Building Drainage





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> > **ACO Building Drainage**

Building Drainage

Email: abdmarketing@aco.co.uk Marketing and Media Support:

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Design Services Team:

· For all product brochures, imagery or mechandising

· Advice on the suitability of ACO equivalent products.

· Hydraulic calculations and AutoCAD drawings.

• Detailed design and 'Value Engineering' advice.

· Technical and installation advice.

material requests.

Tel: 01462 810411 Email: abdcommercial@aco.co.uk

Customer Services Team:

queries including collections, returns and complaints. · Product availability, delivery lead times, and all other

and clients. · A complete pricing service to stockists, contractors Tel: 01462 810421

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www.acobd.co.uk

ACO Building Drainage

Product Overview



ACO Building Drainage

ACO Building Drainage specialises in the development of corrosion resistant drainage systems and building products for applications across the internal and external built environments. Engineered to eliminate design risk, to optimise installation and to minimise lifetime ownership cost, every product in the range delivers exceptional levels of performance, finish and durability.

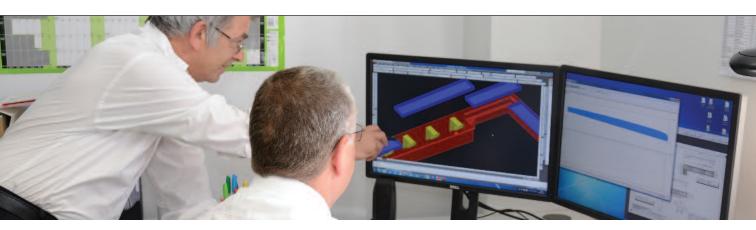
Providing specialist drainage, grease management and fire-proofing systems that provide safe and hygienic solutions across a range of sectors including hospitals, chemical production, food and drink manufacture, leisure centres, laboratories and catering facilities, ACO Building Drainage has had unparalleled success over a number of years. In addition ACO provide stainless steel decorative tree grills, laser cut curved gratings and wet room drainage systems to complement settings that demand the highest aesthetic finish.

Our built environment is becoming ever more complex. Applications are becoming more sophisticated and the increasing pressure of

regulations and standards make achieving design, performance and financial goals ever tougher. The technical expertise, global resources and fabrication capacity within the ACO Building Drainage division make it possible for architects, engineers and contractors to realise the highest quality and value when selecting from our standard products, or, when using our engineered solution design service.

ACO Building Drainage is a Division of the UK based ACO Technologies plc and part of the worldwide ACO Group.

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Design services - Let us help!

The ACO Building Drainage Design Services Team is staffed by engineers who live and breathe engineered solution drainage systems.

They can carry out design work on your behalf, work ranging from channel layouts through hydraulic calculations and part scheduling.

Drainage is a critical part of every construction project, both large and small. This provides the

infrastructure and the vital arteries through which waste water can drain away from a building quickly and safely. An effective system is crucial to eliminate the risk of flooding and health issues that can present significant risk to people and property.

Each building has its own unique set of drainage needs and it is these critical factors that must be considered when planning drainage systems, to minimise construction costs, while simultaneously optimising the aesthetics, functionality and long term reliability of drainage units.

Indeed, whether you are involved in designing or building a new project or upgrading an existing building, every aspect of the system must be carefully planned to meet the correct drainage requirements simply, quickly and within budget.

ACO system chain



collect:

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



clean:

Grease Management Systems



hold:

Anti-flood Backflow Protection Systems



release:

■ Lifting Stations*

*Available in 2016

ACO today produces the drainage solutions of tomorrow

Increasingly extreme weather demands ever more complex drainage concepts in the sense of integrated wastewater management. ACO achieves this with intelligent system solutions which work in both directions: protecting people from water, and water from people. Every ACO product within the ACO system chain therefore safely controls the water as it passes along the chain to ensure that our most valuable resource can be ecologically and economically reused in a sensible way.



