.

ACO Gully 218



ACO gully 218	Flowra	tes [l/s]		
Gully outlet	OD mm	OD mm		
Horizontal	110	4.5	4.7	
Vertical	110	5.4	5.6	
Vertical	160	5.4	5.6	

Flow rates are measured in accordance with BS EN 1253 without a silt basket. Flow rates with an empty silt basket fitted are approximately 15% lower than stated.

Step 4 - Gully selection

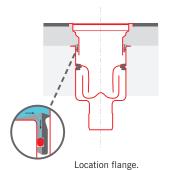
All ACO Gullies are supplied complete with foul air trap and friction ring as standard.

There are two core gully functions.

- The gully provides connection between channel body and foul drainage system. Each channel size has its own ACO gully defined in Step 3.
- The ACO gully acts as the odour trap and filtration unit. Odour from foul drainage system is prevented by a fully removable Foul Air Trap (FAT). Filtration of solid particulates is provided by fully removable Silt basket. FAT and Silt basket specification follows in Step 5.

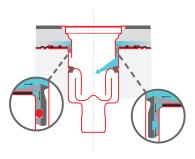
Kitchen Channel gullies offer three basic variations of telescopic connection between the Kitchen Channel and gully body.

- Telescopic connection with location flange with no waterproofing facility
- Telescopic connection with adhesive bonding flange for waterproofing connection
- Telescopic connection with mechanical clamping flange for waterproofing



No waterproofing connection.

Adhesive bonding flange. Waterproofing connection.



Mechanical clamping flange.
Waterproofing connection.

ACO Kitchen Channel Systems guide

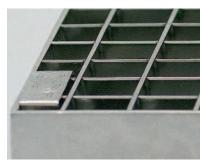


See page 12 for flow rate data.

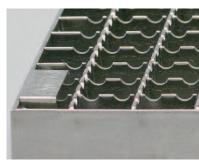
Step 5 – ACO Kitchen Channel Systems grating selection

The ACO Kitchen Channel Systems range is available with either plain or slip resistant mesh gratings. Grates are designed for Load Class L 15 to BS EN 1253. Grating size is based on channel body size. Please see page 9.

- Plain grating: to be used in areas with reduced demand for slip resistance for example where trolleys are turning.
- Slip resistant grating: to be used in all areas where there is an increased risk of accident caused by slipping.



Plain mesh grating

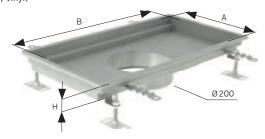


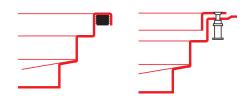
Slip resistant mesh grating

ACO Kitchen Channel Systems guide - Tray Channels

ACO Kitchen Channel Systems with ACO Gully 218

- Fully compliant to BS EN 1253
- Low construction height
- Two different channel types covering all typical floor installations (concrete, resin, tiles, vinyl)
- Manufactured in 304 grade stainless steel. 316 grade stainless steel available to special order
- Gully body with telescopic seal to ensure secure connection between channel and gully



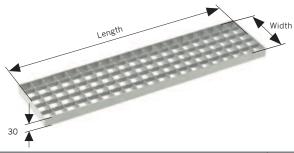


	Channel dimensions	Standard	Vinyl	
A ¹⁾ mm	B ²⁾ mm	H mm	Part No. 304	Part No. 304
300	1000	60	409332	409334
400	400	60	409352	409354
400	600	60	409368	409370
500	800	60	409396	409398
600	600	60	409412	409414

- 1) Values represent internal dimensions. External dimensions = A+30 mm
- 2) Values represent internal dimensions. External dimensions = B+30 mm

ACO Kitchen Channel Systems and gratings are available in other sizes and in 316 grade stainless steel to special order. Contact ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

ACO Kitchen Channel Systems – mesh grating selector



Channel dimensions					Grating d	mensions	Slip resistant Mesh	Plain Mesh	Quantity to
A mm	B mm	H mm	Bar mm	Load class*	Width mm	Length mm	Part No. 304	Part No. 304	fill channel
300	1000	60	30×2	L15	298	498	414112	414113	2
400	400	60	30×2	L15	398	398	414114	414115	1
400	600	60	30×2	L15	398	598	414116	414117	1
500	800	60	30×2	L15	498	798	414120	414121	1
600	600	60	30×2	L15	598	598	414122	414123	1

* To BS EN 1253

ACO Kitchen Channel Systems and gratings are available in other sizes and in 316 grade stainless steel to special order. Contact ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

