NSF International Standard /
American National Standard

NSF/ANSI 350 - 2014

Onsite Residential and Commercial Water Reuse Treatment Systems



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NSF International Standard/
American National Standard
for Drinking Water Additives —

Onsite residential and commercial water reuse treatment systems

Standard Developer

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Foreword[2]

This American National Standard, NSF/ANSI 350 *Onsite residential and commercial water reuse treatment systems,* has been developed as part of the ongoing efforts of interested parties to establish minimum material, design and construction, and performance requirements for onsite residential and commercial water treatment systems. This Standard also specifies the minimum literature that manufacturers shall supply to authorized representatives and owners as well as the minimum service-related obligations that a manufacturer shall extend to owners. This Standard is intended to address publich health and environmental issues. Actual performance for any site or system may vary, depending on variations in raw water supply (such as in alkalinity and hardness), graywater constituents, and patterns of use. The end use of the effluent is the responsibility of the owner, design professionals, and regulatory officials.

Management methods and end uses appropriate for the treated effluent discharged from onsite residential and commercial treatment systems meeting Class R (single family residential) or Class C (multi-family and commercial facilities) requiremens of this Standard include indoor restricted urban water use, such as toilet and urinal flushing, and outdoor unrestricted urban water use, such as surface irrigation.

Systems may include:

- Graywater treatment systems having a rated treatment capacity up to 5,678 L/day (1,500 gal/day): this applies to onsite residential and commercial treatment systems that treat graywater, those that treat laundry water from residential laundry facilities, and those that treat bathing water.

- Resdential wastewater treatment systems having a rated treatment capacity up to 5,678 L/day (1,500 gal/day): this applies to onsite residential treatment systems that treat combined wastewater generated by the occupants of residence(s). A reuse system treating 1,514 L/day (400 gal/day) to 5,678 L/day (1,500 gal/day) shall either be demonstrated to have met the Class I requirements of NSF/ANSI 40 *Residential wastewater treatment systems,* or shall meet these requirements during concurrent testing to this Standard. A treatment system treating less than 1,514 L/day (400 gal/day) shall not be required to have met the Class I requirements of NSF/ANSI 40.

- Commercial treatment systems: this applies to onsite commercial treatment systems that treat combined commercial facility wastewater and commercial facility laundry water of any capacity, and those treatment systems that treat graywater from commercial facilities with capacities exceeding 5,678 L/day (1,500 gal/day). These systems shall be performance tested and evaluated at the location of the reuse system installation, using the wastewater generated onsite from the facility serving the treatment system. See 8.3 for performance testing and evaluation. The key elements of a field evaluation of a commercial onsite treatment system are described in Annex A.

This edition of NSF/ANSI 350 includes the following issues:

Issue 6
Revision of section 1.4 performance classification.

Issue 7
Revision of section 8 to clearly indicate the frequency for sample collection for surfactants, iron, FOG, color, odor, oily film and foam. A normative reference update is also included.

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This Standard was developed by the NSF Joint Committee on Wastewater Technology using the consensus process described in the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. This Standard is maintained on a Continuous Maintenance schedule and can be opened for comment at any time. Comments on this Standard should be sent to Chair, Joint Committee on Wastewater Technology at standards@nsf.org, or c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

NSF/ANSI Standard
For Wastewater Technology –

Onsite residential and commercial water resuse treatment systems

1 General

1.1 Purpose

The purpose of this Standard is to establish minimum material, design, and construction, and performance requirements for onsite residential and commercial water treatment systems. This Standard also specifies the minimum literature that manufacturers shall supply to authorized representatives and owners as well as the minimum service-related obligations that a manufacturer shall extend to owners.

1.2 Scope

This Standard contains minimum requirements for onsite residential and commercial water treatment systems. Systems may include the following.

- Graywater treatment systems having a rated treatment capacity up to 5,678 L/day (1,500 gal/day). This applies to onsite residential and commercial treatment systems that treat graywater, those that treat laundry water from residential laundry facilities, and those that treat bathing water. See 8.1 for performance testing and evaluation.

- Commercial treatment systems – this applies to onsite commercial treatment systems that treat combined commercial facility wastewater and commercial facility laundry water of any capacity, and those treatment systems that treat graywater from commercial facilities with capacities exceeding 5,678 L/day (1,500 gal/day). These systems shall be performance tested and evaluated at the location of the reuse system installation, using the wastewater generated onsite from the facility serving the treatment system. See 8.3 for performance testing and evaluation. The key elements of a field evaluatin of a commercial treatment system are described in Annex A.

Management methods and end uses appropriate for the treated efflent discharged from onsite residential and commercial treatment systems meeting Class R (single family residential) or Class C (multi-family and commercial facilitiesds) requirements of this Standard include indoor restricted urban water use, such as toilet and urinal flushing, and outdoor unrestricted urban water use, such as surface irrigation. Effluent quality criteria consistent with these uses are described in 8.6, Criteria.

This Standard is intended to address public health and environmental issues. Actual performance for any site or system may vary, depending on variations in raw water supply (such as alkalinity and hardness), wastewater constituents, and patterns of use. The end use of the effluent is the responsibility of the owner, design professionals, and regulatory officials.

System components covered under other NSF or NSF/ANSI standards or criteria shall also comply with the requirements therein. This Standard shall in no way restrict new system designs, provided such designs meet the minimum specifications described herein.

1.3 Alternate materials, design, and construction

While specific materials, designs, and constructions may be stipulated in this Standard, systems that incorporate alternate materials, designs, or constructions may be acceptable when it is verified that such