ACO service chain

Complementing the processes and products within the System Chain are the four elements of ACO's Service Chain.

With ACO at the leading edge of new developments across all aspects of modern water management, you can be assured of guidance and support through every stage in the realisation of your scheme, and through continous investment in technology and personnel, you will have access to a team of experts unmatched in experience and resources.



train:

Surface water management is one of the most dynamic sectors of the construction industry with new legislation, innovative products and groundbreaking materials constantly emerging. We provide a range of CPD Seminars that will keep you up to date with all the latest developments, legislations, regulations and standards.



design:

The water management system design can often be a complex task. Success in combining products and processes requires a thorough understanding of how these different elements work together. ACO's Design Services Team is able to work closely with you through the entire design process.



support:

Through our Technical Support
Team, we are able to work
alongside architects, engineers and
contractors on site to make sure
maximum benefit is gained from
new products and installation
techniques.



care:

Whatever the location, scale, application or timeframe of your project, our commitment to care is consistent. Extending from initial contact right through the operational life of your system, you will have access to the expert help and assistance you need to solve any problem or answer any query.

Market sectors

ACO Building Drainage are a specialist manufacturer of engineered and engineered solution drainage systems for internal and external applications in the built environment covering a wide range of construction market sectors.

Industrial / Commercial / Infrastructure

Type of application

Factories / Hotels / Offices / Airports / Car Parks / Railways / Chemical / Pharmaceutical

We recognise that whether you're looking for a drainage system for an industrial or commercial facility or a national landmark, the drainage you choose needs to complement the building's design and look as good as it performs. That's why, in addition to our vast range of products, we have a specialist drainage design team on hand to help ensure you get a drainage system that looks good, is highly durable and meets all of your drainage requirements.



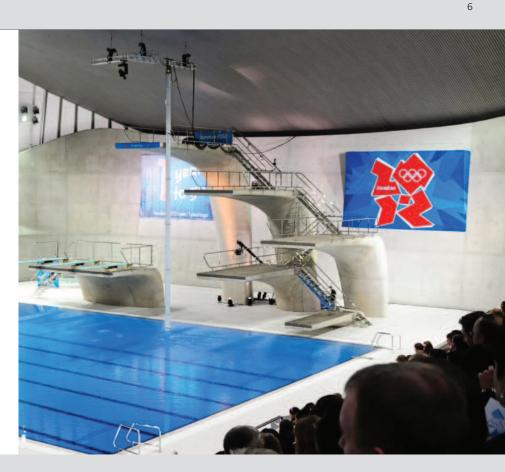
Health / Education / Leisure

Type of application

Schools / Libraries / Hospitals / Swimming Pools / Leisure Centre / Residential Care Homes / Prisons

With a proven track record in the development of drainage systems for use in health, educational and leisure environments, ACO Building Drainage is well equipped to ensure your drainage needs are met whether you need the very highest quality of product, a hygienic drainage solution or products that optimise on-site health and safety for building users.

Our product range offers a comprehensive choice of drainage styles and can cater for a range of budgets. Our experienced team also fully understands the issues that are faced in these environments and, as well as providing ongoing advice and support, can design engineered solution drainage solutions to meet specific client needs.



Commercial Kitchens & Food and Drink Manufacture

Type of application

Commercial Kitchens / Food Processing Factories / Brewing / Distilleries / Bakeries / Restaurants / Bars & Pubs / Coffee Shops

ACO Building Drainage is one of the world's leading commercial drainage specialists. With 60 years experience gained across a wide range of sectors, we understand the critical role that drainage plays in a successful commercial food preparation business and appreciate that what's below the surface can really count.

When it comes to food preparation we know that food safety, hygiene and cost control are all vital and our goal is to ensure the best possible performance in all three areas. Our passion for producing high performance products has led us to make major investments in research and development. As a result, we manufacture market-leading products that have been developed in collaboration with end users to ensure optimal in-situ performance.



