

Section 3: Surface Water Drainage Solutions:

3.3 4All Channel Drainage System

3.3.1 Definition: Storm Water Channel Drainage

3.3.2 Product introduction:

A Storm Water Drain designed for ease of installation and ensuring a Quality Finish.

4All is an easy to assemble & install linear channel drainage system for the collection & harvesting of rainwater & storm water. It consists of 1m long HD-PE channels with two choices of grates to fit: a) Galvanised Steel Grating, b) Black HD-PE Grating; as well as end caps; bottom outlet pipe connector & junction boxes to act as 90° corners or T-pieces. The system can handle vehicular traffic up to 1.5 tons and has a domestic or light commercial rating of A15. This is an imported product, manufactured in Italy by Mufle and carries EN 1433 certification.

3.3.3 Key Benefits:

- a. Protects garages, driveways, pathways or patios from flooding by effectively collecting excess rainwater and distributing to the storm water system.
- b. HD-PE is water repellent and therefore has a high flow rate with the minimum required fall.
- c. Certified to EN 1433 standard & carries a weight rating of A15 (up to 1.5 tons)
- d. The external ribbed structure improves anchoring within concrete and provides for rigidity & stability.
- e. The System is a simple click together system. No need for additional joining strips.
- f. HD-PE is weather resistant, chemical resistant, algae & bacteria resistant.
- g. Conveniently available as a domestic garage pack to suit a single garage. (3m)
- h. Perfect for experienced DIY installers.
- i. Outlet is adaptable to suit both 110mm Ø & 75mm Ø storm water pipes with the aid of a socket. (Socket purchased separately.)
- j. This lightweight product is easy to transport & install.
- k. Available with two choices of grates: Black HD-PE or Galvanised Steel.

3.3.4 Applications:

- Can be used as a controlled storm water drain point, installed in the following applications: domestic driveways & garages, foot pathways, in front of sliding doors on patios or balconies, atriums. Any outdoor area that would require a linear drain connected to the storm water or rainwater harvesting system

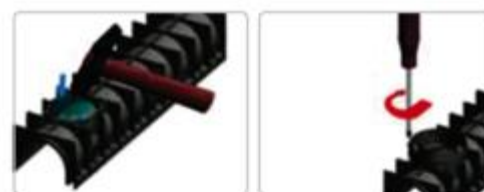
3.3.5 Manufacturer Installation Instructions

3.3.5.1 Lay out of suitable draining line:

- a. Establish the exact lay out that the draining line must follow.
- b. Dig the required trench width & depth as follows: a minimum of 350mm wide by a minimum of 250mm deep. Please account for the size of the storm water pipe specified as it might add to the required depth. (*Rule of thumb as follows: The channel including the outlet & the pipe need to lay on a bed of concrete at least 100mm thick*) The length will depend on how many channels you require.

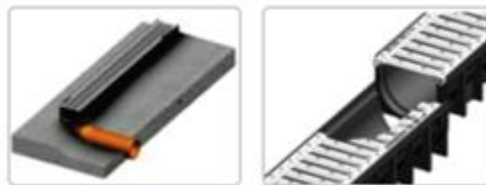
3.3.5.2 Install the Bottom Outlet:

- a. Break through the provided & indicated area of the channels with a hammer or a sharp Stanley knife.
- b. Fit the 2 x halves of the bottom Outlet together & insert on the channel in the provided grooves.
- c. Fix the bottom Outlet in position by lining up the screw holes and screwing firmly into place.



3.3.5.3 Position the channels

- Proceed with the concrete cast for creating the channel bed. (*TIP: To obtain a good concrete, mix 3 parts river sand to 1 part cement & add enough water to result in a fluid concrete. Use a maximum of 15mm Ø stone aggregate to enable the concrete to reach the less accessible ribbed areas of the channel*)
- Wait approximately 1 hour for the concrete to cure slightly before installing the pipework and laying the channels.
- Couple the required length of channels together using the easy click-in male/female method.
- Insert the Stop Ends at both ends.
- Install the discharge point as per section 2 above
- Lay the channels on the concrete bed & link the bottom outlet to the drainage pipes. For a secure fit use a rubberized socket adapter.
- Float the channels with the required fall of 3mm per channel.

