

PowerDrain Product Information Sheet

Product Name:

ACO PowerDrain

Product description and intended use:

ACO PowerDrain is a general-purpose, heavy duty trench drain comprising of modular Polycrete® channels. Each unit is manufactured with integrally cast ductile iron edge rails.

PowerDrain channels consist of 1-meter-long units.

S100K (100mm internal width), S200K (200mm internal width) & S300K (300mm internal width)
1 – 40 sloped, numbered channels with a 0.5% in built slope.

5 Neutral channels available with depth changes in increments of 50mm. (00, 010, 020, 030, 040)

ACO PowerDrain In Line Pit information:

In Line Pits are available for the S100K, S200K and S300K range.

An 300mm riser is available for the S300K. Other accessories are also available refer to specification sheet. Refer to <https://askaco.nz/aco-powerdrain/> for more information including specification sheets and technical information.

Product identifier:

(PowerDrain) SK-Type and channel number are visible on the side of the channel, the channel number is visible when the grate is removed and viewed from above for sloping channels. Neutral channels are marked with 'neutral' following the channel number.

Place of manufacture:

Aotearoa New Zealand

Overseas

Legal and trading name of the manufacturer(s):

ACO PTY LTD

Address for service:

Street name: 134-140 Old Bathurst Road

Suburb, State: Emu Plains, NSW

City, Country: Sydney, Australia

Postcode: 2750

Website: www.acoaus.com.auEmail address: sales@acoaus.com.au

Phone number: +61 2 4747 4000

Legal and trading name of the importer (if applicable):

ACO Limited

Address for service:

| | | | |
|----------------|-----------------------|-----------|---------|
| Street name: | 35 Te Tiki Road | Suburb: | Mangere |
| City, Country: | Auckland, New Zealand | Postcode: | 2022 |
| Website: | www.aconz.co.nz | | |
| Email address: | info@aconz.co.nz | | |
| Phone number: | 0800 448 080 | | |
| NZBN: | 9429030838697 | | |

Relevant Building Code clauses:

NBZ E1/AS1 Surface water
NZBC E1/AS2 Surface water
NZBC E2/AS1 External moisture

Statement on how the building product is expected to contribute to compliance:

NZBC E1 Surface Water:

- E1.1/E1.2.: ACO PowerDrain Polymer Concrete V-profile channel system has been designed to safeguard people from injury or illness, and other property from damage caused by surface water.
- E1.3.1/E1.3.2: Upon selecting the correct size channel for application and installed as per ACO documentation, ACO PowerDrain will protect property from surface water resulting from an event having a 10% probability of occurring annually or from surface water resulting from an event having a 2% probability of occurring entering a building.
- E1.3.3: When appropriately selected and installed correctly, ACO PowerDrain will convey surface water to an appropriate outflow using gravity flow where possible, avoid the likelihood of blockages and provide reasonable access for the maintenance and clearing of blockages within the channel drain system and avoid the likelihood of damage from superimposed loads of normal ground movement.

NZBC E2 External Moisture:

ACO PowerDrain may also be selected for use in E2/AS1 Level entry threshold drainage with supporting documentation & literature from ACO to support the application of the product in the given environment with acceptable, alternative solution as per E2/AS1.

Access covers & grates: ACO PowerDrain grates are available in load classes up to load class G (AS 3996). All access covers and grates are designed and manufactured in full compliance with the requirements of AS 3996. Other ACO Products are independently tested to meet the loading requirements of this standard. .

NZBC B2/AS1 Durability:

If properly maintained with normal maintenance, 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. ACO PowerDrain will meet the requirements of these such building elements as per B2.3.1 (b) 15 years and (c) not less than 5 years.

Limitations of the use of the building product:

All grates have been tested to AS 3996 standards and are identified by load classification. Concrete encasement for the installation must be adhered to for the selected load class, details for this can be found on the website for a variety of installation types and loadings: www.askaco.nz/aco-powerdrain/ ACO Drain channel bodies are highly resistant to chemical attack, and with the appropriate grate can be used in most environments where acids and dilute alkali's are encountered. Refer to the chemical resistance information found here: <https://www.acodrain.co.nz/resources/technical-data.htm>

Design requirements that would support the use of the building product:

ACO PowerDrain is intended for use in situations where surface water is expected, some examples are as follows.
Level surface requiring an in-built slope to promote the movement of water through the force of gravity. All surface water is not intended to be drained through a permeable surface i.e. grass. In situations where the ponding of surface water is expected and may present a health and safety risk to the public. Full access to the channel drain is required for maintenance or inspection.

Installation requirements:

The complete drainage system shall be by ACO and be installed for its intended purpose. Any deviation or partial use of the specified system and/or improper installation will void all warranties provided by ACO.

