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AMS 12 AND 24 INCH I.D. INFILTRATION RINGS

OPERATING INSTRUCTIONS

APPLICATION

1. You will need a stop watch; ruler and water supply before testing can begin. A 2x4 and a rubber mallet may be used to tap the rings into the turf to the required depth. Moisture Sensor and a Penetrometer readings should be taken if you are comparing infiltration rates over a period of time.
2. Before checking infiltration rate, check the soil moisture at the one, two, three and four inch levels and record on the monitoring chart. Also a Penetrometer reading should be taken and recorded to determine the percentage of compaction at each test location. For further information on the AMS Static Cone Penetrometer, please visit our website at www.ams-samplers.com or contact an AMS sales representative.
3. Place the double ring cutting blades on the area to be tested. (Silicone spray may be applied to the cutter edges to allow easier and cleaner removal of tool.)
4. Push down on handle while slightly turning instrument back and forth until the rings are approximately two inches into the soil. (Do not move the instrument side to side or twist too much because the soil may become disturbed. Also on turf areas excessive twisting can cause the grass roots to shear.)
5. If harder soils are being tested, you can use a 2x4 board and rubber mallet to insert the rings into the soil. Be sure to use care as to not damage or bend the rings with excessive force.
6. Once inserted to a depth of two inches deep, fill both the outer and inner ring with clean water until they slightly overflow. (This is accomplished easiest by filling the inner ring first and allowing it to spill over and fill the outer ring.)
7. Insert the ruler into the center ring until the top of the ruler is at the top of the water column. (The ruler may have to be cut down shorter and then inserted into the soil until the top of the ruler is just below the water level.)
8. When the water level has reached the top of the ruler in the inner ring, start the timer immediately.
9. After fifteen minutes, note the amount of water in the center ring on the ruler. Record this number on your monitoring record.
10. Multiply the inches that have infiltrated into the soil by 4 to give you the infiltration rate in one hour. Also record this information on the monitoring chart.
11. To remove the instrument from the soil, use the hand grips to lift the instrument straight out of the soil. The handles may also require a slight turning while lifting the tool out of the ground. Extract the tool slowly so that you do not disturb the soil surface.
12. It is best to get several readings on an area to get the average infiltration rate.
13. If the infiltration rate is slow, a one hour test may be desired. If the Infiltration rate is fast (as with new sand construction), a five minute test may be sufficient.
14. After using your AMS Infiltration rings, wash the rings, dry them and spray with silicone spray. (This will help the infiltration rings to remove a clean plug.)

PARTICULAR SPECIFICATIONS - REASON FOR THE DOUBLE RING

The AMS Infiltration Rings are equipped with a double ring. During use, both rings are filled up with water but only the inner ring is measured. The reason for this is that you may notice that during operation, one ring may infiltrate much faster than the other ring one because there will be lateral movement of water around the cutter blade. This action will also create a seal for the inner ring and give a much more accurate indication of the actual rate of infiltration.

CORRELATING YOUR READINGS

If the results from your AMS Infiltration Rings show that the soil readings are one inch of water absorbed per hour, this should be recorded. This reading should not be used as a conclusive result for all areas because each area tested most likely will have different variables like vegetative cover, soil organic matter content, soil physical properties, compaction, soil texture and other factors. These variables all affect infiltration rate. Each infiltration reading should be duly recorded, so that comparisons can be made periodically. You will probably find wide differences in infiltration rates from area to area, especially when testing newly constructed areas or areas where the soil has been disturbed compared to areas where the soil has remained unchanged. The best way to insure infiltration results will be consistent, is to record the infiltration rate on each area so that you can compare any changes. Use this standard for each particular area only.



Use a stopwatch to measure the duration of dissipation to determine the infiltration rates and the saturation of soils.

Infiltration Rings
AMS infiltration rings are a simple and relatively inexpensive method for monitoring infiltration rates. They can also be used to study liquid waste disposal, leaching and drainage efficiencies. The rings are centered by the cross handle – which is welded in place at the top of the unit. The rings are inserted into the turf by pushing and twisting on this cross handle. An optional dead blow hammer may also be used to pound the rings into the turf. Unlike other infiltration rings on the market, the AMS infiltration rings are constructed of rolled 16 gauge mild steel instead of galvanized steel. They are also plated with corrosion resistant gold zinc plating. This substantially increases the durability of each unit.

Infiltration Rings				
400.97	6" ID	12" OD	4.0 lb.	
400.98	12" ID	24" OD	7.0 lb.	

Accessories			
11677	37 oz. Dead Blow Hammer	2.4 lb.	