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Domestic

Type of application

Residential Developments /
New House Building / Self Build Homes

Manufactured to an extremely high standard, ACO's drainage range of channels and gratings is perfect for use in the domestic environment.

We manufacture all of our products from pickle passivated stainless steel to optimise durability and product life and there's a wide range of styles to choose from so you never need to compromise performance for design. For added peace of mind, customers also get access to our specialist design team who provide expert advice to specifiers and installers and, when required, design drainage systems from scratch.



ACO Building Drainage Product Range



Bespoke Drainage Systems

A wide range of channels and gratings to suit both internal and external applications.

Drainage is a critical part of every construction project, both large and small, with this infrastructure providing the vital arteries through which waste water can drain away from a building quickly and safely. An effective system is crucial to eliminate the risk of flooding and health issues that can present significant risk to people and property. However, all too often the specification of drainage systems, especially at the design stage, is either overlooked altogether or carried out as an afterthought.

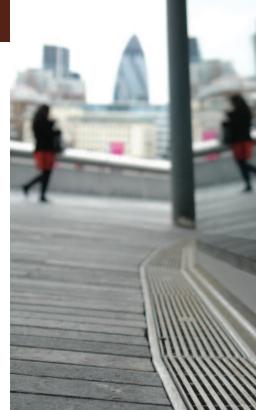
Each building has its own unique set of drainage needs and it is these critical factors that must be considered when planning drainage systems, to minimise construction costs, while simultaneously optimising the aesthetics, functionality and long term reliability of drainage units.

References to product numbers 1, 2 and 3 on pages 10-11

For further information please download or request literature from www.acobd.co.uk



Note: ACO Building Drainage has supplied a wide range of products to many prestigious projects in London and around the UK. To see examples of our engineered solutions drainage system Case Studies, please go to pages 24-27.



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Modular 125



Stainless steel linear drainage system fully tested and classified to BS EN 1433. Vee-bottomed profiled channel for enhanced flow efficiency at low flow rates. Our most popular stainless steel channel is fully flexible, available in a wide range of lengths, inverts and gratings 'off- the- shelf', or specifically designed to your requirements.

References to product number 4 on pages 10-11

DeckLine 125



Shallow invert surface drainage system, manufactured from hot-dipped galvanised steel to BS EN ISO 1461:2009. Grating choice includes galvanised steel perforated, slotted and composite black and white to Load Class C250 to BS EN 1433. All gratings supplied complete with locking.

References to product number 5 on pages 10-11

For further information please download or request literature from www.acobd.co.uk





Stainless Steel Gully Systems

As a leading manufacturer
of hygienic drainage
products, we have
more than 12 years
of experience in
designing and
manufacturing high
performance stainless steel
gully products that provide

gully products that provide practical solutions for our customers. Our products are designed specifically for use

in commercial applications where corrosion resistance, durability and outstanding hygienic performance are important. All gullies incorporate a foul air trap and are available in various sizes with both horizontal and vertical spigot outlets, and grating designs to suit most applications. The gully systems fall into five main categories: Fixed Height and Telescopic gully systems, EG150 Eurogully range, Rodding Eyes, Micro Floor Gullies and Bespoke gullies.

References to product number 6 on pages 10-11

Kitchen Channel Systems



A combined channel and trapped gully with vertical or horizontal outlets provides drainage for kitchens and food processing areas where the discharge of large volumes of liquid is expected. Designed to be used in applications where hygiene, durability and performance requirements are paramount.

References to product number 7 on pages 10-11

For further information please download or request literature from www.acobd.co.uk



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ACO Pipe® Systems



Wide range of socketed waste pipework systems in thin-wall stainless steel for above and below ground drainage applications. Manufactured from 304 and optional 316 grades stainless steel, ACO Pipe® provide the modern metal alternative to PVC-u and cast iron soil and waste pipework.