ACO Kitchen Channel Systems – gully options and accessories

ACO Gully 218 - telescopic - vertical outlet

Description	Flange type	Outlet Spigot OD	Foul Air Trap	Material	Part No.
242	Location flange	Ø110mm	With FAT	304	408061
418	Adhesive bonding flange	Ø110mm	With FAT	304	408063
418	Mechanical clamping flange	Ø110mm	With FAT	304	408065
242	Location flange	Ø160mm	With FAT	304	408067
418	Adhesive bonding flange	Ø160mm	With FAT	304	408069
418	Mechanical clamping flange	Ø160mm	With FAT	304	408071

ACO Kitchen Channel Systems and gratings are available in other sizes and in 316 grade stainless steel to special order. Contact ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

ACO Kitchen Channel Systems – gully options and accessories

ACO Gully 218 - telescopic - horizontal outlet

	Flange type	Outlet Spigot OD	Foul Air Trap	Material	Part No.	
	242	Location flange	Ø110mm	With FAT	304	408085
	418	Adhesive bonding flange	Ø110mm	With FAT	304	408087
	418	Mechanical clamping flange	Ø110mm	With FAT	304	408089

ACO Gully 218 - accessories and spares

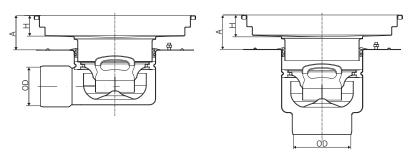
	Description	Туре	Material	Part No.
	217	Vertical outlet gully silt basket 1.4 litre capacity	304	408222
THE THE PARTY OF T	217 N 1 11110888	Horizontal outlet gully silt basket 0.7 litre capacity	304	408223
	182	Foul air trap*	304	408220
0	217 S\$\$	Foul air trap support*	Nitrile	408221
0		Friction ring installation set*	Nitrile	408225
		ACO Tray Channel seal lubricant		NM6373

^{*}Indicates spares.



Flow-rates

ACO Gully 218



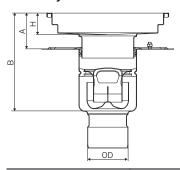
Cullin and at	00	H=60 mm		H=8	H=80 mm		H=100 mm		0 mm	H=200 mm	
Gully outlet OD mm	OD mm	A min.	A max.	A min.	A max.	A min.	A max.	A min.	A max.	A min.	A max.
Horizontal	110	4.5	4.7	4.8	4.9	4.9	5.1	5.0	5.6	5.6	6.4
Vertical	110	5.4	5.6	5.6	5.8	5.7	6.0	5.9	6.4	6.4	6.4
Vertical	160	5.4	5.6	5.6	5.8	5.7	6.0	5.9	6.4	6.4	6.4

Flow rates are measured in accordance with BS EN 1253 without a silt basket. Flow rates with an empty silt basket fitted are approximately 15% lower than stated. Standard tray depth H=60mm. Additional depths available to special order. The flow rate table above illustrates flow rate capacities for non-standard products.

Contact ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

Installation heights

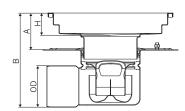
ACO Gully 218 - vertical outlet 110 & 160 mm OD



Channel height (H)	A min. mm	A max. mm	B min. mm	B max. mm
60mm	75	115	245	285

A min. and B min. values can be reduced by $15\ \mathrm{mm}$ if electrical earth screw is removed.

ACO Gully 218 - horizontal outlet 110 mm OD



Channel height (H)	A min. mm	A max. mm	B min. mm	B max. mm
60mm	85	115	235	265

 $A\ min.\ and\ B\ min.\ values\ can\ be\ reduced\ by\ 15\ mm\ if\ electrical\ earth\ screw\ is\ removed\ and\ channel\ outlet\ spigot\ shortened.$

Please be aware that channel outlet pipe shortening affects the A max. and B max.

ACO Kitchen Channel Systems – tundish options

Tundish

Description		Application	Material	Finish	Part No.
	130	Wall mounted combi oven tundish	304	Electro-polish	415820
	0220	Kitchen Channel fixed or portable grating mounted boiling pan/kettle tundish complete with removable coarse strainer	304	Electro-polish	415821

For other tundish sizes for applications required to safely control discharge of steam and hot water from kitchen or process equipment, contact the ACO Building Drainage Helpline on 01462 816666 or e-mail abdcommercial@aco.co.uk for further details.

Cleaning methods

Cleaning methods

Stainless steel and Nitrile rubber is easy to clean. Washing with soap or a mild detergent and warm water followed by a clean water rinse is usually quite adequate for many industrial applications. An enhanced aesthetic appearance will be achieved if the cleaned surface is finally wiped dry.

