

Bernoulli

leakage rate through geomembrane liner

average acceleration of gravity = 32.174 feet/s² Himmelblau.009 9.809 m/s²

note:

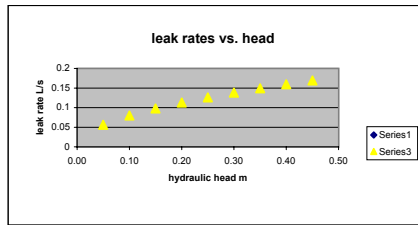
rate of leakage through a defect in a geomembrane underlain by a very permeable medium
Bernoulli's equation

hydraulic head on liner 0.45 m
total area 4000 m²

number of defects 1
defect diameter 11 mm defect area 0.95 cm² 9.50E-05 m²

Q/A = 0.6 * defect area * (2 * g * h)^{0.5} 0.0001694 m³/s

hydraulic head	leak rate m ³ /s	L/s
0.05	5.64715E-05	0.056471497
0.10	7.98628E-05	0.079862757
0.15	9.78115E-05	0.097811502
0.20	0.000112943	0.112942994
0.25	0.000126274	0.126274106
0.30	0.000138326	0.138326353
0.35	0.00014941	0.149409537
0.40	0.000159726	0.159725514
0.45	0.000169414	0.169414491



	1 day	1 month
	m ³	m ³
	4.88	146.37
	6.90	207.00
	8.45	253.53
	9.76	292.75
	10.91	327.30
	11.95	358.54
	12.91	387.27
	13.80	414.01
	14.64	439.12