References to product number 8 on pages 10-11

FreeDeck Roof/Balcony Drainage



An advanced roof and balcony drainage system combining line drainage with point drainage by using an open sided drainage channel system to collect and convey rainwater to drainage points within a raised or suspended deck structure. Ideal for terraces, balconies, patios or roof gardens. FreeDeck allows free drainage through the channel wall with accessible outlets providing maintainability. Available in both galvanised and stainless steel.

References to product number 9 on pages 10-11

For further information please download or request literature from www.acobd.co.ul



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Rainwater Roof Outlets



The extensive range of products included in the ACO Building Drainage HP (High Performance) range of outlets provides rainwater drainage solutions for a wide range of applications.

Suitable for flat or low pitch roofs, a watertight joint is produced by clamping the membrane to the body.

References to product number 10 on pages 10-11

Anti-flood Systems



Choice of five backflow valves – ACO Triplex®, ACO Triplex® with chamber, ACO Junior®, ACO Quatrix® and ACO Quatrix® with chamber, all tested to BS EN 13564.

References to product number 11 on pages 10-11

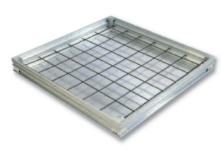
For further information please download or request literature from www.acobd.co.uk



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Access Covers



Our access covers are double sealed, in galvanised steel, stainless steel and aluminium and ideal solutions for applications demanding reliable, durable and hygienic operation. We offer ACO EuroCover and ACO AluCover in a wide range of sizes to accommodate a variety of applications and floor finishes. The range of access covers has been tested to meet FACTA Load Class standard.

References to product number 12 on pages 10-11

Grease Management Systems



A significant problem for kitchen and food preparation areas is the collection of fat, oil and grease (FOG) within the drainage system.

These substances not only have a major effect on the performance of any internal or local external drainage system, but can also have a major impact at regional level: water pollution, obstruction of drainage infrastructure and reduced efficiency at sewer plant are all possible occurrences.

ACO Building Drainage offer high performance grease separators and grease traps, all tested to BS EN 1825 that been developed specifically to help the restaurants, hotels and catering industry tackle the problem of a build-up of fats, oils and greases within the drainage system.

References to product number 13 on pages 10-11

For further information please download or request literature from www.acobd.co.uk



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Wetroom Drainage Solutions

With a modern, functional and minimalistic design, wetrooms offer an innovative alternative to the standard enclosed shower tray, and are becoming the must-have in contemporary bathroom design. They particularly appeal to those with an eager passion for following design and fashion trends, offering the potential to convert a cramped bathroom into a more accessible, luxurious and spacious wetroom, which allows users to shower in safety, comfort and style.

Sophisticated, barrier-free channel and gully wetroom drainage solutions for domestic and public applications. Suitable for all types of flooring applications. Wide selection of designer gratings.

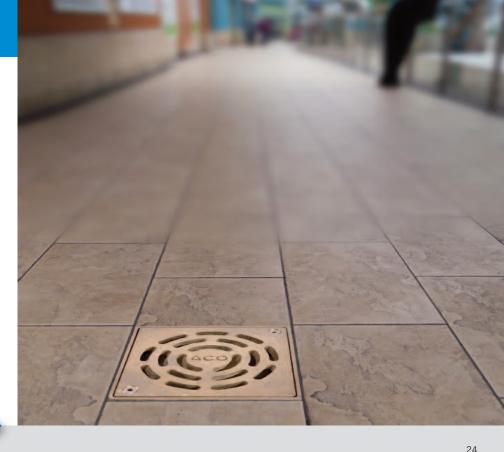
References to product number 14 on pages 10-11

TotalFlow Gully

The TFG system is particularly well suited for use in areas of high pedestrian traffic and is used in a wide range of applications including: shopping centres; supermarkets; railway stations; leisure centres; public buildings; hotels; sports stadiums and airports. It's compact design allows easy cleaning and maintenance.



