

Onsite Wastewater Treatment



NSF's Advanced Onsite Wastewater Treatment Certification Program

Providing Manufacturers with Credible Standards and Third-Party Testing and Certification for Market Acceptance

As communities continue to expand traditional boundaries to build new homes and businesses, there is an increasing need for advanced onsite wastewater treatment technologies. To ensure the safety and performance of these treatment systems, manufacturers, public health officials, design engineers and consumers trust NSF International to conduct proper and thorough evaluations in accordance with established national standards.



Standards Development Experts

NSF International became synonymous with public health in the 1940s, when it led the standards development, product testing and certification efforts for foodservice equipment. The scope of NSF's services continued to expand into many more product categories, including onsite wastewater treatment systems beginning in the 1960s.

Accredited by the American National Standards Institute (ANSI), NSF wastewater treatment standards are developed through an expert committee structure, with the NSF Joint Committee on Wastewater Technology at the core. This NSF Joint Committee is comprised of equal representation from the industry, public health, and user communities, ensuring committee-wide, consensus agreement. Today, NSF/ANSI standards exist for onsite treatment technologies spanning a range of performance claims, including reduction of BOD₅, TSS, nitrogen, disinfection and more, along with testing of both complete systems and individual components.

NSF and the Regulatory Community

Recognizing that public health officials have the ultimate authority in approving wastewater treatment systems, NSF provides easy access to public listings of certified products, direct access to product evaluation reports and data, complaint procedures for products or companies of concern, training materials and more. The federal, state and local agency representation on the NSF Joint Committee ensures that the interests of health officials are central to product testing requirements, along with service and maintenance. The outcome is national standards that are easily referenced in codes as the basis for product approval.

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Standards Overview

There are currently seven NSF/ANSI standards against which NSF conducts onsite wastewater treatment system evaluations and certification:

NSF/ANSI Standard #	Standard Title	Description
40	Residential Wastewater Treatment Systems	For systems treating 400 to 1500 gallons per day. Class I systems must achieve a 30-day average effluent quality of 25 mg/L CBOD ₅ and 30 mg/L TSS or less, and pH 6.0-9.0 spanning six months of testing.
41	Non-Liquid Saturated Treatment Systems	For composting toilets and similar treatment technologies, classified as day-use park, cottage (seasonal) and residential systems. Includes field and laboratory testing, with effluent criteria for liquids, solid end products and odor control.
46	Evaluation of Components and Devices Used in Wastewater Treatment Systems	Includes grinder pumps, effluent filters, and disinfection devices using chlorine, UV and ozone treatment.
240	Drainfield Trench Product Sizing for Gravity Dispersal Onsite Wastewater Treatment and Dispersal Systems	For the hydraulic performance of dispersal drainfield products used in place of conventional coarse aggregate. Includes both laboratory controlled testing and field performance assessment options.
245	Wastewater Treatment Systems - Nitrogen Reduction	For systems treating 400 to 1500 gallons per day. Must achieve total nitrogen reduction of 50% or more spanning six months of testing. Must also meet NSF/ANSI Standard 40.
350	Onsite Residential and Commercial Reuse Treatment Systems	For residential wastewater and graywater reuse systems treating up to 1500 gallons per day, and larger commercial reuse systems. Effluent quality criteria is suitable for indoor use such as toilet and flushing, and outdoor use such as surface and subsurface irrigation, as measured during minimum six months of testing.
350-1	Onsite Residential and Commercial Graywater Treatment Systems for Subsurface Discharge	For residential graywater reuse treatment systems treating up to 1500 gallons per day, and larger commercial reuse systems. Effluent quality criteria is suitable for subsurface irrigation only.
360	Field Performance Verification	This standard evaluates treatment systems in the field. Requirements state the system must have previously met NSF/ANSI Standard 40, and NSF/ANSI Standard 245 if applicable. Evaluates system selection, screening, minimum number of locations, sample frequency and duration, and quality requirements.

In addition to testing to the NSF/ANSI Standards, NSF can also provide evaluations to European standards including EN 12566 as well as custom testing for additional contaminants. Once testing is complete, the NSF test report helps expedite access to new markets.

Using the NSF Mark

Upon successful certification, the NSF Mark, along with the associated standard(s), may be placed on certified wastewater treatment products and on product literature, packaging and related promotional materials.



Certified to
NSF/ANSI Standards 40 & 245

Certified Products Database

All NSF-certified products are posted to NSF's public listings website. To see details on the 500+ NSF-certified wastewater products, visit www.nsf.org/certified/wastewater.

Contact Us

For more information, call 1.800.NSF.MARK (800.673.6275), (+1) 734.769.8010, email wastewater@nsf.org or visit www.nsf.org/info/wastewater.