

A-8.2.1.2.(4) Test Procedure. Where a field percolation test is required, it is performed in the following manner:

- (a) Make an excavation in the soil layer which is to be assessed for a percolation Time. It is of the following dimensions:
 - (i) between 100 and 300 mm in diameter
 - (ii) be at least 200 mm in depth below the upper level of the soil layer being assessed.
- (b) All loose material and smeared clay shall be removed from the sides and bottom of the excavation.
- (c) Cover the bottom of the excavation with 50 mm of sand or fine gravel.
- (d) Fill the hole with water to a depth of 300 mm (or to the surface) and determine the time it takes for the water to seep away; repeat, and if the second filling seeps away in 10 minutes or less proceed as follows:
 - (i) establish a fixed reference point, add water to a depth of 150 mm above the sand or fine gravel, and measure the water drop every 10 minutes for one hour. If for one hour the first 150 mm seeps away in 10 minutes or less, use a shorter time interval between readings.
 - (ii) refill to the 150 mm level when necessary and start another series of readings. Continue readings until the last two series of readings show a similar drop pattern (approximately equal drop in the same number of readings) or, alternatively, until the difference in the maximum and minimum drops in 3 consecutive readings is less than 5mm. In either case use the average drop of the last 3 readings in computing "T"
- (e) If the initial fillings to 300 mm take more than 10 minutes to seep away, follow with this procedure:
 - (i) maintain at least 300 mm of water in the hole for at least 4 hours, or until the soil being tested has become swollen and saturated with water. At least 12 hours should be allowed for swelling in clay soils, although dry clay soils may require longer periods to obtain a stabilized percolation rate.
 - (ii) After swelling remove any loose material from the top of the sand or fine gravel.
 - (iii) Using a fixed reference point, adjust the water level to 150 mm above the sand or gravel and measure the water drop every 30 minutes for four hours or until a stable rate of drop is reached. If the first 150 mm seeps away in less than 30 minutes, use a 10 minute interval and run the test for one hour or until the drop rate is stabilized. A drop of 5 mm or less in a 30 minute interval is indicative of a soil of "T" close to or greater than 50 min/cm. If it is to be assessed increase the reading interval to 60 minutes.
 - (iv) Refill with water to the 150 mm level when necessary. Take readings until a stable rate of drop is reached. This may be when the drop in two successive readings does not vary by more than 1.5 mm or when the difference between the maximum and minimum readings of the last four readings does not exceed 5 mm. Once a stable rate is reached use the average drop of the last 3 readings in computing the percolation time.
- (f)

$$\text{Percolation time} = \frac{\text{Time Interval (minutes)}}{\text{Average drop of last 3 readings (cm)}}$$