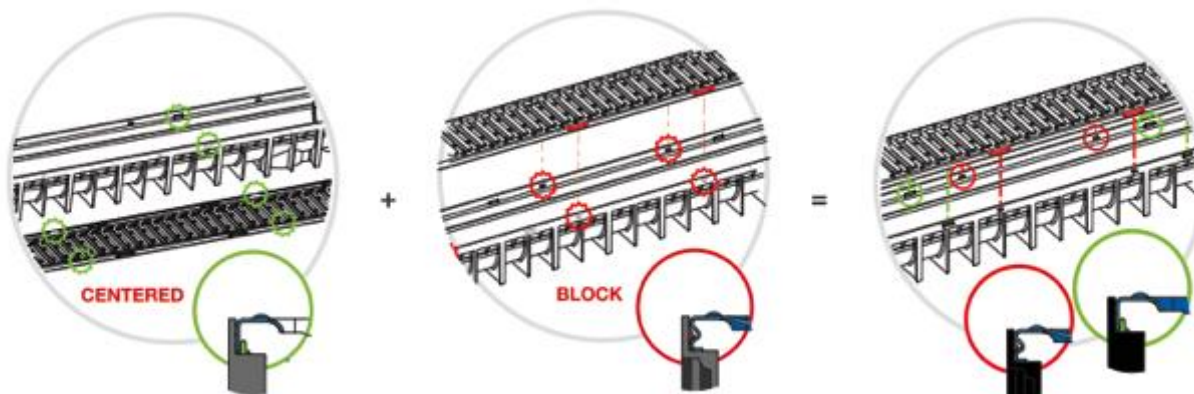


3.3.5.4 Flanking the Channels

- Backfill with concrete ensuring all the hard-to-reach areas are filled.
- Vibrate or float to release any air bubbles trapped within the concrete.
- Be careful to leave enough space without flanking when a final covering of tiles or paving blocks is required.
- Allow the concrete to thoroughly cure for a minimum of 72 hours.

3.3.5.5 Channel Cleaning & Inspection

- Remove the grating carefully by inserting a screwdriver between the grate and the channel and levering until the grate clicks out of position. Carefully lift and remove.
- Remove leaves & debris from the channel with a soft broom.
- Clean the channel thoroughly.
- Replace grates by pushing firmly but carefully into place until they click back into position.



The channels contain protrusions to assist in anchoring the grates to the channels. No external elements such as screws are required.

The channels contain pivots to assist in centering the grates to the channels. The pivots further lock the grating into position to keep them centered and stabilized.

Image detailing how the two fixing systems anchor the grates to the channels.

3.3.6 Maintenance

NOTE: It is important to keep the Channel Drain well maintained and clean. This should be done regularly according to a maintenance plan, or when: -





- The storm / surface water has become noticeable slow while draining away.
- The storm / surface water has become blocked and cannot drain away.

In which case apply the following: -

- 3.3.6.1 Check that debris has not formed a blockage on the surface of the grate. If this is the case, simply remove and discard the debris.
- 3.3.6.2 Carefully remove the grate and inspect the channel & outlet for foreign matter.
- 3.3.6.3 Clean the channel by removing foreign matter and discard.
- 3.3.6.4 Test the system by flushing only fresh water through the channel (as it could be connected to a water harvest system) and once satisfied carefully replace the grate.
- 3.3.6.5 Should the problem persist, call a qualified Plumber to check the pipeline for blockages.

Should additional assistance be required please send a detailed email with photographs to: tech@seaqual.co.za.

3.3.7 4All Drainage System Product Data**3.3.7.1 Table A:**

Product Name:	4All Garage Pack Black HD-PE Grate (3m)	4All Garage Pack Galvanized Steel Grate (3m)	1m 4All Channel + Grate HD-PE Black	1m 4All Channel + Galvanized Steel Grate
Product Code:	033093	033099	033090	033098
Product Image				
Dimensions: L x B x H in mm	1000mm x 330mm x 100mm	1000mm x 330mm x 100mm	1000mm x 110mm x 100mm	1000mm x 110mm x 100mm
Weight in kg:	5.50kg	6.00kg	1.80kg	1.95kg
Channel Material:	HD-PE	HD-PE	HD-PE	HD-PE
Grate Type:	HD-PE	Galvanized Steel	HD-PE	Galvanized Steel
Product Warranty:	12 months	12 months	12 months	12 months
Product Application:	Linear Channel drainage for removal of surface / storm water / Catchpit	Linear Channel drainage for removal of surface / storm water / Catchpit	Linear Channel drainage for removal of surface / storm water / Catchpit	Linear Channel drainage for removal of surface / storm water / Catchpit
Design Data				
Auto Cad	Yes - DFX	Yes – DFX	Yes – DFX	Yes – DFX
Revit	Yes	Yes	Yes	Yes
Packaging Data				
Product / Box	1 x 3m pack	1 x 3m pack	1m supplied loose	1m supplied loose
Outer Wrap Dimensions	1000mm x 330mm x 500mm	1000mm x 330mm x 500mm	1000mm x 1000mm x 200mm	1000mm x 1000mm x 200mm

