

Specifications		
Length	mm	1000
Internal diameter	mm	500
External diameter	mm	624
Weight	kg	250
Test load	kn	24.6
Storage capacity	litres m ³	196 .196
Earth displacement	m ³	.305

Exfiltration Rates		
Head	Min	Max
m	l/(s x m)	l/(s x m)
0.15	1.2	3.5
0.65	1.9	5.8
1.15	2.4	7.1
1.65	3.0	8.8
2.15	3.3	9.7

Installation

HydroCon pipes are laid with zero gradient. Pipes butt together easily with geotextile jointing strips supplied. See www.hydrocon.com.au for installation procedures.

Maintenance

HydroCon pipes require little maintenance if properly installed and sediment is removed as necessary from gross pollutant pits. Collected sediment on the sealed base of the pipes can be removed by high pressure hosing.



Awards

Winner: 2008 Stormwater Industry Association Award for Excellence in Stormwater Management - Ashgrove Residential Estate, Regents Park

Winner: 2008 Stormwater Industry Association Award for Excellence in a Stormwater Quality Measure - Exfiltration Stormwater Treatment Systems. In partnership with Hornsby Shire Council, Kiama Council, CABP, UTS and HydroCon

Winner: 2007 Stormwater Industry Association Awards for Surface and Groundwater Management - Kinross Business Park sustainable industrial development

Merit Award: 2007 Stormwater Industry Association Awards for Stormwater Excellence Stormwater Harvest and Re-Use - Ashgrove Residential Estate

Highly Commended: 2005 Sustainable Water Challenge (Retrofit Category) - Kiama CBD stormwater harvesting and reuse

Winner: 2004 Stormwater Industry Association National Awards - Water Sensitive Urban Design. Elambra Estate residential subdivision, Gerringong and Kiama CBD stormwater treatment and reuse

Winner: 2004 Sustainable Water Challenge (Greenfield Category) - Elambra Estate residential subdivision, Gerringong

Winner: 2003 Keep Australia Beautiful National Clean Beach Challenge Award - Kiama Catchment Caretakers Project

Winner: 2003 Local Government Association Award - Black Beach and Elambra Estate ESD Initiative

HydroCon

Permeable Concrete Pipes



HydroCon Stormwater Solutions

HydroCon Australasia Pty Ltd | 53 Balfour Street | Chippendale NSW 2008
T: 02 8303 2423 | E: info@hydrocon.com.au | www.hydrocon.com.au

HydroCon pipe technology

HydroCon pipes provide an innovative approach to treatment and management of stormwater.

Extensive research and ongoing performance monitoring have proven that HydroCon pipes:

- Harvest and treat stormwater on site
- Reduce untreated stormwater run-off
- Provide underground water storage
- Replenish groundwater and aquifers
- Control local flooding
- Reduce infrastructure cost in new industrial/residential developments

Other benefits of Hydrocon pipes:

- Low maintenance
- No health & safety concerns
- Suitable for infiltration, harvesting and re-use
- Ideal for sensitive environments
- Cost effective solution with sustainable development principles
- High level of performance

HydroCon pipes improve operation of bioretention systems

“The use of HydroCon pipes has enabled STORM CONSULTING to deliver numerous award winning water sensitive urban designs. STORM has long recognised that, in addition to the water quality benefits that HydroCon pipes provide, their greatest benefit is their ability to deliver pre-treated stormwater to the subsurface of a bioretention or stormwater filter system, preventing clogging, allowing easy maintenance by conventional methods, and significantly reducing life cycle costs.”

Mark Liebman – Senior Consultant, STORM CONSULTING. STORM CONSULTING projects using HydroCon pipes have won Stormwater Industry Association National Awards of Excellence in 2004, 2007 and 2008, and a NSW Premier’s Green Globe Award in 2008.

Pollutant removal

HydroCon pipe systems are able to remove most stormwater pollutants (University of Technology Sydney study 2004-2007 - see below).

The system removes particles and dissolved substances, heavy metals, hydrocarbons and phosphorus. Pollutants are removed by sedimentation, absorption and chemical precipitation (enhanced through ion oxides in pipe).

Pollutant	Efficiency
Lead	>98%
Copper	>98%
Zinc	>95%
Cadmium	>95%
Phosphorus	90-98%
Nitrates	Removed in sand filled trench through biological degradation. Removal rate depends on length and time water remains in trench.
Sediments	Removal mainly in HydroCon Pit (pre-filtering chamber). Any remaining sediment settles on sealed base of pipes and is removed by flushing.

MUSIC

HydroCon pipe systems are now able to be modelled in MUSIC v3 software, allowing assessment of the relative performance of such systems over other stormwater treatment options.

The development of MUSIC parameters for HydroCon pipe systems was undertaken in early 2009 by Dr Jaya Kandasamy on behalf of accessUTS Pty Ltd under commission from HydroCon Australasia.

Modelling involved development of a generic node, which is able to accurately simulate pollutant removal rates of HydroCon pipe systems for TN, TP and TSS. The node is based on an extensive dataset collected over a four year period by Dr Alison Dunphy for her PhD thesis entitled “The Development of a Model for Confined Water Sensitive Urban Design (WSUD) Stormwater Exfiltration/Infiltration Systems for Australian Conditions”. The research, conducted through the Faculty of Engineering at the University of Technology Sydney, was supported by an Australian Research Council (ARC) Linkage Grant.



HydroCon pipe system at Hindmarsh Park, Kiama - stormwater harvesting and reuse during and after installation.

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