For further information please download or request literature from www.acobd.co.uk



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Yorkshire: Yorkshire Provender

Founded by Belinda and Terry Williams, Yorkshire Provender provides a comprehensive range of high quality soups which is based on their belief that "There is a clear comparison between wine and soup making because you're preserving the integrity, texture, colour and flavour of what's there at the beginning." To this day, the idea behind all Yorkshire Provender soups is simple: take the best of fresh seasonal British produce and marry ingredients together in a creative way to produce a consistently superior imaginative and delicious soup.

To copy with increasing demand for its products, the Yorkshire Provender commissioned the construction of a new manufacturing facility in Leeming Bar, Yorkshire. ACO Building Drainage was approached to provide a hygienic drainage solution by contractors, The Lindum Group.

ACO Building Drainage provided bespoke ACO AS301 box channel drainage and gullies.

Manufactured to extremely high standards and fully pickle passivated as standard to minimise maintenance and optimise product life, the ACO products were hygienically designed in accordance with the best practice recommendations of the



European Hygienic Engineering and Design Group (EHEDG).

"We have worked with ACO Building Drainage on numerous projects and are consistently impressed with the design and quality of their product range, and their technical expertise. They were also able to come up with a solution which could be delivered on time and within the client's budget."

Alistair Clapham of contractors, The Lindum Group

ACO Building Drainage Case Studies

Bridgend, Wales: Archbishop McGrath Catholic High School

ACO has provided a series of functional and subtle drainage solutions for the £20m state-of-the-art Archbishop McGrath Catholic High School in Bridgend, Wales. The three-storey site includes a community leisure block incorporating both sports and a dance hall, and outdoor playing pitches that will be open for use by the wider community. Among the solutions provided by ACO were shower channels, floor gullies for the toilets and drainage channels for external paving.

Seven changing areas were required for the leisure and sports facilities and **ACO** shower gullies was the ideal solution, providing compact and attractive capacity drainage in corrosion-resistant stainless steel.

For the exterior of the building, ACO provided a discreet series of "hidden" drainage channels for the external paving, supporting the need to maintain clean, functional design throughout the building. These products were specified from ACO Water Management MultiDrain MD polymer concrete channel system.



For the full version please visit www.acobd.co.uk

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St Austell, Cornwall: Eden Project

ACO Building Drainage has played a key role in the refurbishment of the toilet facilities at the Eden Project, one of Cornwall's top tourist attractions, supplying channel drainage for the visitor centre.

The Eden Project features two large biomes that house a large variety of plants from all over the world and welcomes over one million visitors each year. The visitor centre toilets are in constant use during the day, so the refurbishment work had to be carried out at night to minimise disruption.

Contractor Cornwall Safety Flooring needed a functional, easy to install and aesthetically pleasing channel drainage solution. To meet these requirements, it specified 28.5 metres of Modular 125 Stainless Steel Linear Drainage System.

Modular 125 is ACO Building Drainage's most popular channel system. Manufactured in 304 grade stainless steel it is available in a wide range of lengths, depths and inverts, providing an off-the-shelf solution suitable for a wide variety of applications. CE marked and fully tested and classified to BS EN 1433 (Drainage Channels for



Vehicular and Pedestrian Areas), it features a veebottomed profile channel for enhanced flow efficiency at low flow rates. **Quadrato grating** from ACO Building Drainage was also used. Fully compliant to EN 1253, it is slip resistant for enhanced safety and can be supplied to meet a variety of load classes.

ACO Building Drainage Case Studies

Scotland: BrewDog Brewery

When craft beer brewer BrewDog wanted to increase the size of its brewery, ACO Building Drainage was chosen to provide an engineered hygienic drainage system.

