

Drains for Civil Infrastructure

ACO Infrastructure



# The ACO Group

Climate change sets organisations a challenge to react effectively with innovative solutions to new environmental conditions. With a necessary integrated approach, ACO provides solutions for professional surface water management. To complement these intelligent systems, ACO manufactures a range of service enclosures including access covers.

Founded in 1946, the ACO Group is a foremost supplier of drainage systems and utility enclosures. Major innovative strengths of the ACO Group are its continuous research and development and technical expertise in the use of polymer concrete, plastics, cast iron, stainless steel and cement concrete

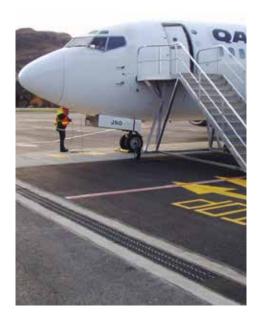
# ACO in Australia

ACO in Australia was established in 1993 and is Australasia's leading manufacturer of water and cable management products with production facilities located in NSW. With over 30 years of Australian manufacturing experience in Western Sydney, ACO prides itself in drawing on the expertise of Australian talent for its workforce as wel as sourcing local raw materials for the manufacture of finished products.

# **ACO** Infrastructure

ACO Infrastructure comprises a number of system for roads and highways; mass transit systems (rail, bus, terminals, truck stops etc.); bridges and tunnels; seaports and container terminals; and airports.

These systems consist of factory-manufactured channel units made from corrosion-resistant durable materials to withstand the most challenging environments. Systems come complete with either non-removable or removable lockable grates compliant to AS 3996 and EN 1433. Iron grates deliver exceptional load-bearing capacity and long-term durability.











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# **Materials**

ACO TraffikDrain comprises factory precast polymer concrete channels with integrally cast ductile iron rails and removable iron grates.

# Polymer Concrete



ACO's polymer concrete is made up of sand and aggregate mixed together with a polyester resin and a hardener to act as the binder. The finished material has excellent mechanical and thermal properties and offers good corrosion resistance.

# Ductile Iron



ACO grates and rails are manufactured from spheroidal graphite cast iron (ductile iron) conforming to the requirements of AS 3996 with a specified tensile strength of up to 600MPa. Iron is known for its exceptional durability and life span in various trafficable pavements.

# **TraffikDrain**

TraffikDrain combines the benefits of Polycrete® *Channels*<sup>1</sup> with a choice of purpose designed iron grates to minimise ponding on trafficable pavements in heavy duty civil infrastructure applications.

A choice is offered from a range of large inlet grates to ensure maximum water intake for the quick and efficient removal of surface water to the Heelsafe® *Anti-Slip*<sup>2</sup> grate, providing pedestrian safety in heavily foot trafficked areas. All grates are secured with a conventional bolt locking system or the PowerLok™ barless and boltless locking mechanism that enables quick and easy access for maintenance operations. Channel anchors are also available if required for concrete slabs.

The product range is purpose designed for roads, freeways and loading docks to port aprons and airport pavements. All channel systems are certified to AS 3996 and EN 1433.







Austroads **Guide to Road Design Part 5A: Drainage**, acknowledges ACO's
TraffikDrain as a practical solution to control the width of gutter flow through the drain's continuous capture inlets.



# **Product Features**

# Anti-shunt lugs

Recesses in grates fit around anti-shunt lugs on the edge rail to prevent longitudinal movement under dynamic wheel loads.



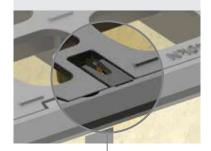
# Knock-outs

Every fifth sloped channel and all neutral channels have a knock-out area to allow for a vertical outlet connection to the pipework.



# PowerLok™

A patented, barless and boltless locking system that provides easy fitting and removal of grates reducing installation time and maintenance time.



# Sealant groove

Sealant groove is cast into both ends of the channel and allows for a bead of flexible sealant to be applied at the channel joints. The sealant ensures contaminated water does not infiltrate into environmentally sensitive areas.

# Interconnecting end profiles

Interconnecting end profiles allow easy and effective joining of channels.

### **Sloped channel**

Metre long lengths provide 40 metres of continuous 0.5% slope, that equates to 5 mm of built-in fall per metre. Five neutral channel depths are available to extend run length.