Product / wrap	5	5	20	20
Outer Wrap Weight in kg	27.50kg	30kg	36kg	40kg
Product Barcode:	8032738670363	8032738670288	8032738670561	8032738670356
Outer Wrap Barcode	18032738670360	18032738670285	18032738670568	18032738670353

3.3.8.2 4All Accessories Product Data

Product:	4All Stop-Ends Kit (2)	4All Bottom Outlet Kit incl Screws	4All DrainBox in Black HD-PE	4All DrainBox with Galv/St Grate
Product Code:	033096	033097	033092	033091
Product Image				
Product Application:	Serves as stop ends on the 4All Channels	Adaptable 75mm / 110mm bottom outlet on the 4All Channel	Is used when a 90 degree corner, T piece or cross is required	Is used when a 90 degree corner, T piece or cross is required
Dimensions: L x B x H in mm	L = 110 H = 70	110mm Ø 75mm Ø H = 30mm	145 x 120 x 100	145 x 120 x 100
Weight in kg:	0.04kg	0.05kg	0.30	0.42
Packaging Information:	Bagged	Bagged	Printed Carton	Printed Carton
Product / Box:	1	1	1	1
Barcode:	8032738670769	8032738670752	8032738670660	8032738670653

3.3.8 Terms & Conditions of Product Warranty

On the conditions appearing below Seaqual warrants that the products it manufactures are free from defect for the periods set out in Warranty Period column for use in the manner described in the Application column.

Seaquals range of products are made from different types of plastics which determines their longevity. Research into the various plastics Seaqual uses indicates that the life expectancy of the various materials ranges from 50 to 100 years and for this reason Seaqual is able to confidently offer the lengthy warranties set out in the schedule. Under this warranty Seaqual undertakes to replace any item that does not last for the period of the warranty provided that the following conditions are met:-

- 3.3.8.1 Any failure of the product has not been caused by abuse of the Product;
- 3.3.8.2 The Product has been correctly installed in terms of the Installation Instructions provided by Seaqual;
- 3.3.8.3 In the case of floor drains / full-bores / sumps no corrosive liquids have been poured into or through the Product;
- 3.3.8.4 The purchase receipt pertaining to the purchase of the Product or details of where purchased are provided;

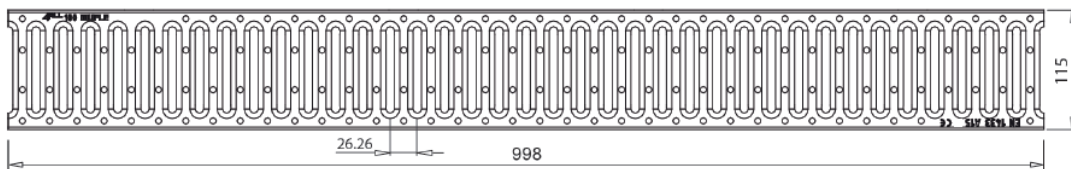
- 3.3.8.5 The claim is submitted on line to the Technical Director, Seaqual (Pty) Ltd at tech@seaqual.co.za or in writing to Seaqual at 5 Fechter Street, Knysna Western Cape;
- 3.3.8.6 Photographs of the defective Product are submitted with the claim, Seaqual reserving the right to call for the defective Product itself should the photographs be insufficient
- 3.3.8.7 evidence of any alleged defect (this within Seaqual's sole discretion);
- 3.3.8.8 The claim is limited to the actual replacement of any defective product at no cost to the purchaser/claimant and does not cover any consequential losses that the purchaser may contend he or she has suffered.

NOTE: The 12 month warranty excludes any component of the product which is not manufactured by Seaqual such as the rubber seals, nuts and bolts. These items carry a 12 month warranty against manufacturer defects. Please note that Seaqual cannot be held responsible for inaccurate installation processes.

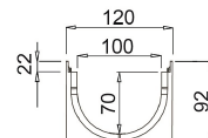
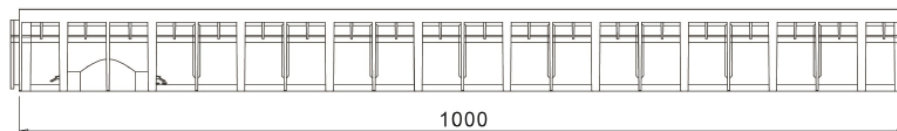
3.3.9 Drawings

CAD & Revit files are available upon request in writing: tech@seaqual.co.za

Grating – Galvanised Steel / Black HDPE:



Channels – Black HDPE:



3.3.10 Certification

Seaqual (Pty) Ltd is ISO9001:2015 Certified.

Mufle 4All Channels are designed in accordance with EN 1433.

These products are available through most Plumbing Merchants within South Africa and can be viewed on our website: <http://www.seaqual.co.za>.

Request for quotations or placing of Orders can be sent to orders@seaqual.co.za