Based in Ellon in Aberdeenshire, BrewDog was set up in 2007 by co-founders Martin Dickie and James Watt who, to use their words, "were bored of the industrially brewed lagers and stuffy ales that dominated the UK market." Now brewing more than 90,000 hl of beer per year and continuing to experience rapid sales growth, BrewDog commissioned a new warehouse to enable it to expand its production capacity and create an on-site visitor centre and bar.

ACO Building Drainage was approached by the contractor to design, manufacture and oversee installation of a complex new drainage system which could deal with high loads as well as high flow.

The team design engineered channel sections with complex falls and specified the use of ACO Gully 218

and **Ladder Grates** to meet BrewDog's specific requirements. All products were manufactured in stainless steel and, as with all ACO Building Drainage products, were fully pickle passivated as standard to ensure corrosion resistant joints and an estimated product life of at least 50 years.

"ACO Building Drainage was appointed because of their hygienic drainage expertise. We needed to find a drainage provider which could design a system to meet our specific requirements and, to optimise hygiene, manufacture products in high grade stainless steel.

"ACO developed the perfect drainage solution for our business. They have the same passion for delivering high performance drainage that we have for craft beer. Their team was extremely responsive, fully understood our needs and developed an excellent system design. They also delivered high quality products on time and on budget."

Co-Founder Martin Dickie. Brewdog.



ACO Building Drainage designs and manufactures drainage products that deliver the ultimate hygienic performance. It has become the first company to incorporate the latest hygienic design principles into commercial drainage and its new products incorporate hygienic design principles which are normally reserved for food contact equipment.

For the full version please visit www.acobd.co.uk

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London: City Hall

A new drainage system developed by ACO Building Drainage has been installed at London's City Hall, curing the building of a standing water problem around its perimeter close to the main entrance.

Manufactured entirely from stainless steel, the channel drainage system has been designed to run exactly parallel to the faceted glass façade, allowing it to be installed close to the structure and complementing the striking visual qualities of the building and its surroundings.

Located on the south bank of the Thames, alongside the new More London development, City Hall is one of the capital's most symbolically important buildings. City Hall's energy efficient, sphere like steel and glass form is designed to minimise perimeter surface area, reducing heat loss and heat gain. Completed in 2001, the building is home to the Mayor of London, the London Assembly and the GLA.

The new system was manufactured in modular form so that it could be readily assembled on site. Each section is made up from two 1500mm straight runs of 155mm wide grade 304 stainless steel channel.



These are welded together at an angle of 15 degrees to form a wide 'V' shape that fits exactly to the angle of the glazed panels of the building. The flanged ends of each section are precision cut to form the same angle when bolted together.

To ensure pedestrian safety, the installed channel is fitted with a **Heelsafe perforated grating** that is locked in place for additional security. Two 100mm outlets connect sump sections within the new channel to the site's existing rainwater manholes.

ACO Building Drainage Case Studies

London: Westfield Stratford

As part of the regeneration of London's east end and major transport links, the high profile Westfield Stratford City retail and leisure complex hosts many tens of thousands of visitors from near and far.

As a crucial element of the construction project, an engineered solution drainage system from leading specialist drainage manufacturer and supplier ACO Technologies plc was selected by the Westfield design team and management contractor ImtechMeica, as meeting the exact high build specification and design remit for this illustrious project. Westfield London represents a £1.7 billion investment in the redevelopment of a 42 acre site in East London. With a range of grating finishes and high performance options available from ACO, a black granite/gravel finish using Heelsafe lockable gratings, manufactured from 4mm thick Grade 304 stainless steel, was specified for this project to provide a safe, secure and discreet drainage solution but with optimum water flow capacity. The 123mm and 58mm width gratings are supported on bespoke grade 304 stainless steel support frame classified to Load Class C250.