Installation of the channel drain is to be carried out by appropriately qualified personnel to applicable legislative requirements. All work should commence under the direct supervision of a certifying drainlayer as per the Plumbers, Gasfitters and Drainlayers Act 2006.

Please refer to the installation manual and relevant site installation files found on our website. Further site installation support is available: <https://askaco.nz/aco-powerdrain/>

Maintenance requirements:

Regular inspections of the trench drain are recommended. Frequency will depend on local conditions and environment but should at least occur annually.

Inspections should cover:

- Grates and locking devices.
- Pits (sumps) and rubbish baskets.
- Concrete surround & adjacent paving.

All items should be inspected for damage, blockage or movement and compared with site drawings if needed.

Is the building product/building product line subject to warning or ban under section 26? No

Parts table

| | S100K – 100mm internal width | | | S200K – 200mm internal width | | | S300K – 300mm internal width | | |
|--|------------------------------|------------------------|-----------|------------------------------|------------------------|-----------|------------------------------|------------------------|-----------|
| | Channel Part No. | Invert ² mm | Weight kg | Channel Part No. | Invert ² mm | Weight kg | Channel Part No. | Invert ² mm | Weight kg |
| 00 Neutral channel (1m)¹ | 67041 | 100 | 22.5 | 68041 | 200 | 36.1 | 69041 | 300 | 59.1 |
| 1 Sloped channel (1m) | 67001 | 105 | 22.5 | 68001 | 205 | 36.1 | 69001 | 305 | 59.1 |
| 2 Sloped channel (1m) | 67002 | 110 | 22.9 | 68002 | 210 | 36.6 | 69002 | 310 | 59.6 |
| 3 Sloped channel (1m) | 67003 | 115 | 23.4 | 68003 | 215 | 37.1 | 69003 | 315 | 60.2 |
| 4 Sloped channel (1m) | 67004 | 120 | 23.8 | 68004 | 220 | 37.6 | 69004 | 320 | 60.7 |
| 5 Sloped channel (1m) ¹ | 67005 | 125 | 24.3 | 68005 | 225 | 38.1 | 69005 | 325 | 61.3 |
| 6 Sloped channel (1m) | 67006 | 130 | 24.7 | 68006 | 230 | 38.6 | 69006 | 330 | 61.9 |
| 7 Sloped channel (1m) | 67007 | 135 | 25.2 | 68007 | 235 | 39.1 | 69007 | 335 | 62.4 |
| 8 Sloped channel (1m) | 67008 | 140 | 25.6 | 68008 | 240 | 39.6 | 69008 | 340 | 63.0 |
| 9 Sloped channel (1m) | 67009 | 145 | 26.1 | 68009 | 245 | 40.1 | 69009 | 345 | 63.5 |
| 10 Sloped channel (1m) ¹ | 67010 | 150 | 26.5 | 68010 | 250 | 40.6 | 69010 | 350 | 64.1 |
| 010 Neutral channel (1m)¹ | 67043 | 150 | 26.5 | 68043 | 250 | 40.6 | 69042 | 350 | 64.1 |
| 0103 Neutral channel (0.5m)¹ | 67044 | 150 | 13.7 | 68044 | 250 | 26.5 | 69045 | 350 | 35.3 |
| 11 Sloped channel (1m) | 67011 | 155 | 27.0 | 68011 | 255 | 41.1 | 69011 | 355 | 64.6 |
| 12 Sloped channel (1m) | 67012 | 160 | 27.4 | 68012 | 260 | 41.6 | 69012 | 360 | 65.2 |
| 13 Sloped channel (1m) | 67013 | 165 | 27.9 | 68013 | 265 | 42.1 | 69013 | 365 | 65.8 |
| 14 Sloped channel (1m) | 67014 | 170 | 28.3 | 68014 | 270 | 42.6 | 69014 | 370 | 66.3 |
| 15 Sloped channel (1m) ¹ | 67015 | 175 | 28.8 | 68015 | 275 | 43.1 | 69015 | 375 | 66.9 |
| 16 Sloped channel (1m) | 67016 | 180 | 29.3 | 68016 | 280 | 43.6 | 69016 | 380 | 67.4 |
| 17 Sloped channel (1m) | 67017 | 185 | 29.7 | 68017 | 285 | 44.1 | 69017 | 385 | 68.0 |
| 18 Sloped channel (1m) | 67018 | 190 | 30.2 | 68018 | 290 | 44.6 | 69018 | 390 | 68.5 |