Conclusion

If all the suggestions and actions in the table below have been attempted, stainless steel has the facility to be mechanically cleaned by specialists on site. Please contact ACO Building Drainage for further assistance.

Problem	Cleaning agent	Comment
Routine cleaning, all finishes	Soap or mild detergent and water (such as washing up liquid)	Sponge, rinse with clean water, wipe dry if necessary
Fingerprints, all finishes	Soap or warm water or organic solvent (e.g. acetone, alcohol)	Rinse with clean water, wipe dry if necessary
Stubborn stains and discolouration	Mild cleaning solutions (e.g. Jif, Goddard Stainless Steel Care)	Rinse well with clean water and wipe dry
Oil and grease marks, all finishes	Organic solvents (e.g. acetone, alcohol)	Clean after with soap and water, rinse with clean water and dry
Rust and other corrosion products	Oxalic acid. The cleaning solution should be applied with a swab and allowed to stand for 15–20 minutes before being washed away with water. May continue using Jif to give final clean.	Rinse well with clean water (precautions for acid cleaners should be observed)
Scratches on brush (satin) finish	Household synthetic fibre scouring pads (e.g. Scotch Brite fibre pad). For deeper scratches; apply in direction of polishing. The clean with soap or detergent as per routine cleaning.	Do not use ordinary steel wool (iron particles can become embedded in stainless steel and cause further surface problems)

ACO Modular 125 (Box Channels)

ACO Box Channel systems enable simple selection and specification from a wide range of components. These modular or bespoke systems are extremely adaptable to specific circumstances, and are ideal where existing equipment has to be accommodated.

They offer excellent waste water conveyance and interception properties - and are ideally suited to areas where medium to high volumes of liquids are present.

Removable gratings facilitate cleaning and maintenance, and built-in-falls with a 'V' channel base profile help minimise sediment build up in the channel.

Box channels should preferably be specified with a gradient - level inverts can be provided but are not preferred. ACO slot channel systems consist of various straight channels (length up to 6000mm), corner and branch units and outlets. This system is suitable for various applications.

Features

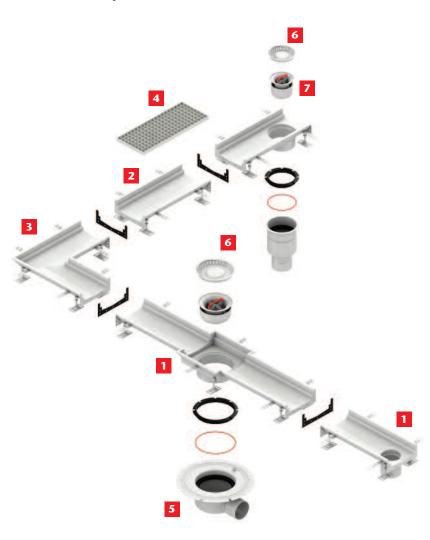
- Stainless steel construction for durability and long life
- V-bottomed profiled channel for enhanced flow efficiency at low flow rates and for improved self cleaning performance
- Modular concept allows specification of standard channel units to surround machinery and fit within existing tiling patterns
- Wide choice of grates to suit the application and load class

Hydraulic capacity calculation for linear channels is a complex process that can require computational analysis. ACO provides this service free of charge.

European Standards for Box Channels:

ACO tests slot channels to EN 1253 – Gullies for buildings and EN 1433 Drainage channels for vehicular and pedestrian areas.

Box Channel components



1 Outlet unit

- **5** Gully
- 2 Level invert and sloping invert channel
- 6 Silt basket

3 Corner unit

7 Foul air trap

4 Grating

Detailed information for Box Channel systems available on www.acobd.co.uk

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ACO AS601 (Slot Channels)

ACO slot channel systems with 20mm surface aperture offer simple and effective waste water interception and conveyance suitable for a wide range of applications where accessibility to the channel is not critical - for example any area where low volumes of fluid are expected without significant food debris. Combined with a gully, they provide effective central washdown drainage solutions. Through its simple construction the system is reliable and robust - with no potential grating loss where that might otherwise present a hazard.

Slot channels should preferably be specified with a gradient - level inverts can be provided but are not preferred. ACO slot channel systems consist of various straight channels (length up to 6000 mm), corner and branch units and outlets. This system is suitable for various applications.

