NSF International Standard /
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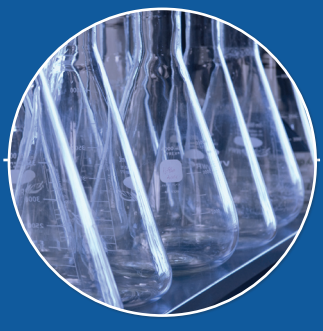
NSF/ANSI 58 - 2015

Reverse Osmosis Drinking Water Treatment Systems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NSF International Standard/
American National Standard
for Drinking Water Treatment Units –

Reverse osmosis drinking water treatment systems

Standard Developer

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Contents

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Foreword[2]

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of point-of-use reverse osmosis drinking water treatment systems. NSF/ANSI 58 also specifies minimum product literature requirements that manufacturers must provide to authorized representatives and owners. Minimum service related obligations for manufacturers to extend to system owners are also specified in this Standard.

Water contact materials in Drinking Water Treatment Units listed under NSF/ANSI 42, 44, 53, 55, 58, and 62 are tested and evaluated under a separate protocol from NSF/ANSI 61 with criteria that were developed specifically for the intended end-use. NSF/ANSI 61 listing should not be additionally required for acceptance of these listed units for water contact application.

Issue 68

This revision added clarification regarding the maximum number of samples exposed in the Materials evaluation under Section 4.

Issue 69

This revision added the option for a higher influent challenge concentration for nitrate.

Issue 70

This revision added criteria for utilizing a treatment train approach for the evaluation of a system containing multiple, sequential treatment technologies.

Issue 71

This revision replaced the term “warning device” with “performance indication device” to harmonize NSF/ANSI 53 and 58 and add a reference to NSF/ANSI 53 for the performance indication device requirements for VOC reduction claims based on the performance of an activated carbon postfilter.

Issue 73

This revision clarified the sampling requirements for the cyst reduction tests under NSF/ANSI 53 and 58.

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 should be sent to Chair, Joint Committee on Drinking Water Treatment Units at standards@nsf.org, or c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, Michigan 48113-0140, USA.

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NSF/ANSI Standard
for Drinking Water Treatment Units —

Reverse osmosis drinking water treatment systems

1 General

1.1 Purpose

The purpose of this Standard is to establish minimum requirements for materials, design and construction, and performance of reverse osmosis drinking water treatment systems. This Standard also specifies the minimum product literature that manufacturers shall supply to authorized representatives and owners, as well as the minimum service-related obligations that manufacturers shall extend to system owners.

1.2 Scope

The point-of-use reverse osmosis drinking water treatment systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water supplies (public or private) considered to be microbiologically safe and of known quality (except that claims for the reduction of filterable cysts may be permitted). Systems covered by this Standard are intended for reduction of total dissolved solids (TDS) and other contaminants specified herein. Systems with components or functions covered under other NSF or NSF/ANSI Standards or Criteria shall conform to the applicable requirements therein.

1.3 Chemical and mechanical reduction performance claims

1.3.1 All NSF/ANSI 58 performance claims shall be verified and substantiated by test data generated under the requirements of NSF/ANSI 58.

1.3.2 When performance claims are made for substances not specifically addressed in the scope of this Standard or for those substances not specifically addressed but falling under the scope of NSF/ANSI 58, claims not specifically addressed in the Standard shall be so identified.

1.4 Treatment train

A system that contains multiple, sequential treatment technologies for a performance claim under this Standard shall meet the applicable requirements as described in Annex E.

2 Normative references

The following documents contain provisions that constitute requirements of this Standard. At the time of publication, the indicated editions were valid. All standards are subject to revision, and parties are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. The most recent published edition of the document shall be used for undated references.

APHA, *Standard Methods for the Examination of Water and Wastewater*, twentieth edition[3]

NSF/ANSI 53. *Drinking water treatment units – Health effects*

NSF/ANSI 61. *Drinking water system components – Health effects*

Ontario Ministry of the Environment 1977. *An Interim Method for Determination of Asbestos Fibre Concentration in Water by Transmission Electron Microscopy*[4]

SAE J726 *Air Cleaner Test Code*, June 1993[5]

USEPA-600/4-84-053. *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*, June 1984[6]

USEPA–600/4B79/020. *Methods for the Chemical Analysis of Water and Wastes*, March 1983[6]

USEPA–600/RB93/100. *Methods for the Determination of Inorganic Substances in Environmental Samples*, August 1993[6]

USEPA–600/R–94/111. *Methods for the Determination of Metals in Environmental Samples*, Supplement 1, May 1994[6]

USEPA–600/4–90/020. *Methods for the Determination of Organic Compounds in Drinking Water*, Supplement 1, July 1990[6]

USEPA *National Primary Drinking Water Regulations*, 40 CFR Part 141[7]

USEPA *National Secondary Drinking Water Regulations*, 40 CFR Part 143[7]

USFDA Code of Federal Regulations, Title 21, *(Food and drugs) Direct Food Additive Substances parts 170 through 199*, April 1, 1992[7]

3 Definitions

Terms used in this Standard that have a specific technical meaning are defined in NSF/ANSI 330.

4 Materials

4.1 Materials in contact with drinking water

4.1.1 Acceptance criteria

4.1.1.1 Materials in contact with drinking water shall not impart levels of target compounds or Tentatively Identified Compounds (TICs) that exceed the Total Allowable Concentration (TAC), Maximum Contaminant

[3] American Public Health Association (APHA), 1015 Fifteenth Street, NW, Washington, DC 20005 <www.apha.org>.

[4] Ontario Ministry of the Environment, Toronto, Canada M4V 1P5 <www.ene.gov.on.ca>.

[5] Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096 <www.sae.org>.

[6] U. S. Environmental Protection Agency (USEPA), Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268 <www.epa.gov>.

[7] Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402 <www.gpo.gov>.