

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

DOCUMENT NUMBER: 385-2208-002

TITLE: Utilization of NSF/ANSI 350 Testing Standards for Alternate Onlot Wastewater Disposal Technologies

EFFECTIVE DATE: Upon publication of notice as final in the *Pennsylvania Bulletin*

AUTHORITY: Act 537 of 1966, Pennsylvania Sewage Facilities Act (as amended)
Pennsylvania Code, Title 25, Chapter 73

POLICY: The Department of Environmental Protection (DEP) utilizes the NSF/ANSI 350 for onlot sewage disposal technology components treating domestic strength wastewater.

PURPOSE: The purpose of this guidance document is to classify onlot technology components demonstrated through NSF/ANSI 350 testing as onlot alternate technologies.

APPLICABILITY: This guidance document applies to onlot sewage disposal treatment systems that meet certification requirements under NSF/ANSI 350.

DISCLAIMER: The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures will affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of the DEP to give these rules that weight or deference. This document establishes the framework, within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 3 pages

Section 1.0: Introduction

The objective of this guidance document is to utilize the NSF/American National Standards Institute 350 (NSF/ANSI 350) testing standard for the review of applications relating to alternate onlot wastewater technologies which are submitted to the Department in accordance with 25 Pa Code § 73.72. Although this standard pertains to onsite residential and commercial wastewater reuse treatment systems rated up to 1,500 gal/day, the testing criteria applies to technologies employed in non-reuse onlot sewage disposal system applications that treat domestic strength wastewater. Specifically, components certified under NSF 350 have been demonstrated to achieve DEP's advanced treatment performance standards. Therefore, such technologies, when incorporated into an onlot sewage disposal system, will allow siting of a system on soils with shallow limiting zones.

Section 2.0: NSF/ANSI 350

Section 2.1: What is the NSF/ANSI 350?

The NSF/ANSI 350 is a standard developed and accepted by the ANSI to evaluate construction and performance criteria of wastewater components. The NSF 350 describes the minimum standards in material, design and construction, and performance requirements for onlot wastewater treatment components acceptable for certification by an ANSI accredited third party.

The NSF 350 testing encompasses three categories of influent wastewater strength. They are (1) graywater treatment systems, (2) residential wastewater treatment systems (Class R systems), and (3) commercial treatment systems. The NSF 350 testing category that applies to this guidance is for Class R residential wastewater treatment system influent strength.

Section 2.2: Advanced Treatment Performance Standards

As described by the NSF 350, a summary of the effluent performance standards criteria are shown in Table 1. Performance standards cannot exceed 10 mg/l CBOD₅ and cannot exceed 10 mg/l TSS as monthly averages. Further, the single sample maximum shall not exceed 25 mg/l for CBOD₅ and shall not exceed the single sample maximum of 30 mg/l for TSS.

Product certification under NSF 350 is recognized by DEP as demonstrating advanced treatment performance standards. In 2004, DEP established treatment limits for advanced treatment as follows: 10 mg/l for CBOD₅ and 10 mg/l for suspended solids as monthly average concentrations. Systems certified to NSF/ANSI Standard 40 or NSF/ANSI Standard 245 are only required to meet effluent limits of 25 mg/l for CBOD₅ and 30 mg/l for suspended solids as monthly averages, with no limitations on the maximum concentration. As a result, systems certified to these standards needed to install additional treatment (e.g., sand filters) following the treatment unit to qualify for advanced treatment.

Because the performance standards for NSF 350 meet DEP's advanced treatment criteria, systems certified to NSF 350 will not need to add additional treatment after the certified treatment unit in order to qualify for advanced treatment. Systems meeting this testing protocol under NSF 350 automatically qualify for advanced treatment.

Table 1

Summary of NSF 350 Performance Standards

Measure	Units	Test Average	Single Sample Maximum
CBOD ₅	mg/l	10	25
TSS	mg/l	10	30

Note:

Table 1 Abstracted from NSF 350

Section 4.0: Onlot Alternate Classification of Technologies Certified under NSF 350

A manufacturer that has received product certification under Standard 350 may seek an onlot alternate technology classification listing by DEP. If interested, DEP will coordinate with the manufacturer to guide them through the approval process. Each listing includes a section on applicable performance standards, the types of absorption disposal beds the treatment component can be used with, siting constraints, allowance for absorption bed sizing reductions, and operation and maintenance requirements.

Section 5.0: Benefits of NSF 350 Certification

Utilization of NSF 350 provides DEP a national standard in which to evaluate and approve onlot treatment components. The manufacturer benefits by having a national market for their product, and homeowners can choose from an increased product selection. The benefits of NSF 350 product certification to the citizens of the Commonwealth include the following:

- The component meets DEP’s advanced treatment standard;
- A Chapter 73 absorption area is eligible for up to a 40% reduction in size.
- An at-grade absorption area with siting on at least 20 inches of suitable soil and no further treatment such as a sand filter is required.
- An absorption area constructed as a shallow at grade absorption area and no further treatment such as a sand filter is required.

Products that are classified by DEP as an onlot alternate technology will be posted on the DEP website (www.dep.pa.gov)

Section 5: References

NSF International Standard/American National Standard. NSF/ANSI 350 – 2012: Onsite Residential and Commercial Water Reuse Treatment Systems. NSF International, July 2011.