Features

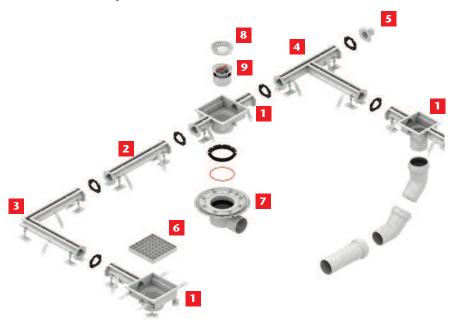
- Stainless steel construction for durability and long life
- V-bottomed profiled channel for enhanced flow efficiency at low flow rates and for improved self cleaning performance
- Modular concept allows specification of standard channel units to surround machinery and fit within existing tiling patterns

Hydraulic capacity calculation for slot channels is a complex process that may require computational analysis. ACO provides this service free of charge.

European Standards for slot channels:

ACO tests slot channels to EN 1253 – Gullies for buildings and EN 1433 Drainage channels for vehicular and pedestrian areas.

Slot channel components



1 Outlet unit

- 6 Grating
- 2 Level invert and sloping invert channel
- 7 Gully

3 Corner unit

dully

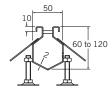
4 Branch unit

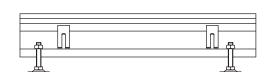
8 Silt basket

5 End plate

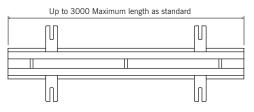
9 Foul air trap

Detailed information for slot channel systems available on www.acobd.co.uk





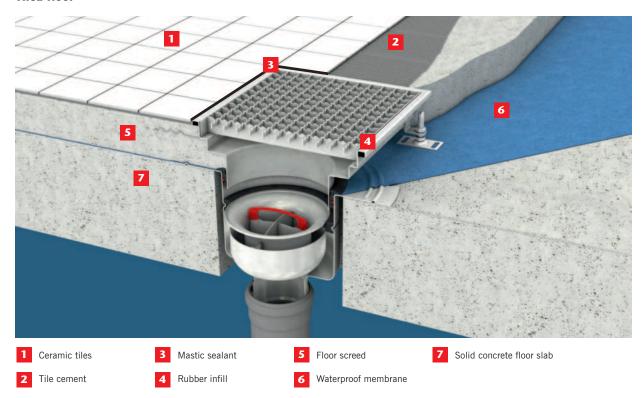




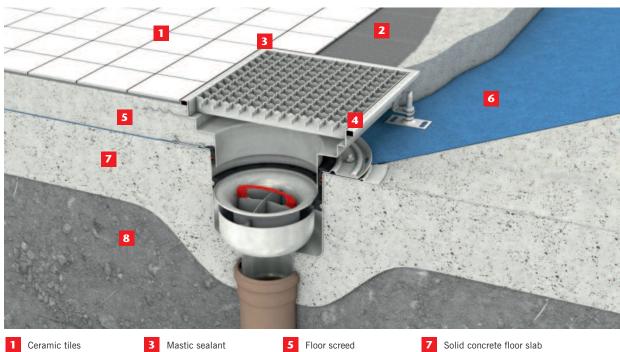
Please Note: If channel depth is greater than channel bore then a 'V' bottom will be incorporated. All dimensions are in mm.

Installation

ACO Kitchen Channel Systems - standard type - gully with adhesive bonding flange **Tiled floor**



ACO Kitchen Channel Systems – standard type – gully with mechanical clamping flange **Tiled floor**



- 7 Solid concrete floor slab

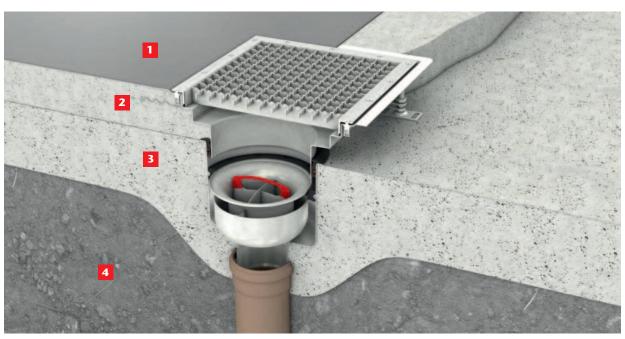
- 2 Tile cement
- 4 Rubber infill
- Waterproof membrane
- 8 Hardcore base

Installation

ACO Kitchen Channel Systems – standard type – gully with location flange Resin floor