# **TD300**

Internal width - 300mm External width - 360mm

# 'V' profile channels

'V' profile channels promote higher velocities during minor storm events resulting in a more hydraulically efficient drain compared to 'U' profile channels.



Internal width - 200mm External width - 260mm

# Ductile iron edge rail

Integrally cast-in rail provides maximum strength and protection for channel body.

# **Ductile iron grates**

Hi-Flo, Intercept **Heelsafe®**Anti-Slip and Transverse ductile iron grates are heavy duty and rated to AS 3996 Load Class D (approx. 8 tonne wheel load). The 4-Bolt Iron Slotted grates are rated to AS 3996 Load Class G (approx. 30 tonne wheel load). All grates are bicycle tyre penetration resistant to AS 3996. The Intercept **Heelsafe®**Anti-Slip grate is heel friendly and slip resistant for road crossings and other pedestrian areas. Hi-Flo and Transverse grates have large inlets ensuring high water intake.

# AS 3996:

D 240





240kN Heavy duty 900kN Extra heavy duty

### Typical Uses

Major roads, freeway shoulders and loading docks Docks and aircraft pavements subjected to very high wheel loads

### Approximate Nominal Wheel Load

8,000 kg

30,000 kg

# Installation device

Installation devices are available to reduce installation time and labour costs. The device clamps the channels together and braces them to prevent movement. The device also stops the channels from floating during a single concrete pour.

# Polymer concrete

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

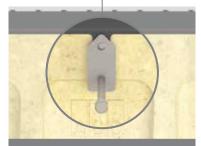
# Profiled side walls

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



# **Channel numbering**

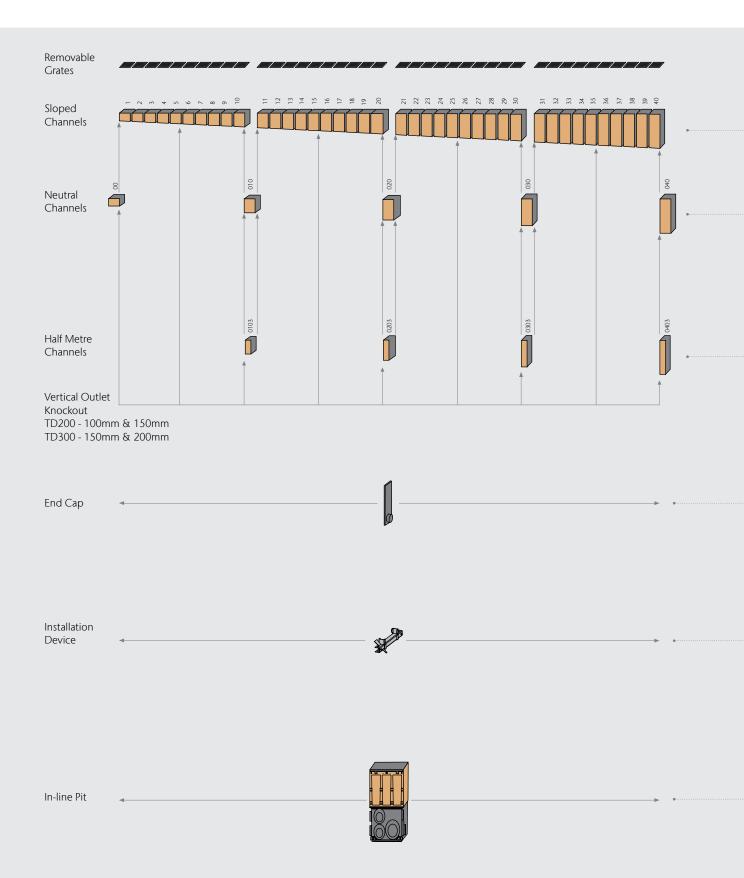
Channel numbering is located on the sidewalls and the invert base of the channel. The number of the connecting channel is embossed and located at the end of each channel to aid identification.



# Anchors

For extra heavy duty pavements, the SK Rail Anchor Kit ties the channels to the surrounding concrete. It provides mechanical keying into concrete slabs where shrinkage cannot be controlled.

# System Layout - TD200 / TD300



# Channels & Accessories



# One metre channels - sloped and neutral

There are 40 sloped channels available to create 40 metres of continuous sloping run with ductile iron edge rail. Sloped channels have a 0.5% fall. Neutral channels are available in five depths and can be used to create constant depth runs or inserted in sloped runs to increase the overall length. Vertical outlet knockouts are available on all neutral channels and on number 5, 10, 15, 20, 25, 30, 35, 40 sloped channels.



