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American National Standards

Call for comment on proposals listed

This section solicits public comments on proposed draft new American National Standards, including the national adoption of ISO and IEC standards as American National Standards, and on proposals to revise, reaffirm or withdraw approval of existing American National Standards. A draft standard is listed in this section under the ANSI-accredited standards developer (ASD) that sponsors it and from whom a copy may be obtained. Comments in connection with a draft American National Standard must be submitted in writing to the ASD no later than the last day of the comment period specified herein. Such comments shall be specific to the section(s) of the standard under review and include sufficient detail so as to enable the reader to understand the commenter's position, concerns and suggested alternative language, if appropriate. Please note that the ANSI Executive Standards Council (ExSC) has determined that an ASD has the right to require that interested parties submit public review comments electronically, in accordance with the developer's procedures.

Ordering Instructions for "Call-for-Comment" Listings

1. **Order from the organization indicated for the specific proposal.**
2. **Use the full identification in your order, including the BSR prefix; for example, Electric Fuses BSR/SAE J554.**
3. **Include remittance with all orders.**
4. **BSR proposals will not be available after the deadline of call for comment.**

Comments should be addressed to the organization indicated, with a copy to the Board of Standards Review, American National Standards Institute, 25 West 43rd Street, New York, NY 10036. Fax: 212-840-2298; e-mail: psa@ansi.org

* Standard for consumer products

Comment Deadline: July 29, 2018

AISI (American Iron and Steel Institute)

Supplement

BSR/AISI S100-16/S1-18-201x, Supplement 1 to North American Specification for the Design of Cold-Formed Steel Structural Members (supplement to ANSI/AISI S100-2016)

This supplement to AISI S100-16 provides (a) revision to Section A3.3.2, Strength Increase from Cold Work of Forming and (b) deletion of Section J7.2, Power-Actuated Fasteners (PAFs) in Concrete.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: hchen@steel.org

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1ao-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal revises the fan product efficiency requirement and complements the fan power limitation in section 6.5.3.1.1.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1ap-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

This proposal addresses HVAC systems with simultaneous heating and cooling require supply air temperature (SAT) reset except in climate zones 0A through 3A. In those climate zones, several system types can successfully dehumidify the outside air while still providing SAT reset and reducing reheat energy use.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1aq-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

Lighting control requirements for lighting applications not covered in Table 9.6.2 require clarity and alignment to the mandatory lighting control provisions in section 9.4.1. This addendum assures that each application listed plainly identifies which lighting control provisions apply to that specific lighting.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1ar-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

During the development of the 2016 Standard, comments were received on Addendum di which were not incorporated at the time but were delayed until now so that the rest of Addendum di could be included in the 2016 version. The changes linked to this listing reflect some of those comments as well as changing the titles to a few of the new tables to make them consistent with other similar tables.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1m-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The proposal has been revised to only allow a credit for buildings using the verification approach in order to help incentivize the more rigorous measurement and testing approach. To achieve this credit, the Proposed Design air leakage has been set to 0.6 CFM/sq.ft. which is consistent with the value in section 5.4.3.1.3(a)2.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1z-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The formulas in section 11 and in G3.1.2.1 for removing fan energy from baseline packaged heating and cooling efficiency ratings removes more fan energy than allowed by section 6 and appendix G for large cooling equipment. This is corrected by capping the system capacity equations in section 11 and providing a fixed baseline efficiency rating with the fan energy removed for each capacity range.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

NSF (NSF International)**Revision**

BSR/NSF 14-201x (i97r2), Plastics Piping System Components and Related Materials (revision of ANSI/NSF 14-2017)

This Standard establishes minimum physical, performance, and health effects requirements for plastic piping system components and related materials. These criteria were established for the protection of public health and the environment.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Jason Snider, jsnider@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 49-201x (i110r3), Biosafety Cabinetry: Design, Construction, Performance, and Field Certification (revision of ANSI/NSF 49-2016)

This Standard applies to Class II (laminar flow) biosafety cabinetry designed to minimize hazards inherent in work with agents assigned to biosafety levels 1, 2, 3, or 4. It also defines the tests that shall be passed by such cabinetry to meet this Standard. This Standard includes basic requirements for the design, construction, and performance of biosafety cabinets that are intended to provide personnel, product, and environmental protection; reliable operation; durability and structural stability; cleanability; limitations on noise level; illumination; vibration; and motor/blower performance.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: arose@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 173-201x (i76r1), Dietary Supplements (revision of ANSI/NSF 173-2017)

