

ST GREGORY'S CHURCH

Test Holes (percolation)

1 \square 47 minutes

2 \square 50 min.

3 \square 44 min.

East Kirknewton Farm

Area (A) = $V \times p \times 0.20$ (sewage plant)

A = 18.8 sec x 6 persons x 0.20

$$A = \frac{22.56}{0.6}$$

Length of trench 37.66m
@ 600mm wide



PROJECT (1) Conversion of Carriage/Stable to Holiday Unit. (2) Demolish Open Fronted Store & Replace with Timber Frame Structure to Accommodate Vehicles & Formation of Holiday Unit to Roof Void	
Kirknewton House, Kirknewton, Wooler, NE71 6XF	
CLIENT	Mr. M. Renwick
TITLE <i>Site plan as proposed</i>	
SCALE	1:500
DATE	Nov. 2017
DRN BY	J. Dobson
PROJECT NO.	17 / 1074
DWG NO.	4
REVISIONS	
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How to do a Percolation (Soil Porosity) Test

Test Holes 3 no
KIRKNEWTON HOUSE

A percolation test is carried out to determine how suitable the ground conditions are for installation of a soakaway (drainage field), for properties or sites that are unable to connect to a watercourse. Depending where the site is based, the soil conditions may allow water to freely drain, or alternatively the soil could be heavy and clay-based where water struggles to permeate.

A percolation test is also known as a soil porosity test. You can carry the test out yourself, but if you are uncertain it is always worth asking your installer to conduct this on your behalf:

- Excavate a hole 300mm square by 300mm deep below the proposed invert level of the land drain (effluent distribution pipe). This could be up to a metre below the ground, so you may need to dig a hole large enough to stand in before digging your percolation test hole.
- Fill the hole with water to a depth of 300mm and allow it to drain away overnight.
- The next day, refill the hole to a depth of 300mm and observe the time taken to drain from 75% full to 25% full level (i.e a depth of 150mm). Divide this time by 150mm - the answer gives the average time in seconds (Vp) required for the water to drop 1mm.
- Repeat this exercise at least two more times with at least two more trial holes. Calculate the average time taken for each hole. Make sure you don't carry these tests out in abnormal weather conditions such as severe frost, heavy rain or drought.

Your ground is only suitable a soakaway (drainage field) if the percolation test results show average values of Vp between 15 and 100. The minimum value ensures that untreated effluent can't percolate too rapidly into the ground water. Where the Vp is outside this range, effective percolation of the effluent is unlikely to happen in a soakaway.

The percolation test calculations for soakaway installation are as follows:

Area (A) = V x P x 0.20 for sewage treatment systems

Area (A) = V x P x 0.25 for septic tanks

V = the time in seconds for the water in the test hole to drop by 1mm

P = the maximum number of persons that the treatment system/tank is designed to serve

The calculation gives the area in square metres required for the soakaway trenches. Further calculations will be required to establish the length of pipes needed depending on the width of the trench (for example, for a 600mm wide trench, the area would be divided by 0.6)