### **Half metre channels**

Half metre neutral channels in four depths, supplement one metre channels. Side knockout and profiling enable T-junction to be created. Vertical outlet knockouts on all half metre channels. Available with ductile iron edge rail.



# **End cap**

Fits all channels and manufactured from black ABS to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. For TD200, bell end connection to DN100 and DN150 pipe. For TD300, bell end connection to DN150, DN200 and DN250 pipe. Note: For depth 00, 1-10 channels, ACO recommends removal of unused sections of bell end to ensure adequate pavement material cover.



### Installation device

Fits moulded recesses on body of channel. Provides height and joint alignment - a sliding clamp locks the two channels together. Bolt to rebar on either side of channel to hold channels in place during concrete pour. Note: Not reusable; it is sacrificial within concrete encasement.



### In-line pit

Two part in-line pit with plastic base for DN100, DN150 and DN200 cut-outs for pipe connection. Concrete base available for connecting with larger DN300 reinforced concrete pipe. Optional plastic rubbish basket. Any channel can be connected to the in-line pit by removing the end wall to the correct height. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040.

# **Run Components**

	TD200	- 200mm i	nternal	width	TD300	- 300mm i	internal v	width
Channels & Accessories	Channel Part No.	Invert² mm Female Male		Weight kg	Channel Part No.	Invert² mm Female Male		Weight kg
00 Neutral channel (1m) <sup>1</sup>	68041	200	200	36.1	69041	300	300	59.1
1 Sloped channel (1m)	68001	200	205	36.1	69001	300	305	59.1
2 Sloped channel (1m)	68002	205	210	36.6	69002	305	310	59.6
3 Sloped channel (1m)	68003	210	215	37.1	69003	310	315	60.2
4 Sloped channel (1m)	68004	215	220	37.6	69004	315	320	60.7
5 Sloped channel (1m) <sup>1</sup>	68005	220	225	38.1	69005	320	325	61.3
6 Sloped channel (1m) 7 Sloped channel (1m)	68006	225	230	38.6	69006 69007	325	330	61.9
	68007 68008	230	235	39.1 39.6		330	335	62.4
8 Sloped channel (1m) 9 Sloped channel (1m)	68009	235 240	240 245	40.1	69008 69009	335 340	340 345	63.0 63.5
10 Sloped channel (1m) <sup>1</sup>	68010	245	250	40.6	69010	345	350	64.1
010 Neutral channel (1m) <sup>1</sup>	68043	250	250	40.6	69042	350	350	64.1
0103 Neutral channel (0.5m) <sup>1</sup>	68044	250	250	26.5	69045	350	350	35.3
11 Sloped channel (1m)	68011	250	255	41.1	69011	350	355	64.6
12 Sloped channel (1m)	68012	255	260	41.6	69012	355	360	65.2
13 Sloped channel (1m)	68013	260	265	42.1	69013	360	365	65.8
14 Sloped channel (1m)	68014	265	270	42.6	69014	365	370	66.3
15 Sloped channel (1m) <sup>1</sup>	68015	270	275	43.1	69015	370	375	66.9
16 Sloped channel (1m)	68016	275	280	43.6	69016	375	380	67.4
