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Product Name **Infiltrator™**

Reference No: DS DRNG 0713-11/2016

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Description Pre-manufactured open ground system that acts as a direct replacement to stone for storm water and waste water soak aways

SANS 10400-190 (prev SABS 0400-1990) – Table 2 Infiltrator™ Quick 4™ High Capacity Chamber Sizing

Percolation Rate	Rate of application of effluent to subsoil infiltration areas	**Quick4 Infiltrator** Chambers required for 2 Bedroom House (700 ℓ per day)			**Quick4 Infiltrator** Chambers required for 3 Bedroom House (900 ℓ per day)			**Quick4 Infiltrator** Chambers required for 4 Bedroom House (1100 ℓ per day)			**Quick4 Infiltrator** Chambers required for 5 Bedroom House (1400 ℓ per day)		
		Square metres of french drain wall area	* Number of High Capacity **Infiltrator** Chambers	Trench Length – metres (700 mm deep x 900 mm wide by section)	Square metres of french drain wall area	* Number of High Capacity **Infiltrator** Chambers required	Trench Length – metres (700 mm deep x 900 mm wide by section)	Square metres of french drain wall area	* Number of High Capacity **Infiltrator** Chambers	Trench Length – metres (700 mm deep x 900 mm wide by section)	Square metres of french drain wall area	* Number of High Capacity **Infiltrator** Chambers	Trench Length – metres (700 mm deep x 900 mm wide by section)
0 – 3	108	6.48	4	6	8.33	5	7	10.19	7	9	12.96	8	11
3	108	6.48	4	6	8.33	5	7	10.19	7	9	12.96	8	11
5	100	7.00	4	6	9.00	6	8	11.00	7	10	14.00	9	12
6	99	7.07	5	6	9.09	6	8	11.11	7	10	14.14	9	12
10	80	8.75	6	8	11.25	7	10	13.75	9	12	17.50	11	15
11	79	8.86	6	8	11.39	7	10	13.92	9	12	17.72	11	15
15	65	10.77	7	9	13.85	9	12	16.92	11	15	21.54	14	19
16	64	10.94	7	9	14.06	9	12	17.19	11	15	21.88	14	19
20	53	13.21	8	11	16.98	11	15	20.75	13	18	26.42	17	23
21	52	13.46	9	12	17.31	11	15	21.15	14	18	26.92	17	23
26	40	17.50	11	15	22.5	14	19	27.50	18	24	35.00	22	30
27	39	17.95	12	16	23.08	15	20	28.21	18	24	35.90	23	31
30	33	21.21	14	18	27.27	17	24	33.33	21	29	42.42	27	37
30 +		**Not Permitted**											

* These are the minimum number of 1.3 m long **Quick4** High Capacity **Infiltrator** Chambers required based on the explanatory notes below.

Explanatory Notes:

Division of Building Technology, SANS 10252 – 2:1993 13.2.3.2.2 Trenches
“Use the bottom and sides.” (SANS 1252 – 2:1993 13.2.3.2.2 Trenches and Division of Building Technology, CSIR BOU/R9603 15, pg 12).
"In relatively permeable and homogeneous soils and in humid regions where percolating rainwater reduces the matrix potential along the sidewall, the bottom surface is usually the main infiltrative surface." (Division of Building Technology, CSIR BOU/R9603, pg 14)
"The side wall area is recommended as the main absorption surface on sloping sites." (ie, Kwa-Zulu Natal). (Division of Building Technology, CSIR BOU/R9603 1, pg 14) Note” “Builders rubble is not acceptable” – SANS 10252 – 2:1993 13.2.3.2.2 Trenches (e)

Onsite Wastewater Treatment Manual – Office of Water, Office of Research and Development, USA Environmental Protection Agency, February 2002
The USEPA only permits the use of the bottom. While the infiltrative area remains aerobic the system will not clog. However, use of the sidewalls will require the bottom area to pond. Continuous ponding of the bottom will result in the infiltrative zone becoming anaerobic, leading to inefficient aerobic digestion, clogging of the bottom and eventual total clogging of the sides and system. To ensure that the bottom area remains aerobic it is critical that the depth does not exceed 700 mm and a width of maximum one metre. (pgs 4–10)

Improvement of Performance: Aggregate-Free versus Aggregate Systems
The area is increased by a 40 % improvement factor for voided chamber type systems. When aggregate is placed on the infiltrative surface of the biological treatment zone, gross permeability is reduced. This is due to blocking of pore entries, aggregate embedment in the soil matrix, aggregate fines that are deposited into pore entries, and focusing of wastewater constituents around the aggregate particles. (Amerson et al, 1991; Siegrist and Jensen, 1990; Siegrist, 1987; Siegrist and Boyle, 1987; Siegrist et al, 1991)