| 19 Sloped channel (1m) | 67019 | 195 | 30.6 | 68019 | 295 | 45.1 | 69019 | 395 | 69.1 |
| 20 Sloped channel (1m) ¹ | 67020 | 200 | 31.1 | 68020 | 300 | 45.6 | 69020 | 400 | 69.7 |
| 020 Neutral channel (1m)¹ | 67045 | 200 | 31.1 | 68045 | 300 | 45.6 | 69044 | 400 | 69.7 |
| 0203 Neutral channel (0.5m)¹ | 67046 | 200 | 15.7 | 68046 | 300 | 29.9 | 69047 | 400 | 38.5 |
| 21 Sloped channel (1m) | 67021 | 205 | 31.5 | 68021 | 305 | 46.1 | 69021 | 405 | 70.2 |
| 22 Sloped channel (1m) | 67022 | 210 | 32.0 | 68022 | 310 | 46.6 | 69022 | 410 | 70.8 |
| 23 Sloped channel (1m) | 67023 | 215 | 32.4 | 68023 | 315 | 47.1 | 69023 | 415 | 71.4 |
| 24 Sloped channel (1m) | 67024 | 220 | 32.8 | 68024 | 320 | 47.6 | 69024 | 420 | 71.9 |
| 25 Sloped channel (1m) ¹ | 67025 | 225 | 33.3 | 68025 | 325 | 48.1 | 69025 | 425 | 72.4 |
| 26 Sloped channel (1m) | 67026 | 230 | 33.7 | 68026 | 330 | 48.6 | 69026 | 430 | 73.0 |
| 27 Sloped channel (1m) | 67027 | 235 | 34.2 | 68027 | 335 | 49.1 | 69027 | 435 | 73.6 |
| 28 Sloped channel (1m) | 67028 | 240 | 34.7 | 68028 | 340 | 49.6 | 69028 | 440 | 74.1 |
| 29 Sloped channel (1m) | 67029 | 245 | 35.1 | 68029 | 345 | 50.1 | 69029 | 445 | 74.7 |
| 30 Sloped channel (1m) ¹ | 67030 | 250 | 35.6 | 68030 | 350 | 50.6 | 69030 | 450 | 75.3 |
| 030 Neutral channel (1m)¹ | 67047 | 250 | 35.6 | 68047 | 350 | 50.6 | 69046 | 450 | 75.3 |
| 0303 Neutral channel (0.5m)¹ | 67048 | 250 | 17.7 | 68048 | 350 | 32.0 | 69049 | 450 | 41.8 |
| 31 Sloped channel (1m) | 67031 | 255 | 36.0 | 68031 | 355 | 51.2 | 69031 | 455 | 75.8 |
| 32 Sloped channel (1m) | 67032 | 260 | 36.5 | 68032 | 360 | 51.7 | 69032 | 460 | 76.4 |
| 33 Sloped channel (1m) | 67033 | 265 | 36.9 | 68033 | 365 | 52.2 | 69033 | 465 | 76.9 |
| 34 Sloped channel (1m) | 67034 | 270 | 37.4 | 68034 | 370 | 52.7 | 69034 | 470 | 77.5 |
| 35 Sloped channel (1m) ¹ | 67035 | 275 | 37.8 | 68035 | 375 | 53.2 | 69035 | 475 | 78.1 |
| 36 Sloped channel (1m) | 67036 | 280 | 38.3 | 68036 | 380 | 53.7 | 69036 | 480 | 78.6 |
| 37 Sloped channel (1m) | 67037 | 285 | 38.7 | 68037 | 385 | 54.2 | 69037 | 485 | 79.2 |
| 38 Sloped channel (1m) | 67038 | 290 | 39.2 | 68038 | 390 | 54.7 | 69038 | 490 | 79.7 |
| 39 Sloped channel (1m) | 67039 | 295 | 39.6 | 68039 | 395 | 55.2 | 69039 | 495 | 80.3 |
| 40 Sloped channel (1m) ¹ | 67040 | 300 | 40.1 | 68040 | 400 | 55.7 | 69040 | 500 | 80.8 |
| 040 Neutral channel (1m)¹ | 67049 | 300 | 40.1 | 68049 | 400 | 55.7 | 69048 | 500 | 80.8 |
| 0403 Neutral channel (0.5m)¹ | 67050 | 300 | 19.8 | 68050 | 400 | 36.0 | 69050 | 500 | 45.5 |
| Type 900 In-line pit (0.5m) ³ | 142547 | 737 ⁴ | 39.3 | 142548 | 843 ⁴ | 32.3 | 142549 | 956 ⁴ | 39.9 |
| Type 900 In-line plastic rubbish basket | 01498 | – | 0.5 | 13999 | – | 0.5 | 98653 | – | 1.6 |
| Optional plastic riser | | | | | | | 141729 | 300 | 4.5 |
| Plastic rubbish basket – long | | | | | | | 98665 | – | 1.8 |
| Universal end cap | 96824 | 317 ⁴ | 0.2 | 96823 | 420 ⁴ | 0.6 | 96827 | 520 ⁴ | 1.1 |
| Debris strainer for 100mm knockout | 93488 | – | 0.1 | 93488 | – | 0.1 | | | |
| Installation device | 97477 | – | 1.3 | 97478 | – | 1.8 | 97479 | – | 2.2 |
| Grate removal tool | 01318 | – | 0.1 | 01318 | – | 0.1 | 01318 | – | 0.1 |
| PowerLok safety clip | 10443 | – | – | 10443 | – | – | 10443 | – | – |