17 Sloped channel (1m)	68017	280	285	44.1	69017	380	385	68.0
18 Sloped channel (1m)	68018	285	290	44.6	69018	385	390	68.5
19 Sloped channel (1m)	68019	290	295	45.1	69019	390	395	69.1
20 Sloped channel (1m) <sup>1</sup>	68020	295	300	45.6	69020	395	400	69.7
020 Neutral channel (1m) <sup>1</sup>	68045	300	300	45.6	69044	400	400	69.7
0203 Neutral channel (0.5m) <sup>1</sup>	68046	300	300	29.9	69047	400	400	38.5
21 Sloped channel (1m)	68021	300	305	46.1	69021	400	405	70.2
22 Sloped channel (1m)	68022	305	310	46.6	69022	405	410	70.8
23 Sloped channel (1m)	68023	310	315	47.1	69023	410	415	71.4
24 Sloped channel (1m)	68024	315	320	47.6	69024	415	420	71.9
25 Sloped channel (1m) <sup>1</sup>	68025	320	325	48.1	69025	420	425	72.4
26 Sloped channel (1m)	68026	325	330	48.6	69026	425	430	73.0
27 Sloped channel (1m)	68027	330	335	49.1	69027	430	435	73.6
28 Sloped channel (1m)	68028	335	340	49.6	69028	435	440	74.1
29 Sloped channel (1m)	68029	340	345	50.1	69029	440	445	74.7
30 Sloped channel (1m) <sup>1</sup>	68030	345	350	50.6	69030	445	450	75.3
O30 Neutral channel (1m) <sup>1</sup>	68047	350	350	50.6	69046	450	450	75.3
0303 Neutral channel (0.5m) <sup>1</sup>	68048	350	350	32.0	69049	450	450	41.8
31 Sloped channel (1m)	68031	350	355	51.2	69031	450	455	75.8
32 Sloped channel (1m)	68032	355	360	51.7	69032	455	460	76.4
33 Sloped channel (1m)	68033	360	365	52.2	69033	460	465	76.9
34 Sloped channel (1m)	68034	365	370	52.7	69034	465	470	77.5
Sloped channel (1m) <sup>1</sup>	68035	370	375	53.2	69035	470	475	78.1
36 Sloped channel (1m) 37 Sloped channel (1m)	68036	375	380	53.7 54.2	69036	475	480	78.6 79.2
37 Sloped channel (1m) 38 Sloped channel (1m)	68037	380	385		69037	480	485	
38 Sloped channel (1m) 39 Sloped channel (1m)	68038	385	390	54.7	69038	485 490	490 495	79.7
Sloped channel (1m)  Sloped channel (1m)	68039 68040	390 395	395 400	55.2 55.7	69039 69040	490	495 500	80.3 80.8
040 Neutral channel (1m) <sup>1</sup>	68049	400	400	55.7	69048	500	500	80.8
0403 Neutral channel (0.5m) <sup>1</sup>	68050	400	400	36.0	69050	500	500	45.5
n-line pit top (0.5m)	141833	435 <sup>3</sup>	4353	27.3	141834	550 <sup>3</sup>	550 <sup>3</sup>	32.9
n-line pit top (0.5111)	141829	404 <sup>3</sup>	4043	5.0	141830	404 <sup>3</sup>	404 <sup>3</sup>	7.0
n-line pit plastic base	- 11027	-	-	J.U _	143345	700 <sup>3</sup>	700 <sup>3</sup>	450.0
n-line plastic rubbish basket	13999	_	_	0.5	98653	-	-	1.6
Optional plastic riser	13777			0.5	141729	300	300	4.5
Plastic rubbish basket – long					98665	_	_	1.8
Universal end cap	96823	420³	420 <sup>3</sup>	0.6	96827	520 <sup>3</sup>	520 <sup>3</sup>	1.1
Debris strainer for 100mm knockout	93488	-	-	0.1	, 302,	320		1.1
Installation device	97478	_	_	1.8	97479	_	_	2.2
Grate removal tool	01318	_	_	0.1	01318	_	_	0.1
PowerLok™ safety clip	10443	_	_	_	10443	_	_	-

