



## **ACO DRAIN®**

*Introduction and Overview Brochure*

**A Summary of the ACO Drain® Product Brand**

**KlassikDrain - general purpose trench drains**

**PowerDrain - heavy duty trench drains**

**SlabDrain - shallow channel trench drains**

**Specialty Products**



## The ACO Group

Founded in 1946, the ACO Group manufactures products for the building and construction industry.

ACO is the global leader and pioneer of modular trench drain systems. ACO drainage systems are used in a variety of applications from domestic environments to airports. ACO products have also been used at many prestigious locations, including Olympic stadiums, since 1972.

ACO was founded in Australia in 1992 and is Australasia's foremost manufacturer of trench drainage products.

## ACO Drain®

ACO Drain® is produced at the company's modern manufacturing facility in Sydney.

ACO Drain® offers the most comprehensive range of trench drain solutions for every application. Products come in a variety of widths, depths, lengths, and load ratings with grates to suit.

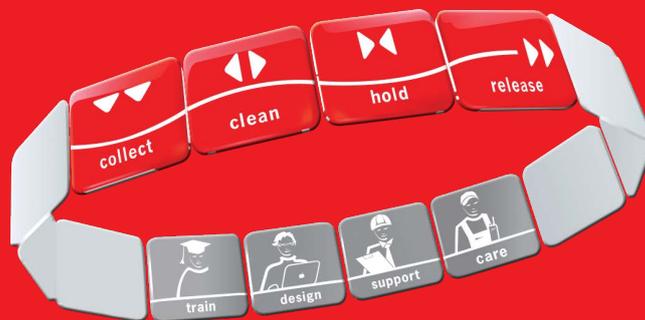


## ACO. The future of drainage.

### System Chain

ACO is a global leader in water management, with products to collect, clean, hold and release water; addressing all phases of the water cycle and supporting water sensitive urban design.

ACO Drain® focuses on products that address the collection phase.



### Service Chain

To support this extensive product range, ACO provides full support from, design conception to installed product.

Services include product training and continuing education seminars to provide updates on product innovation. Full in-house project specific design services, field support and post-installation advice is also available.



## Product Overview

### KlassikDrain - K100/K200/K300

General purpose steel edge, modular trench drain system

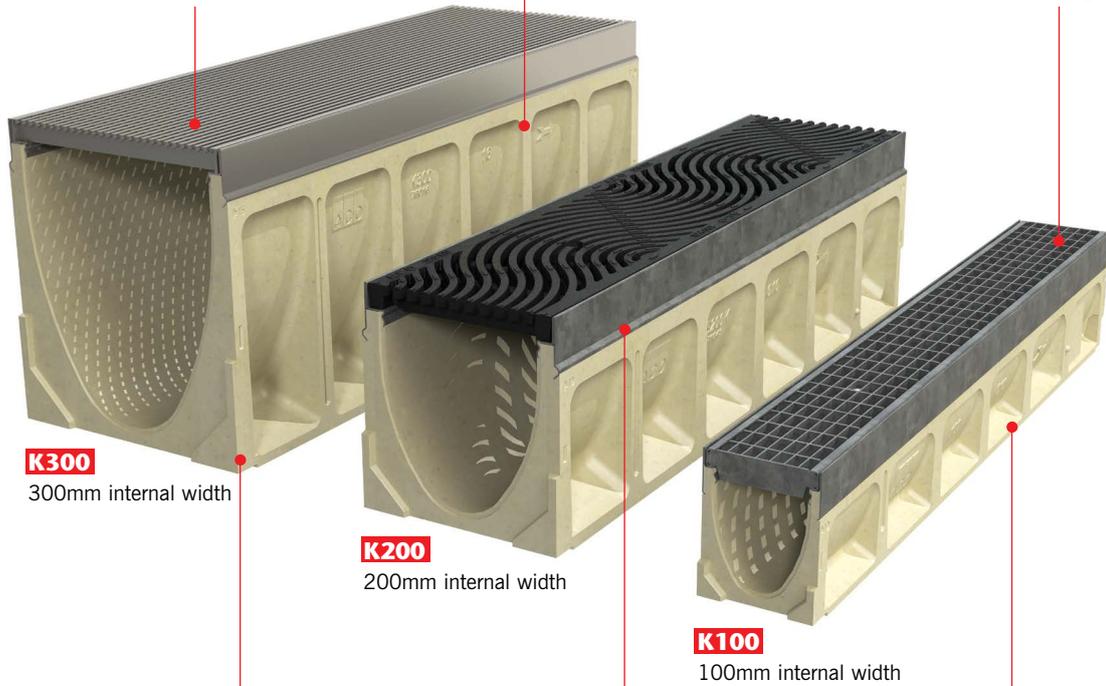
A general purpose modular drainage system, in a choice of 3 internal widths - 100mm, 200mm & 300mm. Ideal for pedestrian, commercial and light industrial applications.



