



DeepDrip™ Tree Watering Stakes Bidding Specifications

Application

Underhill DeepDrip Watering Stakes is for residential, commercial, nursery and/or AG applications.

The watering stakes are intended for use with a hose or drip emitter dispensing water to a depth determined by the length of the watering stake that can be ordered in one of three different lengths. The amount of water applied is dependent upon the discharge rate of the drip emitter and/or hose and the length of time water is applied.

The benefits of this watering system encourage deeper roots to provide plant material stability in high winds, as well as fast and healthy growth.

Subsurface application of water also minimizes surface erosion, run-off and evaporation particularly in high heat environments or friable soil conditions.

The DeepDrip Water Stakes are to be installed slightly above grade for ease of maintenance to verify function. Its versatile design is intended to be continually re-positioned to the edge of the plant material canopy or dripline as it matures.

The DeepDrip Watering Stake has a series of different sized thru-holes along the length of the stake allowing water, air and nutrients to reach feeder roots faster than surface-type irrigation methods. The interior of the watering stake is lined with a fine filter fabric to diminish silting of the interior of the stake and root intrusion in a variety of soil textural classifications.

Material Specifications

Stake Material

DeepDrip stakes are made from injected molded ABS (Acrylonitrile-Butadiene Styrene) HI121H virgin material with less than 10% regrind. This material has specific gravity properties conforming to ASTM D792 with molding shrinkage conforming to ASTM D955.

The ABS material conforms to flammability of UL94 standards w/ heat deflection temperature confirming to ASTM D256 standards.

The stakes have mechanical tensile strength conforming to ASTM D638 with IZOD impact strength conforming to ASTM D256. Finished stakes are to confirm to Rockwell hardness ASTM D785.

Filter Fabric

The filter fabric located inside the DeepDrip stakes is Dalen product #SB3-X, polyester fabric spun bond material or product conforming this product's properties. The height and length of fabric is to be of sufficient dimensions to cover the inside circumference of each stake model.

Adhesive

The filter fabric is to be adhered to the interior walls of each DeepDrip stake using WELD-ON 771, fast-setting, high-strength ABS solvent cement. This adhesive conforms to ASTM D 2235 and is a listed NSF International material meeting the same standard. It has NSF/ANSI standard 14, approval for use on drain, waste, vent and sewer applications. The adhesive is applied within the recommended temperature range of the adhesive manufacturer.

Model Numbers

The DeepDrip Water Stakes can be specified in the following model numbers designating a specific length.

Model No.	Description
A-DD-14	14" long DeepDrip Watering Stake
A-DD-24	24" long DeepDrip Watering Stake
A-DD-36	36" long DeepDrip Watering Stake

Installation

Install the DeepDrip stakes per the installation details if specified or for design/build applications locate the stakes just inside of the tree or shrub dripline. Depending on existing soil conditions, the DeepDrip stakes can be pounded into the ground with the cap in place using a 3-5 lbs. sledgehammer. Soil conditions should well saturated to a depth slightly less than the length of the DeepDrip stake to be installed.

For rocky or heavy clay soils, consider using a 3/4" diameter auger for each DeepDrip stake to be installed. Drill a hole to a depth leaving approximately 4-6" of the DeepDrip stake above surrounding grade for maintenance personnel to locate.

Install the indicated or approximately sized drip emitter and 1/8" tubing to emitter. Place the emitter tubing in the molded "notch" in the top of the DeepDrip stake and secure by aligning a corresponding "notch" in the cap.

Set irrigation runtimes based on the number of emitters, discharge rate and soil absorption rates as needed.

As the tree or shrubs grows, remove the stake by inserting a round screwdriver in the top thru-hole of the DeepDrip stake. Then twist clockwise and counter-clockwise while pulling in an upward direction. Pound or re-drill a new hole just inside the tree or shrub's dripline (also known as the canopy) so that feeder roots can uptake supplemental watering more efficiently. Repeat this process as the tree or shrub grows to maturity.

Underhill International Corporation, Lake Forest, CA, shall distribute DeepDrip tree watering stake models.