The purpose of NSF/ANSI 173 is to serve as an evaluation tool for analyzing dietary supplements. Certification to this Standard serves as a communication tool between manufacturers of ingredients and finished product, retailers, healthcare practitioners, and consumers. This Standard provides test methods and evaluation criteria to allow for the determination that a dietary supplement contains the ingredients claimed on the label, either qualitatively or quantitatively, and that it does not contain specific undeclared contaminants. In some instances, validated laboratory methods are not yet available for analyzing certain ingredients. In such cases, new methods will be added to this Standard as they become available.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: rbrooker@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 173-201x (i78r1), Dietary Supplements (revision of ANSI/NSF 173-2017)

The purpose of NSF/ANSI 173 is to serve as an evaluation tool for analyzing dietary supplements. Certification to this Standard serves as a communication tool between manufacturers of ingredients and finished product, retailers, healthcare practitioners, and consumers. This Standard provides test methods and evaluation criteria to allow for the determination that a dietary supplement contains the ingredients claimed on the label, either qualitatively or quantitatively, and that it does not contain specific undeclared contaminants. In some instances, validated laboratory methods are not yet available for analyzing certain ingredients. In such cases, new methods will be added to this Standard as they become available.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: rbrooker@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 173-201x (i80r1), Dietary Supplements (revision of ANSI/NSF 173-2017)

The purpose of NSF/ANSI 173 is to serve as an evaluation tool for analyzing dietary supplements. Certification to this Standard serves as a communication tool between manufacturers of ingredients and finished product, retailers, healthcare practitioners, and consumers. This Standard provides test methods and evaluation criteria to allow for the determination that a dietary supplement contains the ingredients claimed on the label, either qualitatively or quantitatively, and that it does not contain specific undeclared contaminants. In some instances, validated laboratory methods are not yet available for analyzing certain ingredients. In such cases, new methods will be added to this Standard as they become available.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: rbrooker@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 350-201x (i30r1), Onsite Residential and Commercial Water Reuse Treatment Systems (revision of ANSI/NSF 350-2017)

This Standard contains minimum requirements for onsite residential and commercial graywater treatment systems. Systems may include graywater reuse treatment systems having a rated treatment capacity up to 5,678 L/d (1,500 gal/d); or commercial graywater reuse treatment systems: This applies to onsite commercial reuse treatment systems that treat combined commercial facility graywater with capacities exceeding 5,678 L/d (1,500 gal/d) and commercial facility laundry water only of any capacity. Management methods and end uses appropriate for the treated effluent discharged from graywater residential and commercial treatment systems meeting this Standard are limited to subsurface discharge to the environment only.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Jason Snider, jsnider@nsf.org

UL (Underwriters Laboratories, Inc.)**Revision**

BSR/UL 498-201x, Standard for Safety for Attachment Plugs and Receptacles (revision of ANSI/UL 498-2017)

These requirements cover attachment plugs, receptacles, cord connectors, inlets, current taps provided with wiring terminals for flexible cord, and flatiron and appliance plugs - all intended for connection to a branch circuit for use in accordance with the National Electrical Code, ANSI/NFPA 70.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Megan Monsen, (847) 664-1292, megan.monsen@ul.com

UL (Underwriters Laboratories, Inc.)**Revision**

BSR/UL 705-201X, Standard for Safety for Power Ventilators (revision of ANSI/UL 705-2018)

Revise UL 705 to require a ventilator employing more than one power source to be provided with a disconnect for each power supply.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Alan McGrath, (847) 664-3038, alan.t.mcgrath@ul.com

UL (Underwriters Laboratories, Inc.)**Revision**

BSR/UL 1278-201X, Standard for Safety for Movable and Wall- or Ceiling-Hung Electric Room Heaters (revision of ANSI/UL 1278-2017)

The requirements for UL 1278 were developed with the expectation that movement from place to place (e.g., room-to-room, desktop-to-floor) would be affected manually by the user, with the user choosing the location of use, taking into account the use environment. However, as the technology for remote and/or autonomous operation advances, it can be anticipated that such technology will be extended to additional appliances. This could lead to potential design(s) for a heater to relocate on its own or via some form of remote control and then operate at the new location. Since the requirements do not currently anticipate this functionality and should not be applied without due consideration, it is proposed that a heater not be capable of such functionality. This is also consistent with SE2.8 for remotely operated heating appliances.

[Click here to view these changes in full](#)

Send comments (with copy to psa@ansi.org) to: Alan McGrath, (847) 664-3038, alan.t.mcgrath@ul.com

Comment Deadline: August 13, 2018**AAFS (American Academy of Forensic Sciences)****New Standard**

BSR/ASB BPR 006-201x, Best Practice Recommendation for Planning DNA Sample Collection and Analysis for the Identification Process in Mass Fatality Incidents (new standard)

While not an exhaustive listing of circumstances, this guide aims to provide information that allows jurisdictions to prepare for a mass fatality incident and implement a DNA sample collection and analysis plan to effectively contribute to the identification of the victims. Decisions made in the early stages of an incident will have significant consequences later in the identification process. This document is intended to assist the decision makers with that process. Where possible, the guidelines below should be applied. Absent specific guidance, practitioners should adhere to the principle, spirit, and intent. Disaster victim identification practitioners are encouraged to develop, implement, exercise, and periodically review their standard operating procedures and validation data, in light of these guidelines and best practices, and to update their procedures as needed. It is anticipated that these guidelines will evolve as future technologies emerge.