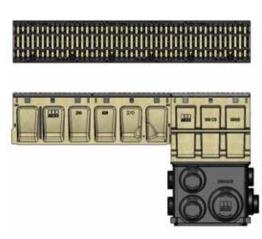
Notes: 1. These channels have a knock-out for a vertical outlet: TD200 – 100mm and 150mm round, TD300 – 150mm and 200mm round. 2. To calculate overall channel depth, add 25mm to invert depth. 3. Overall depth of in-line pit and end caps.

# In-line Pits

In-line pits are most commonly used as the outlet to the underground pipework for a trench run. They provide the highest hydraulic output and allow easy access to the pipe system for maintenance.

In-line pits are the same width as the trench run.

The polymer concrete in-line top enables the same grate to be used as the trench run for a seamless appearance.



# TD200 TD300 141833 141834 98653 98665

141830

141829

### Grates

Choice of ductile iron grates with PowerLok™ barless and boltless locking, or a bolted locking system.

### **Top section**

Polymer concrete with integrally cast-in ductile iron edge rails. Guides aid connection of male channel ends to channel numbers 00, 010, 020, 030 and 040. Other channels can be connected by removing wall to required height.

### **Rubbish basket options**

In-line pit plastic rubbish basket designed to collect debris washed from trench run. Supported inside in-line pit top to avoid creation of a vacuum that would otherwise reduce outflow.

### Riser

Optional plastic riser for TD300 only to increase depth and hydraulic output.

# **Base options**

143345

Polyethylene bases with wide range of cut-outs for easy pipe connection. Concrete base available for TD300 only for connection to DN300 reinforced concrete pipes. Cut outs on end and side allow connection to stormwater pipe.

# TraffikDrain Grates

# Class D - PowerLok™ Grates

## **Typical Applications**

- Motorways and highways
- Streetscapes with shared zones for pedestrians and vehicles
- Busways, bus stops and railway interchanges
- Bridge abutments and tunnel portals
- Median strips
- Right hand turn bays
- Kerbside gutters

All TraffikDrain grates are purpose designed to meet Australian civil engineering requirements. They have been tested and certified to AS 3996 for load class D 240kN and bicycle wheel compliance in all directions. Grates are equipped with anti-shunt provisions to prevent longitudinal movements from the dynamic action of wheel loads. NATA endorsed test reports to AS 3996 are available on request.

As a standard, all grates are secured with the PowerLok™ barless and boltless locking system for quick grate removal and replacement to allow unobstructed access for maintenance. As an alternative, a 2-bolt locking is also available.





Auxiliary safety clip to enhance security Safety clip (part no. 10443) sits flush with grate surface and grate cannot be unlocked. The red coloured safety clips provide a visual indication that the grates are locked.



# PowerLok™ Barless & Boltless Locking System - Standard



To open PowerLok™, insert tool between rail and PowerLok™ device.



Rotate tool 90°; PowerLok™ device should push away from rail.



To close, place hook part of tool into 'V' and push towards rail.



### Load Class D 240kN - AS 3996

Major roads, freeway shoulders and loading docks



Approximate Nominal Wheel Load 8,000kg

D 240

Grate	Туре	Length mm	Part No.	Weight kg	نځ	1	ঠিকী	T.	
Iron Intercept <sup>2</sup> <b>Heelsafe®</b>	TD200 <sup>1</sup>	500	142125	8.7	✓	✓	✓	✓ P5	
Anti-Slip	TD300 <sup>1</sup>	500	142126	14.8	✓	✓	✓	√ P5	
Iron Transverse	TD200 <sup>1</sup>	500	142145	6.8	×	×	✓	×	
IIOII IIAIIZVEIZE	TD300 <sup>1</sup>	500	142146	12.4	×	×	✓	×	
Iron Hi-Flo	TD200 <sup>1</sup>	500	142127	6.1	×	×	✓	×	
	TD300 <sup>1</sup>	500	142128	10.5	×	×	✓	×	

<sup>&</sup>lt;sup>1</sup> TD200 Grates to suit 200mm channels - TD300 Grates to suit 300mm channels <sup>2</sup> Meets ASME A112.6.3 Section 7.12 (American high heel standard).



Wheelchair and walking cane compliant to AS 1428.1 Clause 4.4(c) and AS 1428.2, Clause 9(c). Slots cannot exceed 13mm (width), 150mm (length).



Grates designed to resist the penetration of a 10mm heel.



Bicycle tyre penetration resistant to AS 3996. Criteria on slot length dependant on slot width.



Pedestrian safe grates with slip resistance, rated to AS 4586.

# 2-Bolt Grate Locking - Optional

Class D - PowerLok™ Grates



Remove two plastic plugs with flathead screwdriver.



Position grate onto channel, align slots in grate with bolt holes in edge rail. Lock the PowerLok™.



Use wrench or socket set to tighten. If using a torque wrench, do not set to more than 20Nm.



■ M10x40 Bolt (part no. 2324), 2 bolts per grate, supplied separately.

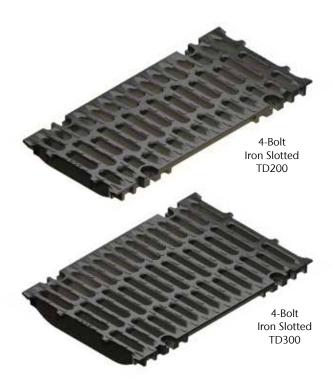
# **Typical Applications**

- Airport pavements
- Sea ports and wharves
- Container yards
- Rail container terminals
- Heavy industrial parks
- Distribution centres

The 4-Bolt Iron Slotted grates are purpose designed for heavy duty apron areas. They have been tested and certified to AS 3996 for load class G 900kN. Grates are designed for high water intake and are equipped with anti-shunt provisions to prevent longitudinal movements from the dynamic action of wheel loads.