For the full version please visit www.acobd.co.uk

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Bristol: Steam Ship Great Britain

The latest shallow invert surface water drainage system, developed and manufactured by ACO Building Drainage, the UK's leading specialist in drainage systems and corrosion resistant building products, has been installed at the prestigious Steam Ship Great Britain housing development in Bristol. Called the **DeckLine**, this versatile and innovative drainage system enabled the developers to create a highly effective 100% watertight solution that complements the sophisticated aesthetic qualities of the landmark development, while also being cost effective, quick and simple to install.

The development by Linden Homes, winners of the Best Large Housebuilders Award 2010, consists of 145 one and two bed luxury apartments in the heart of Bristol's historic harbour and has been designed to capture the character of the original Victorian dockyard, providing a fitting and authentic backdrop to the SS Great Britain in the original dry dock.

Linden Homes selected the ACO Building Drainage DeckLine galvanised steel system for this unique development, using it for drainage channels in



the building's external cantilevered walkways.

The channel drainage system was chosen in order to avoid positioning a large number of unsightly

downpipes at 6m interval, with obvious cosmetic benefits. In addition, the developers required a system that offered flexible yet watertight joints.

ACO go further than the minimum legal standard

ACO believe that higher quality standards are vital for any product that is being installed permanently, and as market leader our customers would expect nothing else from us. Therefore ACO design and manufacture products to the full requirements of applicable harmonised standards. This ensures that the product is not only safe, but all aspects of performance and function are of the highest possible quality.

In addition to product specific standards ACO also has Integrated Management Registration PAS 99:2006, which covers the design, manufacture and supply of our products, and is compliant with ISO 9001:2008, and ISO 14001:2004 and BS OHSAS 18001:2007.

CE

ACO Building Drainage introduced CE marking on its standard products ahead of schedule in 2011. Providing assurance to our customers has been a key driver for ACO. We have done everything to protect our clients and end-users. Please contact us for help and advice.

The implications of not carrying CE marking on products are potentially very serious for the manufacturer and supply chain. After 1 July 2013 it will become a criminal offence to place any construction product covered by hENs on the market without an authorised CE mark. Any companies who do so could find themselves pursued by Trading Standards. If convicted, this could mean a fine and even potentially a prison sentence. So make sure that you follow the rules.

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Pickle Passivation Process

ACO resources include the largest pickle passivation plant in Europe.

The standard ACO Building Drainage manufacturing process uses the pickle passivation chemical finishing process to restore the products to their full optimum corrosion resistant state without damaging the surface finish. This is considered the best postfabrication surface treatment method.

Pickle Passivation fully restores the corrosion resistance properties of stainless steel ensuring optimum performance.



Membership & Accreditations



BS EN ISO 9001:2008

ACO Technologies plc has been certificated and registered by BSI to operate a quality management system which complies with the requirements of BS EN ISO 9001:2000.



ACO is a member of the Construction CPD Certification Service. The Construction CPD Certification Service assists in the dissemination of high quality, independently certified, continuing personal/professional development (CPD).



NBS is the Architectural standard specification and ACO products are fully detailed in the NBS Plus section.



food and drink innovation

ACO Building Drainage are members of Campden BRI.



ACO Technologies plc is a member of Construction Products Association.



ACO Building Drainage is a member of FeRFA the Resin Flooring Association.



ACO is a leading member of the European Hygienic Engineering & Design Group (EHEDG).

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ACO is a member of the Foodservice Consultants Society International (UK). FCSI is the premier association promoting professionalism in foodservice and hospitality consulting.



ACO Building Drainage is a member of the Fabricated Access Cover Trade Association.



The Builders Merchant Federation (BMF) provides Builders Merchants with the support and advice needed to run their business in a competitive environment. ACO hold a suppliers and manufacturers membership.



ACO is registered under the Rail Industry Supplier Qualification and Registration Scheme for Civil Engineering - Supply of Materials, Drainage products (inc. Environmental Protection products.



ACO Technologies plc is a member of BASEA (British Airport Service & Equipment Association).



ACO Building Drainage is an affiliate member of B&ES.



ACO Building Drainage are affiliate members of the FDF.