Circulation system components and related materials for swimming pools, spas/hot tubs

NSF International Standard/ American National Standard

NSF/ANSI 50 – 2005

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NSF International Standard/
American National Standard
for Swimming Pool and Spa Equipment –

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Standard Developer

NSF International

Adopted October 19, 2005
NSF International

Designated as an ANSI Standard
October 19, 2005
American National Standards Institute

Recommended for Adoption by
The NSF Joint Committee on Swimming Pool and Spa Equipment
The NSF Council of Public Health Consultants

Adopted by
The NSF International
May 1977

Revised May 1979
Revised June 1984
Revised November 1985
Revised May 1992
Revised July 1996
Revised January 2000
Revised May 2001
Revised March 2004
Revised October 2005

Published by
NSF International
PO Box 130140, Ann Arbor, Michigan 48113-0140, USA

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Annexes

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Foreword[2]

The purpose of this Standard is to establish minimum materials, design and construction, and performance requirements for equipment commonly included in the water circulation system of residential and public swimming pools, spas, or hot tubs. It incorporates minimum requirements for equipment previously covered by the following individual NSF standards: Standard 9 - *Diatomite-type filters for swimming pools*; Standard 10 - *Sand-type filters for swimming pools*; Standard 11 - *Recessed automatic surface skimmers for swimming pools*; Standard 17 - *Centrifugal pumps for swimming pools*; Standard 19 - *Adjustable output rate chemical feeding equipment for swimming pools*; Standard 27 - *Multiport valves for swimming pools*; Standard 28 - *Cartridge-type filters for swimming pools*; and Standard 47 - *Flow through chemical feeding equipment*.

If a value for measurement is followed by a value in other units in parenthesis, the second value may be only approximate. The first stated value is the requirement.

This edition of the Standard (NSF/ANSI 50 – 2005) includes the following revisions:

– Added Section 1.5 for Normative references and updated as needed.

– Section 3.2, Material formulation, now exempts treatment chemicals that are compliant with the requirements of NSF/ANSI 60 from the material review procedures in Annex A.

– An additional section has been added to section 4, Design and construction, to list the requirements of PVC hose used in conjunction with all equipment covered under the scope of this Standard.

– Section 5, Filters, now has requirements for diatomite and other pre-coat media type filters.

– The Scope of Section 11, General requirements for process equipment, clarifies that products that do not produce required levels of residual disinfectant are intended for supplemental disinfection only. Additional clarification has been made in section 11.7, Disinfection efficacy, that the test should demonstrate that supplemental equipment are capable of providing a 3 log reduction of influent bacteria levels, without residual disinfectant as a measure of their efficacy.

– Several sections on data plates have been changed to include additional language requiring the data plate to state that process equipment is to be used with disinfection chemicals to impart required residual concentrations.

– A cellulose media longevity test has been added to Annex B, Test methods for the evaluation of filters, to verify that the cellulose media performs comparably to the DE for the life of one charge.

– Removed the requirement from Annex B that testing for filters intended for spa applications needs to be done at specified elevated temperatures and revise challenge slurry.

– Additional language and clarification has been incorporated into section G.3, Uniformity of output test, including updates to the test water, separating methods for different sized feeder settings and acceptance criteria.

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– Section H.1, Disinfection efficacy of supplemental disinfection equipment, has been re-formatted and updated to include specific test water characteristics, additional clarification on test preparation, methodology, construction, and acceptance criteria.

This Standard was developed by the NSF Joint Committee on Swimming Pool and Spa Equipment using the consensus process described by the American National Standards Institute.

Suggestions for improvement of this Standard are welcome. Comments should be sent to Chair, Joint Committee on Swimming Pools and Spa Equipment, c/o NSF International, Standards Department, P.O. Box 130140, Ann Arbor, MI 48113-0140, USA.

NSF/ANSI Standard
for Swimming Pool and Spa Equipment

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1 General

1.1 Scope

This Standard covers circulation system components, treatment devices, and related materials. The components, treatment devices, and related materials are intended to be used specifically for swimming pool, spa/hot tub water circulation and treatment in public and residential applications. No attempt has been made to incorporate safety provisions. This Standard is not intended to cover components intended to treat water exceeding a total dissolved solids concentration of 3000 ppm.

1.2 Variations in design and operation

A component varying in design and/or operation may qualify under this Standard. Appropriate tests and investigations shall indicate the component performs as well as components complying with this Standard. Such components shall meet the requirements for materials, finishes, and construction in this Standard.

1.3 Alternate materials

If specific materials are mentioned, other materials equally satisfactory from the standpoint of public health may be permitted.

1.4 Standard review

A complete review of this Standard shall be conducted at least every five years. These reviews shall be conducted by representatives from the industry, public health, and user groups, or agencies of the NSF Joint Committee on Swimming Pool Equipment.

1.5 Normative references

The following documents contain provisions that, through reference in this text, constitute provisions 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 recent editions of the standards indicated below.

AISI, *AISI type 300 series stainless steel*[3]

[3] American Iron and Steel Institute, 410 Commonwealth Drive, Warrendale, PA 15086