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Below Ground Septic Tank Product Description, Function, and Service

Ace septic tank products are constructed out of high density, U.V. stabilized, polyethylene plastic and are designed to treat waste water systems that collect, treat and dispose of waste-water generated by homes or businesses when properly installed in accordance with applicable county, state, or Federal codes. This product may not be used for storage of chemicals intended for human consumption.

Function Of Septic Tank Products

In septic tank systems the wastewater is treated on site rather than collected and transported to a centralized community treatment plant.

A septic system consists of two fundamental components - a septic tank or tanks and a drain field, also known as a leach field, disposal field, or a soil absorption system. The entire system is connected by a series of pipes and a sewer pipe that connects the dwelling to the system.

The main function of the septic tank is to collect household wastewater, which includes water from the toilet, referred to as black water, and water from the bathtub, showers, sinks, and laundry, which is collectively referred to as gray water. The septic tank treats the wastewater naturally by holding it in the tank long enough for the solids and liquids to separate.

Treatment begins when the household wastewater flows from the home to the septic tank through the sewer pipe. A baffle or tee at the inlet slows the flow of wastewater going into the tank and directs it downward to the middle of the tank or compartment. The wastewater is retained for a day or more in the tank to allow the solids in the wastewater to separate from the liquids. Inside the tank or compartments, solids lighter than water - such as greases and oils float to the top forming a layer of scum. Solids heavier than water settle at the bottom forming a layer of sludge. This leaves a middle layer of partially clarified waste-water.

An outlet baffle in the tank is positioned to allow only the partially treated liquid waste in the middle layer to flow out of the tank for further treatment.

The layers of scum and sludge remain in the tank where bacteria found naturally in the wastewater work to break the solids down. This process takes place anaerobically, or without the presence of oxygen, and gases produced from the decaying solids are vented back through the sewer line and released, usually through a plumbing vent located in the roof of the house. The sludge and scum that cannot be broken down is retained in the tank until the tank is eventually pumped out.

In a conventional septic system, the wastewater flows by gravity from the tank to the drain field or to a distribution device that helps to uniformly distribute the wastewater flow in the drain field.

The drain field provides the final step in the wastewater treatment process. A standard drain field consists of a series of trenches or a bed lined with gravel or coarse sand and buried one to three feet below the ground surface. Perforated pipes or drain tile run through the trenches allowing the wastewater to trickle out and through the gravel and soil acting as biological filters. As the waste water percolates through the soil to the ground water below the filtration process and organisms in the soil work together to remove toxins, bacteria, viruses, and other pollutants in the waste water.

Certain toxins such as paints, thinners, pesticides, waste oils and other hazardous chemicals cannot be treated by the septic system. These chemicals may also kill the bacteria found in the tank, temporarily disrupting the natural treatment process that occurs in the septic tank.

Servicing Your Septic Tank

Annual inspections of your septic system are recommended to ensure that it is working properly and to determine when the septic tank should be pumped. By inspecting and pumping your system regularly, you can prevent the high cost of septic system failure. If the sludge depth is equal to one third or more of the liquid depth, the tank should be pumped.

*A thorough septic system inspection will include the following:
Locating the system, uncovering the manhole and inspection ports, flushing the toilets, measuring the scum and sludge layers, and checking the drain field. Details can be obtained by contacting the factory.*

Properly sited, designed, constructed and maintained septic systems can provide efficient and economical wastewater treatment. The homeowner is responsible for the systems operation and maintenance.