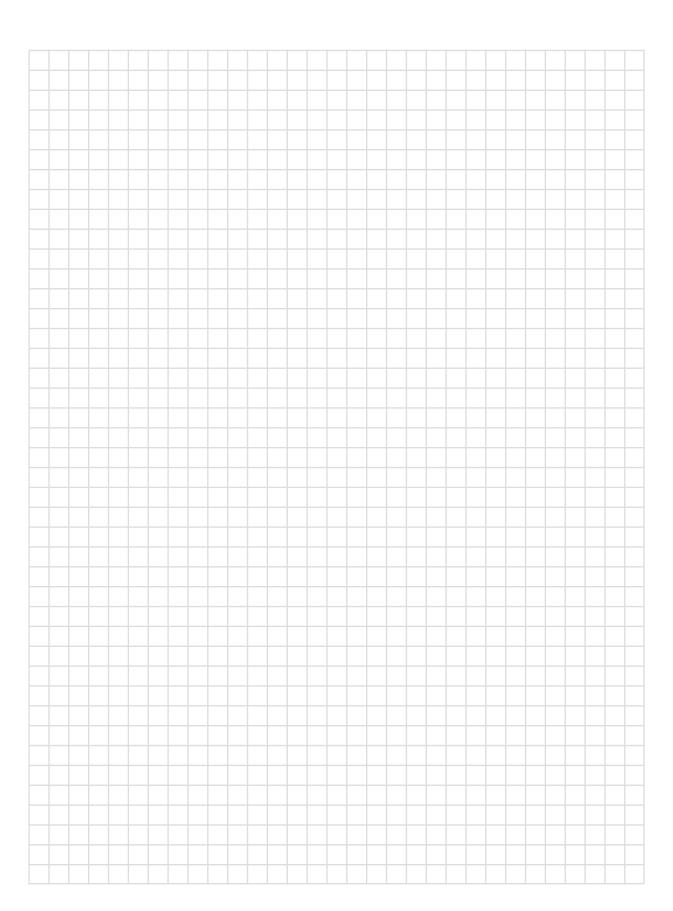
ACO Kitchen Channel Systems – vinyl type – gully with location flange Vinyl floor



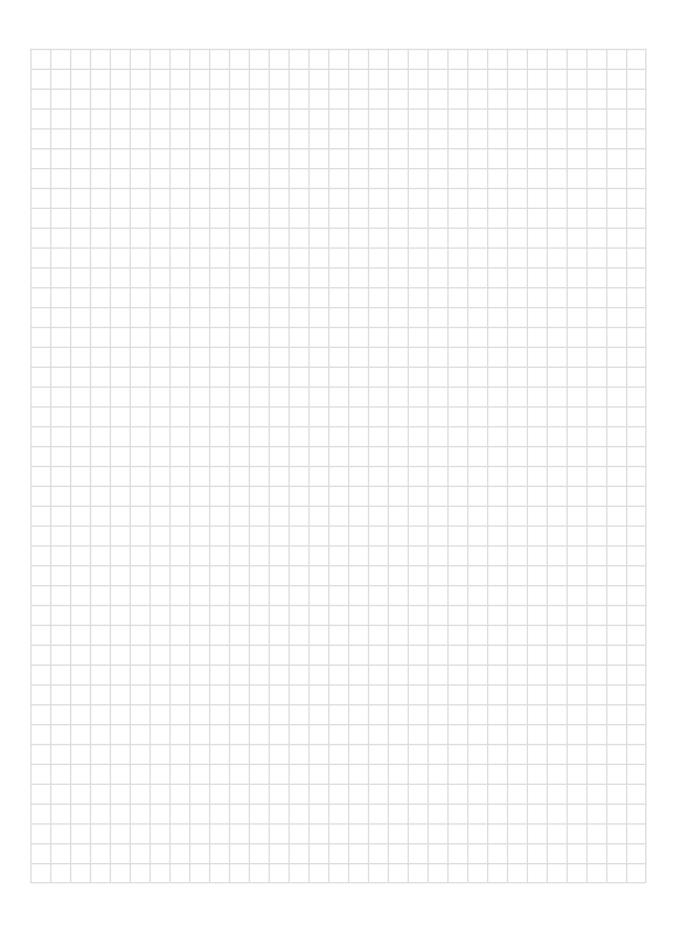
- 1 Vinyl floor
- 3 Solid concrete floor slab
- 2 Floor screed
- 4 Hardcore base



Notes



Notes



ACO Technologies plc

ACO Building Drainage

ACO Water Management
Civils + Infrastructure
Urban + Landscape

ACO Sport

ACO Wildlife

ACO Technic





Supporting and Promoting





















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

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