

Orenco Systems[®], Inc.

Changing the Way the World Does Wastewater[®]

Environmental Profile

AdvanTex[®] Wastewater Treatment Systems

The LEED Platinum Auduban Center at Debs Park in Los Angeles uses several compact AdvanTex[®] AX20 Wastewater Treatment Systems (inside circle drive) to produce re-usable effluent.



Photo by Gary Leonard

Environmental Profile

AdvanTex® Wastewater Treatment Systems - Manufactured by Orenco Systems®, Inc.

Background

Many designers, builders, and homeowners want to choose products for residential and commercial construction that reduce their projects' impact on the environment. Wastewater treatment products are no exception. The need for environmentally sound wastewater treatment products is especially great on environmentally sensitive building sites, small sites, isolated sites, sites with high groundwater, and sites with inadequate infrastructure. Orenco's AdvanTex® Treatment Systems are an environmentally sustainable wastewater treatment technology for both residential and commercial applications.

Product

Orenco's AdvanTex Treatment System is a compact, pre-packaged product for onsite treatment of wastewater to very high ("advanced") treatment levels.

Onsite Treatment & Dispersal

Excellent treatment: AdvanTex Treatment Systems consistently achieve effluent quality equal to or better than that provided by municipal treatment plants. (AdvanTex effluent averages 5 mg/L or less BOD and TSS when loaded at the same hydraulic loading rate used during NSF Standard 40 testing.) The effluent is ideal for further treatment for nonpotable re-use.

Water conservation: Onsite treatment and dispersal allows for subsurface irrigation and reuse applications. It also recharges the local aquifer, replenishing water resources.

Energy Efficiency & Sustainability

Energy efficiency: Pumps that recirculate effluent to AdvanTex AX20 Residential Treatment Systems rarely exceed 1/2 hp and only run about 30 minutes per day. Pumps for AdvanTex AX100 Commercial Treatment Systems rarely exceed 1 hp. Consequently, power usage for treatment is very low, especially compared with power usage for blowers in suspended-growth treatment systems.

Long pump life: The pumps used in AdvanTex Treatment Systems have an expected life of 20-30 years, far longer than other pumps, especially grinder pumps. Orenco's pumps can be easily disassembled and have a repairable liquid end, making total pump replacement unnecessary in most cases.



Each Commercial-sized AdvanTex® AX100 Treatment System can treat 5,000 gpd of domestic strength wastewater to "advanced" standards, using only 3 kWh of electricity per 1,000 gallons.

Health and Safety

Groundwater safety: AdvanTex Treatment System packages incorporate strong, durable, watertight equipment that prevents wastewater from leaking and surfacing, which can pollute groundwater. AdvanTex Treatment Systems are especially safe for areas with high water tables.

Nitrogen reduction: Multiple tests have shown that AdvanTex wastewater treatment reduces nitrogen by 60-70% under real-world conditions.

Installation Impacts on the Environment

Minimal site impact: The residential AdvanTex AX20 system can usually be installed with a backhoe, eliminating the need for cranes or other heavy equipment that can disturb the building site.

Modular construction: For the commercial designer and builder, the modular nature of AdvanTex AX100 treatment pods allows large projects to add treatment capacity as needed and avoid oversized, unneeded infrastructure. This approach to wastewater treatment saves economic resources and limits the environmental impact of installation.

LEED Profile — AdvanTex® Wastewater Treatment Systems

Background

The Leadership in Energy and Environmental Design (LEED) Green Building Certification (GBC) for new building and major renovation is an important accreditation for today's environmentally aware engineers, designers and builders. With increasing interest in environmental sustainability and efficiency, more builders and renovators are seeking LEED Certification for their projects. Orenco's AdvanTex® Treatment Systems can help you gain LEED GBC.

Energy & Atmosphere

EA Credit 1: Optimized Energy Performance: Pumps that circulate effluent to AdvanTex Treatment Systems rarely exceed 1hp and run for just minutes per day, using far less energy than aerobic blowers.

EA Credit 2: On-site Renewable Energy: Off-grid solar panels have been used to power Orenco's low-horsepower (1/2 hp) recirculation pumps, like the ones used at the LEED-Platinum-certified Audubon Education Center at Debs Park, in Los Angeles.

Water Efficiency

WE Credit 1: Water Efficient Landscaping: Subsurface irrigation using treated effluent from an AdvanTex Treatment System can reduce the use of potable water for irrigation.

WE Credit 2: Innovative Wastewater Technologies: An AdvanTex Treatment System with onsite soil dispersal helps recharge the local aquifer. After tertiary treatment, water from an AdvanTex Treatment System can be reused, saving potable water for other beneficial uses.

Sustainable Sites

SS Prerequisite 1: Construction Activity Pollution Prevention: AdvanTex Treatment System pods are smaller than many wastewater filtration systems, so they require smaller equipment to transport and install, which uses less energy. The installation of AdvanTex Treatment System pods also requires minimal digging, so soil disturbance, soil erosion, and dust are reduced.

SS Credit 5.2: Maximize Open Space: When combined with a neighborhood collection system, AdvanTex Treatment Systems enable developers to cluster homes more closely together than is possible with typical septic systems. This creates a development footprint that allows for a high ratio of open space to development, which promotes biodiversity.

Innovation & Design

ID Credit 1: Innovation in Design: AdvanTex Treatment Systems can be a key feature in designs exceeding performance standards set by the LEED for New Construction Green Building Rating System, and also in areas of innovative performance not specifically addressed by LEED.

Company

Orenco Systems®, Inc. has been designing, manufacturing, and distributing leading-edge wastewater equipment since 1981. Most of the company's 200-plus employees work out of a 26-acre (10 ha) headquarters site in Sutherlin, Oregon that includes sales, manufacturing, engineering, and research facilities. More than 125 distributors sell Orenco's product lines throughout the U.S., Canada, Australia, New Zealand, and parts of Europe.

Contact

Orenco Systems® Inc., 800-348-9843. For more information, go to www.orenco.com. For information on the environmental advantages of our products, go to www.orenco.com/systems/green.cfm.



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