Optional channel anchors fabricated from mild steel are available to ensure effective mechanical keying into concrete slabs where shrinkage cannot be controlled.

NATA endorsed test reports to AS 3996 are available on request.





# 4-Bolt Grate Locking - Standard



Position grate onto channel, align slots in grate with bolt holes in edge rail.



Use wrench or socket set to tighten. If using a torque wrench, do not set to more than 20Nm.



To remove grates, use wrench or socket set. Carefully store bolts for refitting of grates.



■ Four M10x40 Bolt (part no. 2324), included with grate.

# Load Class G 900kN - AS 3996

Docks and aircraft pavements subjected to very high wheel loads Approximate Nominal Wheel Load 30,000kg



G 900

Grate	Туре	Length mm	Part No.	Weight kg	Ė	1	কৈন্ট		
4-Bolt	TD200 <sup>1</sup>	500	143343	14.8	×	×	✓	×	
4-Bolt Iron Slotted	TD300 <sup>1</sup>	500	143344	24.2	×	×	✓	×	

<sup>&</sup>lt;sup>1</sup>TD200 Grates to suit 200mm channels - TD300 Grates to suit 300mm channels





# Channel Anchor - Optional

For extra heavy duty pavements, ACO strongly recommends use of an SK Rail Anchor Kit (part no. 97496) to help tie the channels to the surrounding concrete. 2 kits required per 1m channel. The anchors provide mechanical keying into concrete slabs where shrinkage cannot be controlled.







# **Technical Support**

# Free Project Services

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

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 support as required.

# Trench and grate hydraulics

- Used to correctly size up trench drains
- Determine pit spacings
- Allow gutter flow width to be calculated
- Grate intake testing based on experimental results and software developed by the UNSW Water Research Laboratory



# Trench Drain Sizing

ACO can provide accurate channel recommendations with its proprietary drainage design software. 'Hydro' is a purpose written, hydraulic design program modelled on differential calculus for non-uniform flow in open channels. The program was further refined with empirical data, following a series of experiments modelling lateral intake into trench drains.



acodrain.com.au/trench

# Check Grate Intake

ACO can provide accurate grate recommendations with its proprietary software.

The hydraulic intake capacities of ACO's grates have been independently measured by experimentation at the UNSW under varying flow rates and catchment approach slopes.



acodrain.com.au/grate

### **Certification available**

- Certificate of Compliance/Conformance
- NATA endorsed load test reports to AS 3996
- NATA accredited ACO Laboratory Accreditation No: 15193





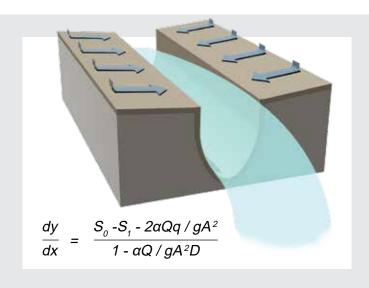
ACO's NATA Accredited Testing Machine

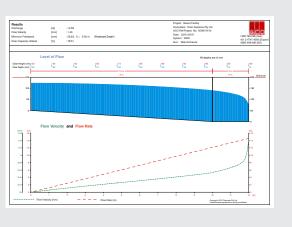
# Run Layout Design

To make specification, ordering and site work easy, ACO can tailor a layout using CAD and other bespoke programs to illustrate (in plan and elevation) required positions and layouts of trench runs. A bill of materials is also produced.



acodrain.com.au/runlayout

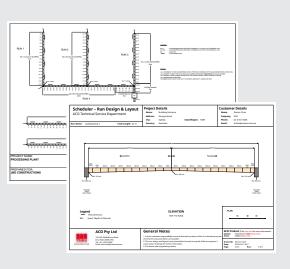












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Installed Polycrete® *Channels* should incorporate the following:

- 1. Correct grate type.
- 2. Correct channel type and size.
- 3. Minimum grade 25MPa compressive strength cement concrete encasement.

