



PercolationTests.ie
Planning Assessments & Land Surveys

Tel: 087 6636 757 Email: percolationtests@gmail.com Web: www.percolationtests.ie

BRE Digest 365 Report.

Prepared on behalf of:

Tomer Enterprises

At:

**18 Butterfield Crescent,
Rathfarnham,
Dublin.**



PercolationTests.ie
Planning Assessments & Land Surveys

Tel: 087 6636 757 Email: percolationtests@gmail.com Web: www.percolationtests.ie

Scope of Report.

The findings of this report are the result of an on-site infiltration test. Interpretations and conclusions included in the report are based on knowledge of the ground conditions following detailed investigations, as well as the regional soils, subsoils and bedrock geology, and the experience of the author. David Ryan has prepared this report in line with the best current practice and with all reasonable skill, care and diligence in consideration of the limits imposed by the survey techniques used and resources devoted to it by agreement with the client.

David Ryan accepts no responsibility for any matters arising if any recommendations contained in this document are not carried out, or are partially carried out, without further advice being obtained from David Ryan.

Cillron Limited
 Newtownmoyaghy, Kilcock, Co. Kildare.
 www.percolationtests.ie
 Tel: 087 6636757

BRE Digest 365 Test

Revision: **1.00**

Job No: **Soakpit 1** Page: **C/01**

Section: **18 Butterfield Crescent, Rathfarnham, Dublin.**

Prepared By: **DR** Date: **19/10/2022**

ALTERNATIVE SOAKAWAY SIZES			
	trench soakaways		
	width of trench [mm]:	450	600
required trench length [m]:	2.55	2.02	1.43
	ring soakaways		
	diameter of ring [mm]:	1500	2100
required pit diameter [m]:	1.37	1.37	1.36

* Based on effective depth and number of pits as in Soakaway Data table

SUMMARY OF CALCULATIONS	
critical design rainfall duration 't _{crit} ' =	240 min
required storage volume 'V _{req} ' =	0.92 m ³
provided storage volume 'V _{prov} ' =	1.14 m ³
utilisation factor =	0.81 .OK
required time to discharge 50% 't ₅₀ ' =	3.55 hours
utilisation factor =	0.15 .OK

GENERAL DATA	
site location:	██████████ Ireland
soakaway type:	infilled pit or trench
impermeable area drained to soakaway 'A' [m ²] =	35
60 min rainfall depth of 5 year return period 'R' [mm] =	16
M5-60 to M5-2d rainfall ratio 'r' =	0.28
allowance for climate change:	20%

SOAKAWAY DATA	
soakaway width 'W' [m] =	1.00
soakaway length 'L' [m] =	1.50
total depth from ground level 'D _b ' [m] =	1.20
depth to drain invert level 'D _d ' [m] =	0.40
soakaway effective depth 'D _{eff} ' [m] =	0.80
free volume in infill aggregate [%] =	95

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	30%
available on-site infiltration test results:	<input checked="" type="radio"/> Yes <input type="radio"/> No
use soakage trial pit table below	
internal surface area of trial pit 'a _{p50} ' [m ²] =	2.09
storage volume between 75-25% 'V _p ' [m ³] =	0.26
time for water to fall from 75-25% 't _p ' [min] =	114.00
soil infiltration rate 'f' [m/s] =	1.82E-05

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W _t ' [m] =	0.80
soakage trial pit length 'L _t ' [m] =	1.30
total depth from ground level 'D _{ib} ' [m] =	1.30
depth to pipe invert level 'D _{ip} ' [m] =	0.80
soakage trial pit effective depth 'D _{teff} ' [m] =	0.50
free volume in infill aggregate [%] =	100

NOTE: faces of excavation assumed to be vertical

Infiltration Rate: Average/Poor – No seasonal high water table noted above 1.3m BGL.

REQUIRED STORAGE CAPACITY PER RAINFALL DURATION												outflow from soakaway [m ³]	required storage [m ³]
rainfall duration [min]	rainfall factor Z1	M5-D rainfalls [mm]	M30-D			ignore			ignore				
			Z2	rainfalls [mm]	inflow [m ³]	Z2	rainfalls [mm]	inflow [m ³]	Z2	rainfalls [mm]	inflow [m ³]		
5	0.33	5.21	1.44	9.02	0.32							0.01	0.30
10	0.48	7.57	1.47	13.31	0.47							0.03	0.44
15	0.58	9.14	1.48	16.24	0.57							0.04	0.53
30	0.76	11.96	1.49	21.41	0.75							0.08	0.67
60	1.00	15.70	1.49	28.08	0.98							0.16	0.82
120	1.27	19.88	1.47	35.15	1.23							0.32	0.91
240	1.63	25.53	1.46	44.67	1.56							0.64	0.92
360	1.86	29.20	1.45	50.67	1.77							0.96	0.81
600	2.22	34.79	1.43	59.66	2.09							1.60	0.48
1440	3.05	47.85	1.38	79.36	2.78							3.85	0.00