**Wide choice of grates** - in various materials and styles (including **Heelsafe® Anti-Slip**) for applications from load class A to load class D (up to approx. 8 tonne wheel load) AS 3996.

**Profiled side walls** - provide channel body strength and mechanical keying to concrete encasement.

**QuickLok** - patented, boltless locking system provides quick fitting and removal of grates. Helps reduce installation/maintenance time and cost. Provides two lockings per metre.



**K300**  
300mm internal width

**K200**  
200mm internal width

**K100**  
100mm internal width

**Polymer concrete** - a durable, yet lightweight material made from polyester resin binder reinforced by mineral aggregates and fillers.

**Steel edge rail** - provides additional strength and protects channel body from damage. (Galvanised or stainless steel rail available.)

**Sloped (0.5%) channel units** - metre long units provide 40 metre continuous slope. This equates to 5mm fall per metre. Five neutral channels extend run lengths. Four half-metre units and accessories also available.

### SlabDrain

Shallow invert metal edged, modular trench drain system.

A shallow invert modular drainage system in a choice of 3 widths - 100mm, 200mm & 300mm.

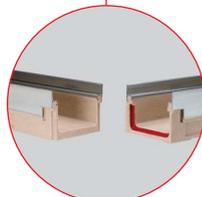
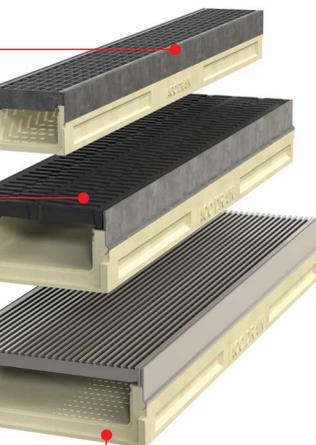


**Integrally cast-in galvanised steel edge rail** provides additional strength and protects channel body from damage. (Stainless steel edge rail also available.)

**QuickLok** - patented, boltless locking system provides quick fitting and removal of grates. Helps reduce installation/maintenance time and cost.

**Interconnecting end profiles** allow easy and effective joining of channels.

**SF Sealant Groove** - a groove is cast into the ends of every channel. The combined groove allows for a bead of appropriate flexible sealant to be inserted at joints, if required.