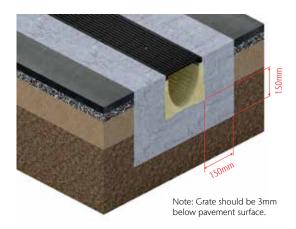
It is recommended that the concrete encasement conforms to the minimum dimensions shown in the table (right) and illustrations below.\*

AS 3996 Load Class	Concrete Encasement Dimensions *
	150mm
	200mm

<sup>\*</sup>Specific site conditions may require an increase in encasement dimensions and/or reinforcement.

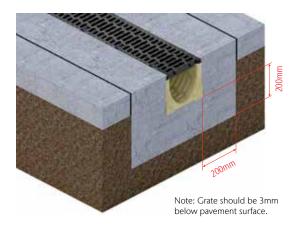
# Class C to D - ASPHALT installation

(Maximum 8,000kg approximate wheel load)



# Class E to G - CONCRETE installation

(Maximum 30,000kg approximate wheel load)

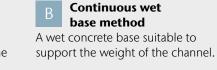


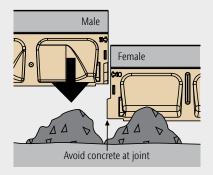
# Installation Options

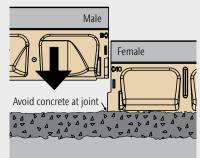
Channel units need to be supported at the correct height and held securely in place to avoid movement during the concrete pour. There are a number of options available.

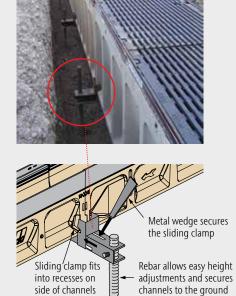
Installation device
Channels clamped at joints
and supported on rebars allowing a
single concrete pour.

# A Patty method Channels are set up on concrete patties with a stiff, low slump to support the weight of the channel.









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### Maintenance

Regular inspections of the trench drain system are recommended. Frequency will depend on local conditions and environment, but should be carried out at least annually.

Inspections should cover:

- Grates and locking devices.
- In-line pits and rubbish baskets.
- Concrete encasement and adjacent paving.

All items should be inspected for damage, blockage or movement. Compare with site drawings if necessary.

### **Maintenance guidelines**

- 1. Remove grates and clear slot openings of dirt and debris.
- 2. Remove debris from channel either by shovelling, water jetting or vacuum pump.
- 3. Flush channels with water or pressure washer.
- 4. Repair damaged channel surfaces, if necessary, with ACO repair kit (part no. 02163).
- 5. Renew joint seals as required.
- 6. Empty rubbish baskets and clean out pipe connections.
- 7. Re-install rubbish baskets.
- 8. Re-install grates, ensuring they are securely locked down.

# Oxidation of iron grates over time

Most ductile iron grates have a black coating applied to protect the grate for a short period after manufacture. It is not intended to be either a long term or architectural

Oxidation on the surface of ductile iron products is a natural process that does not affect the structural integrity of the product and produces a rustic look. If a black finish is required, it would be recommended to occasionally paint the grates with a black rust inhibitor.



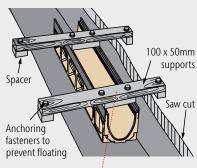
### **Product design life**

If properly maintained, ACO products installed in the correct application and according to ACO's installation instructions, will hold their integrity for as long as the adjacent pavement will.

For example, if the pavement is designed for 30 years and is not damaged during this time, the ACO product will last for 30 years.

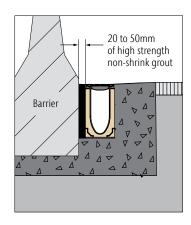
Unforeseen and adverse conditions out of ACO's control may affect the life of the product.

Hanging method Channels can be hung from existing slab or formwork.

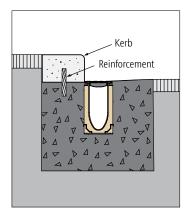




# **Specific Applications**







Beside Kerb



# **ACO Civil Construction Products**

### **ACO Infrastructure**

A range of trench drainage systems for roads, ports, airports and rail.

### **ACO Drain**

A range of grated trench drainage systems and pits made from polymer concrete. Grates are available in all materials and finishes.

### **ACO StormBrixx**

Retention, infiltration and detention geocellular stormwater tanks.

### **ACO Cablemate**

A range of electrical and communication cable pits and surface ducting systems.

# **ACO Access**

A range of iron and steel access covers in various sizes from single to large multi-part units.

For more info visit: www.acoaus.com.au

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