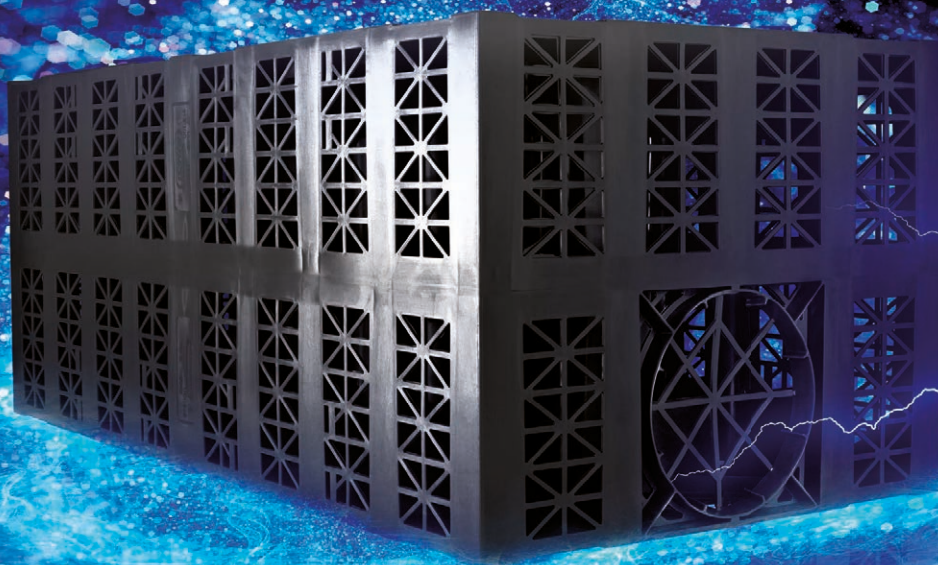
* Z2 is a growth factor from M5 rainfalls

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS																				
water level measurement N°:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time [min] =	0	123																	
	depth to water [m] =	0.90	1.00																	
Soakage Trial 2	time [min] =	0	130																	
	depth to water [m] =	0.90	1.00																	
Soakage Trial 3	time [min] =	0	152																	
	depth to water [m] =	0.90	1.00																	

AquaCell

Re-engineered to rain
supreme for years to come

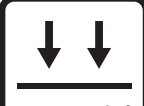



The new AquaCell range engineered
from reformulated, recycled material.

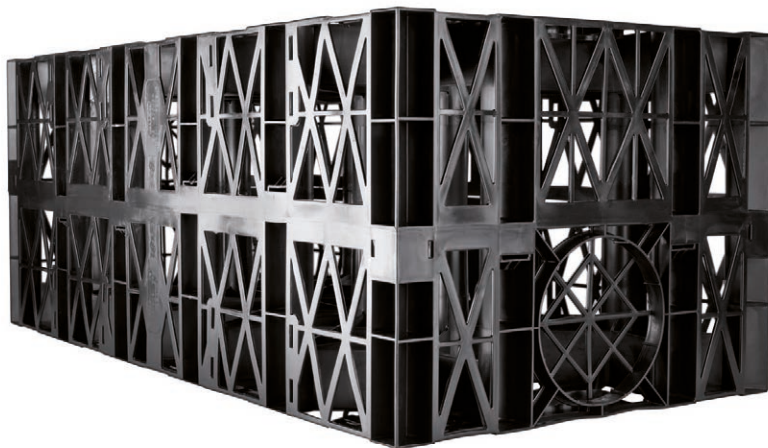


wavin

AquaCell ECO

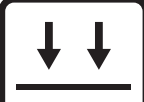



ECO is manufactured from specially reformulated, recycled material and has been designed for shallow, non-trafficked, landscaped applications.