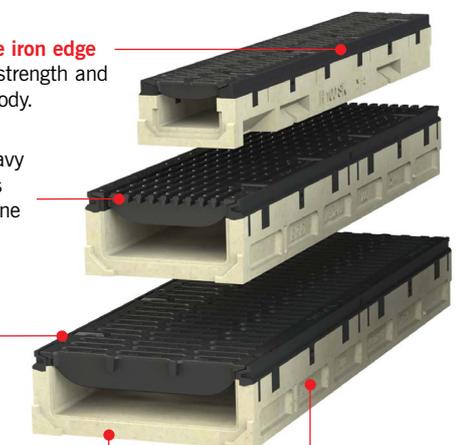


**Integrally cast-in ductile iron edge rail** provides maximum strength and protection for channel body.

**Ductile iron grates** - heavy duty grates to load class G (up to approx. 30 tonne wheel load) AS 3996.

**PowerLok** - is a patented, boltless locking system that provides quick fitting and removal of grates.

**Bottom knock-outs** are included on all channels to allow vertical outlet connection to pipework.



**Profiled side walls** - provide channel body strength and mechanical keying to concrete encasement.



**PowerDrain - S100K/S200K/S300K**

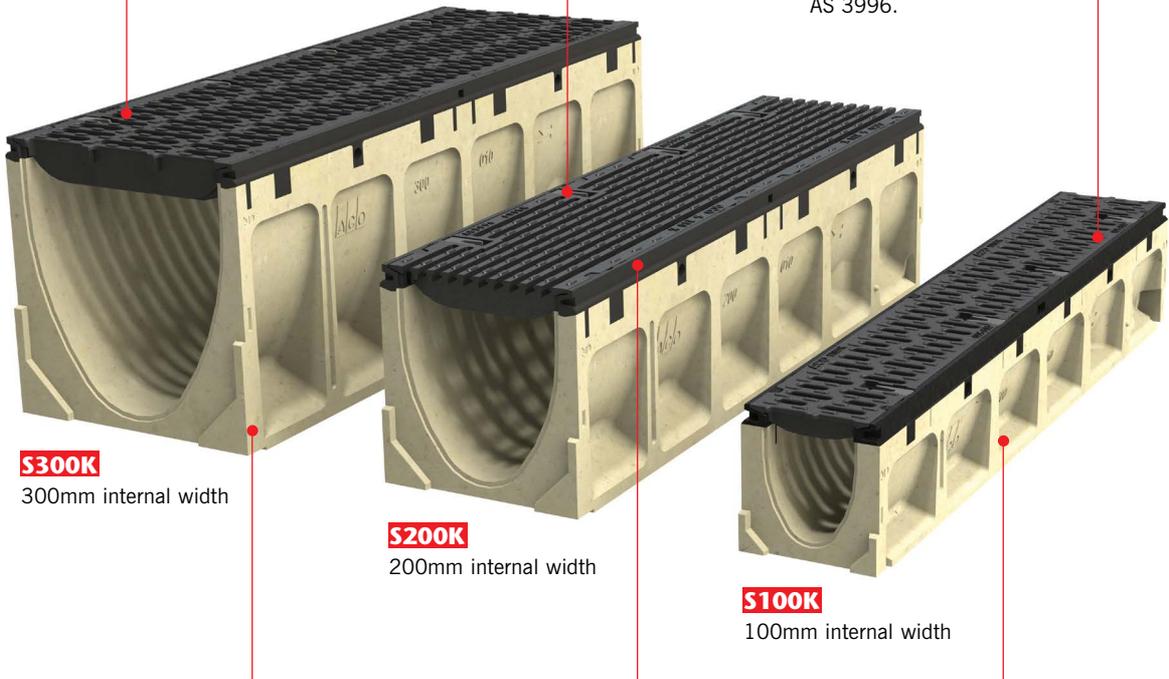
*Heavy duty ductile iron edged, multiple lock, modular trench drain systems*

An extra heavy duty modular drainage system, in a choice of 3 internal widths - 100mm, 200mm & 300mm. Ideal for industrial and heavy commercial applications.

**'Anti-shunt' lugs** - recesses in grate fit around lugs on the edge rail to prevent longitudinal movement.

**PowerLok** - a patented, boltless locking system that provides quick fitting and removal of grates. Helps reduce installation/maintenance time and cost.

**Ductile iron grates** - heavy duty iron grates in a choice of Slotted or Intercept **Heelsafe® Anti-Slip**, rated up to load Class G (approx. 30 tonne wheel load) AS 3996.



**S300K**  
300mm internal width

**S200K**  
200mm internal width

**S100K**  
100mm internal width

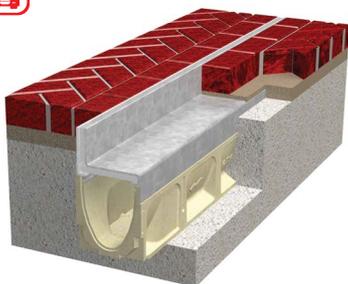
**Polymer concrete** - a durable, yet lightweight, material made from polyester resin binder reinforced by mineral aggregates and fillers.

**Ductile iron edge rail** - integrally cast-in rail provides maximum strength and protection for channel body.

**Sloped (0.5%) channel units** - metre long units provide 40 metre continuous slope. This equates to 5mm fall per metre. Five neutral channels extend run lengths. Four half metre units and accessories also available.

**Specialty Products**

**Brickslot**



**Brickslot** is a discrete, drainage solution for use with brick or stone pavers up to 63mm deep. The 10mm steel slot (galvanised or stainless) blends in with paving joints giving an aesthetic solution.

The **Brickslot** unit is typically used on the **KlassikDrain K100** channel, but can also be used on the **SlabDrain H100K** channel if depth restrictions are a concern. An access unit provides discrete access to the channel or in-line pit for maintenance.

**MiniKlassik**



Compact trench drains for high profile, aesthetic applications where a barrier is required to separate wet and dry areas.

Choice of **Heelsafe® Anti-Slip** grates available in stainless steel and ductile iron.

**Grated Pits**



For use where an existing pavement has been finished with undulating falls for point drainage, or for the collection of concentrated surface water runoff.

Grated pits are available in a wide range of sizes, are lightweight, easy to transport and handle. Choice of grates in 3 styles including **Heelsafe® Anti-Slip**.

# Choosing the Correct Trench Drain

Trench drains are designed to capture and carry surface water. They give a neat linear appearance and compliment simple slab/pavement grades. During planning, designers need to risk assess the importance of various issues surrounding a product's application and hydraulic performance requirements. These are summarised opposite.

In some instances, typically, wharves, it is most critical to address the physical capabilities of a product so that the correct load rating and materials are selected for a long service life. In other applications, where regular foot traffic is anticipated e.g. streetscape, then the choice of grate design is important. In situations where flood damage to property or personal risk are of concern e.g. thresholds, then it is prudent to focus closely on the hydraulic requirements.

ACO offers several support services to help designers mitigate or eliminate these risks whilst keeping within the design and cost restraints of the project (see below).

