

Soakaway Design - Modular System

IGSL

Contract
Test No.
Engineer
Date:

Kildare Industrial Centre
SA1
21/01/2009

Contract No.

Summary of ground conditions

from	to	Description	Ground water
0.00	2.50	Brown slightly sandy gravelly CLAY with some cobbles	Water at 1.2 m bgl for 2 weeks

Year Return Cycle to be used :

M50-D = Rainfall in mm from a storm of duration D mins., based on a 50 year cycle.

f= $\frac{\text{Volume of water lost}}{\text{Internal surface area of test pit(including base) to mid-point of test zone * Duration of test}}$

A= Impervious Area

I= Inflow

O= Outflow

S = Storage

Ad= Area of dispersion to 50% storage depth (side exposure only)

D= Duration of storm (mins)

V= Free volume of soakaway

Invert depth of Discharge pipe

m

Length of Modular Unit

m

Width of Modular unit

m

Height of Modular unit

m

Base of soakaway

m

Thickness of permeable Stratum (m)

m

**Between Invert level of Pipe and Base of Soakaway Stratum

Percentage voids in Modular unit

Storm Duration (mins)	M50-D	Inflow(I) (m ³)	Outflow(O) (m ³)	Storage S=(I-O) (m ³)	Optimum Storage Volume (m ³)	Storage Volume of Modular Unit 95% volume (m ³)
5	9.7	0.97	0.011	0.959	5.13	5.3200
10	14.2	1.42	0.023	1.397		5.3200
15	18.3	1.83	0.034	1.796		5.3200
30	24.0	2.4	0.068	2.332		5.3200
60	30.0	3	0.137	2.863		5.3200
120	36.0	3.6	0.274	3.326		5.3200
240	45.0	4.5	0.547	3.953		5.3200
360	52.0	5.2	0.821	4.379		5.3200
600	65.0	6.5	1.368	5.132		5.3200
1440	78.0	7.8	3.283	4.517		5.3200

From field tests

Impervious Area(A)m² =

Maximum storage requirement = 5.13 m³

Dimensions of Soakaway
Length = 28.00 m
Width = 0.50 m
Height = 0.40 m

Note: The design can be altered to comply with the dimensions of the chosen modular units