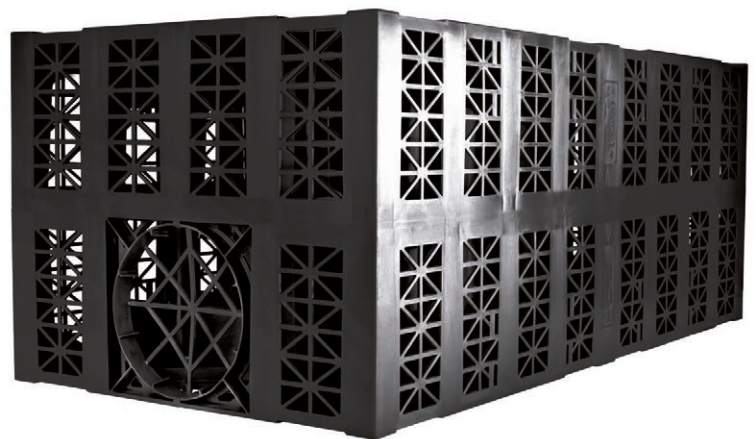
 21 tonnes/m²	 5 tonnes/m²
 LOADING	 NON-LOADED



AquaCell CORE-R

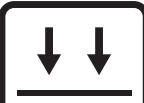
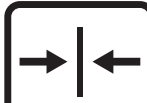



CORE-R has been designed for use in deep applications, subject to both regular and heavy traffic loadings, such as cars and HGV's.