Single copy price: Free

Obtain an electronic copy from: <http://asb.aafs.org/>

Document will be provided electronically on AAFS Standards Board website free of charge.

Send comments (with copy to psa@ansi.org) to: asb@aafs.org. Document and comments template can be viewed on the AAFS Standards Board website at: <https://asb.aafs.org/notification-of-standard-development-and-coordination/>

ADA (American Dental Association)**New National Adoption**

BSR/ADA 125-201x, Manual Interdental Brushes (identical national adoption of ISO16409:2016 and revision of ANSI/ADA Standard No. 125-201x)

This standard specifies requirements and test methods for performance criteria for manual interdental brushes with a round cross-section of the brush head and consisting of a wired stem with inserted filaments. It also specifies the accompanying information such as manufacturer's instructions for use and labeling of the packaging.

Single copy price: \$25.00

Obtain an electronic copy from: wardm@ada.org

Order from: wardm@ada.org

Send comments (with copy to psa@ansi.org) to: Paul Bralower, bralowerp@ada.org

ADA (American Dental Association)**New National Adoption**

BSR/ADA 144-201x, Alloy for Dental Amalgam (identical national adoption of ISO 20749:2017)

This document specifies the requirements and test methods for dental amalgam products supplied to the user in capsules. This document specifies the requirements and test methods for dental amalgam alloys that are suitable for the preparation of dental amalgam and the capsule, together with the requirements and test methods for that dental amalgam and the requirements for packaging and marking.

Single copy price: \$35.00

Obtain an electronic copy from: wardm@ada.org

Order from: wardm@ada.org

Send comments (with copy to psa@ansi.org) to: Paul Bralower, bralowerp@ada.org

ADA (American Dental Association)**Withdrawal**

ANSI/ADA Standard No. 102-1998 (R2015), Non-Sterile Nitrile Gloves for Dentistry (withdrawal of ANSI/ADA Standard No. 102-1998 (R2015))

This standard specifies requirements for non-sterile nitrile gloves suitable for dentistry that do not contain any natural rubber latex.

Single copy price: \$25.00

Obtain an electronic copy from: wardm@ada.org

Order from: wardm@ada.org

Send comments (with copy to psa@ansi.org) to: Paul Bralower, bralowerp@ada.org

ADA (American Dental Association)**Withdrawal**

ANSI/ADA Standard No. 103-2010 (R2015), Non-Sterile Poly Vinyl Chloride Gloves for Dentistry (withdrawal of ANSI/ADA Standard No. 103-2010 (R2015))

This standard specifies requirements for non-sterile poly vinyl chloride gloves suitable for dentistry.

Single copy price: \$25.00

Obtain an electronic copy from: wardm@ada.org

Order from: wardm@ada.org

Send comments (with copy to psa@ansi.org) to: Paul Bralower, bralowerp@ada.org

ADA (American Dental Association)**Withdrawal**

ANSI/ADA Standard No. 76-2005 (R2015), Non-Sterile Latex Gloves for Dentistry (withdrawal of ANSI/ADA 76:2005 (R2015))

This standard specifies requirements for non-sterile natural rubber latex gloves suitable for dentistry.

Single copy price: \$25.00

Obtain an electronic copy from: wardm@ada.org

Order from: wardm@ada.org

Send comments (with copy to psa@ansi.org) to: Paul Bralower, bralowerp@ada.org

APCO (Association of Public-Safety Communications Officials-International)**New Standard**

BSR/APCO 1.108.1-201x, Minimum Operational Standards for the Use of TTY/TDD or Similar Device in the Public Safety Communications Center (new standard)

This standard provides minimum operational guidelines for Public Safety Communications Centers in providing emergency services access to the deaf, deaf-blind, and hard-of-hearing communities.

Single copy price: Free

Obtain an electronic copy from: apcostandards@apcointl.org

Order from: bankers@apcointl.org

Send comments (with copy to psa@ansi.org) to: https://workspace.apcointl.org/higherlogic/ws/public/document?document_id=1559&wg_id=operational

APCO (Association of Public-Safety Communications Officials-International)**New Standard**

BSR/APCO 2.106.1-201x, Public Safety Grade Site - Hardening Requirements (new standard)

This effort documents public safety requirements regarding various characteristics to make mission-critical-communications wireless networks sufficiently robust to meet the service availability requirements of public safety. The effort will standardize what is required to make wireless network sites "public safety grade" or to the extent to which they are hardened. This effort specifically addresses hardening for wireless communications sites with both transmission and/or reception capabilities.

