



*NSF International Standard /  
American National Standard*

## NSF/ANSI 350 - 2011

### Onsite Residential and Commercial Water Reuse Treatment Systems



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NSF/ANSI 350 – 2011

NSF International Standard/  
American National Standard  
for Wastewater Technology —

## **Onsite residential and commercial Water reuse treatment systems**

Standard Developer

**NSF International**

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## Foreword<sup>2</sup>

This American National Standard, NSF/ANSI 350 Onsite residential and commercial water reuse treatment systems Standard, 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. The 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 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) 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.

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

Suggestions for improvements of this Standard are welcome. Comments should be sent to Chair, Joint Committee on Wastewater Technology, c/o NSF International, Standards Department, PO Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF/ANSI Standard  
for Wastewater Treatment Systems —

## Onsite residential and commercial water reuse 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:

- 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.
- Residential 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, or must meet these requirements during concurrent testing to this Standard. A treatment system treating less than 1,514 L/day (400 gal/day) is not required to have met the Class I requirements of NSF/ANSI 40. See 8.2 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 evaluation of a commercial onsite treatment system are described in Annex A.

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) 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.