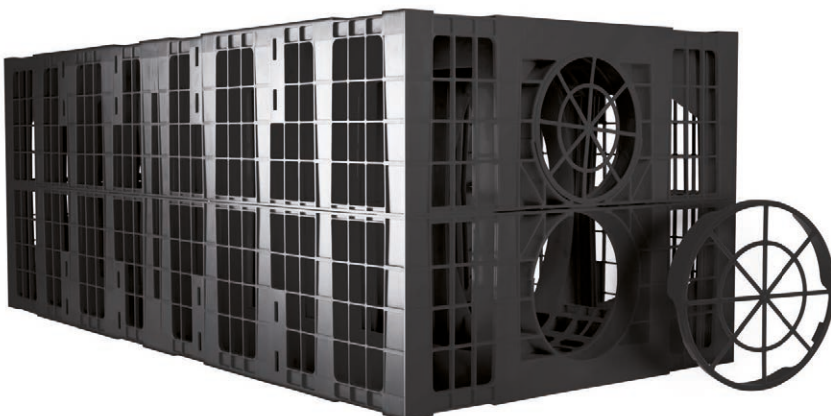
 67 tonnes/m²	 12 tonnes/m²
 LOADING	

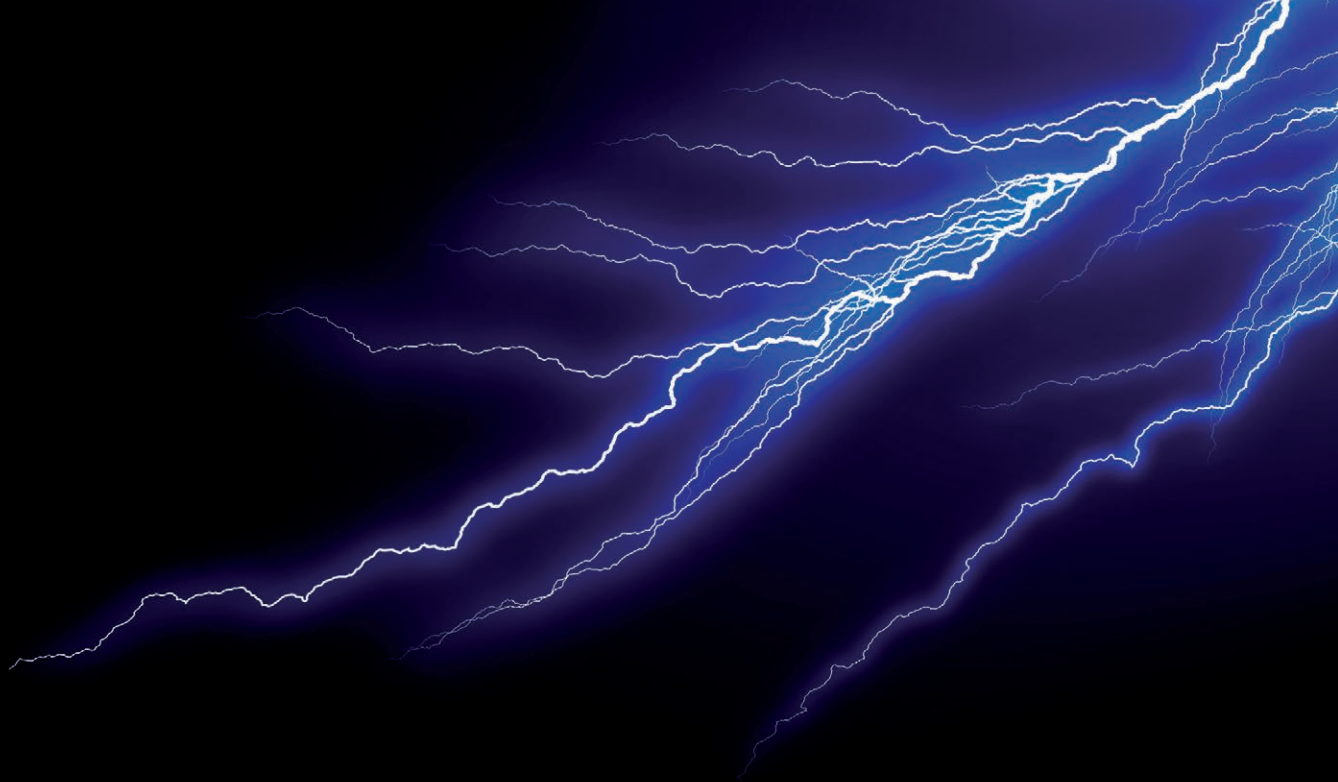


AquaCell PLUS-R

PLUS-R has been designed primarily for use in applications where inspection is required, and is suitable for use in all applications from landscaped areas to heavily trafficked areas.

 70 tonnes/m²	 15 tonnes/m²	
 LOADING	 CCTV INSPECTION	



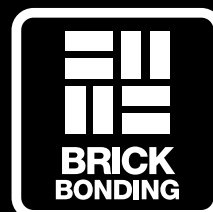
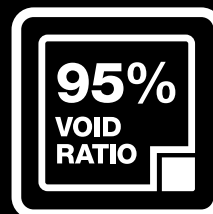
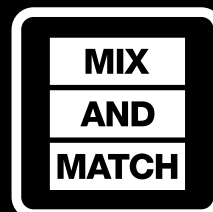


The best in stormwater solutions made better still

AquaCell systems are the tried, tested and fully BBA approved answer to the effective management of excessive rainfall, whether through attenuation or infiltration solutions.

Now refined to offer three crate variants, the entire range is engineered from reformulated, recycled material for outstanding sustainable performance in every application.

As concern grows over the effects of climate change and the challenges of increasing urbanisation, AquaCell continues to rain supreme as the cost-effective, proven and versatile stormwater solution.



Discover more online at:
aquacell.wavin.co.uk

Storming ahead – from roof to river

From infiltration and attenuation units to advanced siphonic rainwater systems, vortex valves and drainage solutions, Wavin leads the way in stormwater management.



Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges. We are bound by a common purpose: To Advance Life Around the World.



Wavin Limited
Registered Office | Edlington Lane | Doncaster | DN12 1BY
Tel. 0844 856 5152 | www.wavin.co.uk | info@wavin.co.uk



PercolationTests.ie

Planning Assessments & Land Surveys

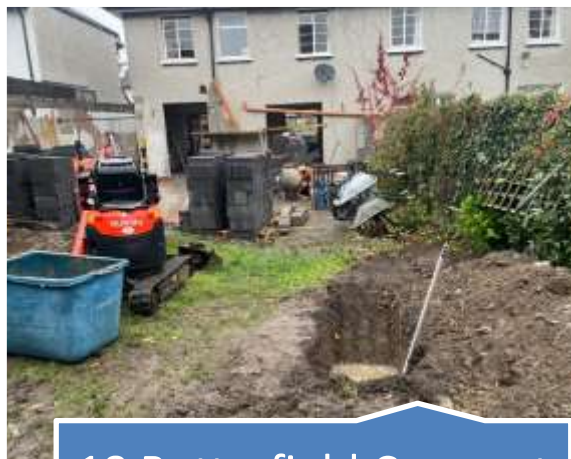
Tel: 087 6636 757 Email: percolationtests@gmail.com Web: www.percolationtests.ie



BRE test hole



BRE test hole during testing



18 Butterfield Crescent
- 19/10/2022



Sound Insurance
Unit 7 Burnell Court
Northern Cross
Malahide Road
Dublin 17

E: emailus@sound.ie
T: +353 1 524 2800

sound.ie

You're safe with *Sound*.

David Ryan
Cillron Limited
Newtownmoyaghy
Kilcock
Co Meath

Date: 22/03/2022
Reference: RYDA01001

INSURANCE CERTIFICATE

To Whom It May Concern

We confirm we act as Insurance Brokers to the above and set out below a summary of cover we have arranged:

Business Description: *Soil Engineer (Percolation Testing)*

PROFESSIONAL INDEMNITY

Policy No.	PID00024862
Insurer:	Accredited Insurance (Europe) Ltd
Period of Insurance:	04/03/2022 to 03/03/2023
Limit of Indemnity:	€1,000,000

Subject always to Insurers policy wording, warranties, conditions, restrictions & exclusions a copy of which is available on request.

We trust this is in order but if you have any queries, please do not hesitate to contact us.

Yours sincerely,

Gary Kinsella
Commercial Broker
P: (01) 524 1415
E: Gary@sound.ie