Notes:

1. This channel offers bottom knockout feature; S100K – 100mm round and 150mm oval, S200K – 100mm and 150mm round, S300K – 150mm and 200mm round.
2. Inverts shown are male ends, for female invert depths – subtract 5mm from male invert (except neutral channels where it will be the same as the male invert). To calculate overall channel depth, add 25mm to invert depth.
3. In-line pit assembly (polymer concrete top with ductile iron edge rail and plastic base).
4. Overall depth of in-line pit and end caps.

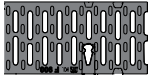
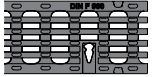


PowerDrain PowerLok grates

S100K grates

Length mm Part No. Wgt kg    

LOAD CLASS G - AS 3996 900kN - approximate wheel load 30,000kg

| | | | | | | | | |
|---|--|-----|--------|-----|---|---|---|---|
|  | Iron Slotted | 500 | 96082 | 5.6 | ✓ | ✗ | ✓ | ✗ |
|  | Iron Intercept ¹ Heelsafe[®] <i>Anti-Slip</i> | 500 | 141299 | 6.8 | ✓ | ✓ | ✓ | ✓ |

S200K grates

Length mm Part No. Wgt kg    

LOAD CLASS G - AS 3996 900kN - approximate wheel load 30,000kg

| | | | | | | | | |
|---|--------------|-----|-------|------|---|---|---|---|
|  | Iron Slotted | 500 | 71976 | 14.5 | ✗ | ✗ | ✓ | ✗ |
|---|--------------|-----|-------|------|---|---|---|---|

LOAD CLASS D - AS 3996 210kN - approximate wheel load 8,000kg

| | | | | | | | | |
|---|--|-----|--------|-----|---|---|---|---|
|  | Iron Intercept ¹ Heelsafe[®] <i>Anti-Slip</i> | 500 | 142685 | 8.5 | ✓ | ✓ | ✓ | ✓ |
|---|--|-----|--------|-----|---|---|---|---|

LOAD CLASS E - AS 3996 400kN - approximate wheel load 13,700kg

| | | | | | | | | |
|--|--|-----|--------|------|---|---|---|---|
|  | Iron Intercept ¹ Heelsafe[®] <i>Anti-Slip</i> | 500 | 141215 | 11.7 | ✓ | ✓ | ✓ | ✓ |
|--|--|-----|--------|------|---|---|---|---|

S300K grates

Length mm Part No. Wgt kg    

LOAD CLASS G - AS 3996 900kN - approximate wheel load 30,000kg

| | | | | | | | | |
|---|--------------|-----|-------|------|---|---|---|---|
|  | Iron Slotted | 500 | 02445 | 24.4 | ✗ | ✗ | ✓ | ✗ |
|---|--------------|-----|-------|------|---|---|---|---|

LOAD CLASS D - AS 3996 210kN - approximate wheel load 8,000kg

| | | | | | | | | |
|---|--|-----|--------|------|---|---|---|---|
|  | Iron Intercept ¹ Heelsafe[®] <i>Anti-Slip</i> | 500 | 142686 | 15.0 | ✓ | ✓ | ✓ | ✓ |
|---|--|-----|--------|------|---|---|---|---|

LOAD CLASS E - AS 3996 400kN - approximate wheel load 13,700kg

| | | | | | | | | |
|---|--|-----|--------|------|---|---|---|---|
|  | Iron Intercept ¹ Heelsafe[®] <i>Anti-Slip</i> | 500 | 141223 | 19.2 | ✓ | ✓ | ✓ | ✓ |
|---|--|-----|--------|------|---|---|---|---|

¹ Meets ASME A112.6.3 Section 7.12 (American high heel standard).

Heelsafe[®] Anti-Slip grates







ACO believes that pedestrian safe grates and slip resistance go hand in hand. The grates with the **Heelsafe[®] Anti-Slip** trademark, comply to the standards AS 3996, AS 4586 and all the specific user requirements below. For more information visit www.heelsafe.co.nz



Iron Intercept **Heelsafe[®] Anti-Slip** grate

Specific user requirements

ACO's grates meet some or all of the legislative requirements described below:

-  Wheelchair compliant to AS 1428.2, Clause 9(c). Slots cannot exceed 13mm (width), 150mm (length). Longitudinal grates are to be placed at right angles to the principal direction of travel.
-  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.