## 1. Application

- where and how product to be used

### 1a) Loading

- traffic type and frequency



### 1b) Durability

- address liquids to be drained and surrounding environment



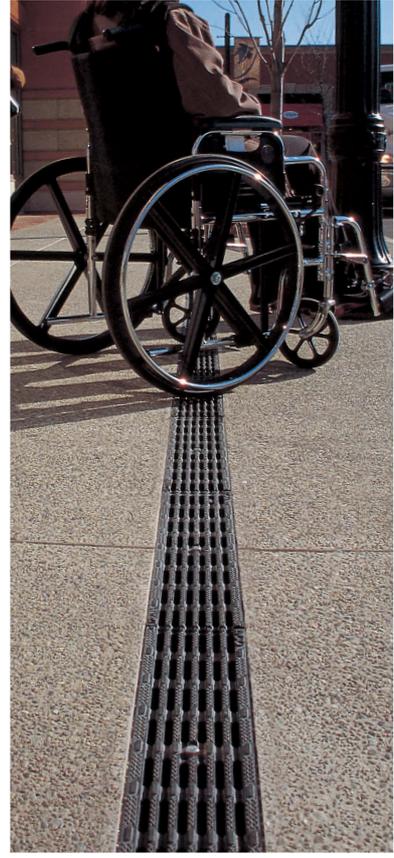
### 1c) User Requirements

- project specific site, user, aesthetic and legislative requirements including slip resistance



## 2. Hydraulic Performance

- volume of liquid to be removed in a given timeframe



## ACO Service and Support

ACO has an established Technical Services Department with many years experience advising on surface drainage.

This free service is offered with no obligation and is supported with extensive, high quality information, brochures and technical documentation.

Services include advice at project design stage through to on-site advice when required.

### 1. Trench Hydraulic Service

Flow calculations to ensure correct sizing of trenches

### 2. Grate Hydraulics

Intake calculations to ensure flow is captured

### 3. Run Layout Service

Plan and profile layouts complete with bill of materials

### 4. Ponding Analysis

Risk analysis of flood situations, including duration

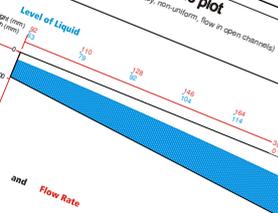
### 5. Chemical Resistance

Choosing correct materials to withstand work environment



### Grated trench drain hydraulic plot

(Based on the differential equation for steady, non-uniform, flow in open channels)



### Grate Intake Calculation

Grate Intake Calculation empirical data from experimentation

PROJECT: Carpark Drainage  
 CLIENT: JORN  
 COMPANY: ACO Polycrete Pty Ltd  
 TEL: No: 4747 4000  
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 EMAIL: technical@acopolycrete.com.au

NOTES: K100 HEELSAFE ANTI-SLIP STAINLESS GRATE. The grate intake capacity is based on experimental results. The discharge capacity per metre of the K100 HeelSafe Anti-Slip Stainless Grate when 100% of the flow is captured with no flow bypassing the grate. The head of water is a mathematical value calculated from the design data.

Recommended Grate Data and Results

0.5 %	
9.0 L/s	
30 m	
0.3 L/s/m	

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ACO DRAIN RUN SCHEDULE

PROJECT: DEMONSTRATION

CLIENT: ACO POLYCRETE PTY LTD

CONTACT: 4747 4000

PHONE: 4747 4000

FAX: 4747 4000

CONTRACTOR: ACO POLYCRETE PTY LTD

DATE: 10 SEP 13

REV: 001

REV: 002

REV: 003

REV: 004

REV: 005

REV: 006

REV: 007

REV: 008

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ACO POLYCRETE PTY LTD



## Other ACO Product Ranges

- ACO INFRASTRUCTURE**  
A range of linear drainage solutions for transport infrastructure projects - roads, motorways, container ports, airport tarmacs and other heavy duty applications
- ACO SPORT**  
A range of surface drainage systems and ancillary products for sport fields, running tracks and stadiums
- ACO HOME**  
A range of economical domestic drainage products, ideal for homes, gardens and landscaped areas
- ACO STAINLESS**  
A range of high performance stainless steel drainage channels, grates and floor drains for hygiene and aesthetic applications
- QuARTz By ACO**  
A range of compact floor drainage systems, complete with the industry's largest selection of highly aesthetic grates
- ACO PASSAVANT**  
A range of above and below ground grease separators for full or partial disposal
- ACO PIPE**  
Grade 316 stainless steel socketed pipe systems. Chemically pickle passivated for optimum durability and corrosion resistance
- ACO CABLEMATE**  
A range of electrical and communication cable jointing pits and surface ducting systems
- ACO ACCESS**  
A range of ductile iron, galvanised steel and composite access covers in a wide range of sizes and configurations from single to large multi-parts units

### ACO Polycrete Pty Ltd ABN 65 050 102 942

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SAI Global  
Assurance Services

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