Single copy price: Free

Order from: bankers@apcointl.org

Send comments (with copy to psa@ansi.org) to: https://workspace.apcointl.org/higherlogic/ws/public/document?document_id=1571&wg_id=technical

APTech (ASC CGATS) (Association for Print Technologies)**New Standard**

BSR IT8.7/5-201x, Graphic Technology - Input Data for Characterization of 4-Color Process Printing -Extended Data Set (new standard)

This standard defines a data set of ink value combinations that may be used to characterize four-color process printing. This data set is not optimized for any printing process or application area but is robust enough for all general applications. The needs of publication, commercial, and package printing with offset lithography, gravure, flexography, and other printing processes have been considered. While it is primarily aimed at process color printing with CMYK inks, it may also be used with any combination of three chromatic inks and a dark ink. It is seen as an alternate to the IT8.7/4 data set where more neutral scale data is desired.

Single copy price: \$25.00

Obtain an electronic copy from: dorf@apttech.org

Order from: dorf@apttech.org

Send comments (with copy to psa@ansi.org) to: dorf@apttech.org

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)**Addenda**

BSR/ASHRAE/IES Addendum 90.1ai-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

In this independent substantive change, several revisions have been made to addendum ai in response to comments. This ISC clarifies required verification and testing and the applicability of several defined terms.

Single copy price: \$35.00

Obtain an electronic copy from: standards.section@ashrae.org

Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research-technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)**Addenda**

BSR/ASHRAE/IES Addendum 90.1an-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

In 2016, the U.S. Department of Energy published a final rule for energy conservation standards for commercial and industrial clean-water pumps that will go into effect as of January 27, 2020. This addendum provides a new table of information about the new efficiency requirements to users of ASHRAE 90.1. It also provides new definitions that are needed to accompany the table.

Single copy price: \$35.00

Obtain an electronic copy from: standards.section@ashrae.org

Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research-technology/public-review-drafts>

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

BSR/ASHRAE/IES Addendum 90.1as-201x, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016)

The following appendix is proposed to be included in Standard 90.1 as informative resources to aid in the understanding and adoption of the commissioning and testing required in sections 4.2.5, 5.9, 6.9, 7.9, 8.9, 9.9, 10.9, 11.2(d), and G1.21(c).

Single copy price: \$35.00

Obtain an electronic copy from: standards.section@ashrae.org

Order from: standards.section@ashrae.org

Send comments (with copy to psa@ansi.org) to: Online Comment Database at <http://www.ashrae.org/standards-research--technology/public-review-drafts>

ASSP (Safety) (American Society of Safety Professionals)

Revision

BSR/ASSE Z359.12-201X, Connecting Components for Personal Fall Arrest Systems (revision of ANSI/ASSE Z359.12-2009)

This standard establishes requirements for the performance, design, marking, qualification, test methods, and removal from service of connectors.

Single copy price: \$100.00

Obtain an electronic copy from: OMunteanu@ASSP.org

Order from: Ovidiu Munteanu, (847) 232-2012, OMunteanu@ASSE.org

Send comments (with copy to psa@ansi.org) to: Same

ATIS (Alliance for Telecommunications Industry Solutions)

Reaffirmation

BSR/ATIS 0300217 (R201x), Integrated Service Digital Network (ISDN) Management - Primary Rate Physical Layer (reaffirmation of ANSI ATIS 0300217.2013)

This standard provides the maintenance operations requirements for primary rate physical layer ISDN access. It provides functional requirements to support maintenance and is not meant to be an equipment specification.

Single copy price: \$145.00

Obtain an electronic copy from: ehoefer@atis.org

Send comments (with copy to psa@ansi.org) to: ehoefer@atis.org

ATIS (Alliance for Telecommunications Industry Solutions)

Stabilized Maintenance

BSR ATIS 0300260-1998 (S201x), Operations, Administration, Maintenance, and Provisioning (OAM&P) - Extension to Generic Network Information Model for Interfaces between a Service Provider Administrative System and Network Elements for Lawfully Authorized Electronic Surveillance (stabilized maintenance of ANSI ATIS 0300260-1998 (R2013))

This standard specifies information models and functional requirements for the interface between Network Elements (NEs) and a Service Provider Administrative System for Lawfully Authorized Electronic Surveillance (LAES).

Single copy price: \$175.00

Obtain an electronic copy from: ehoefer@atis.org

Send comments (with copy to psa@ansi.org) to: ehoefer@atis.org

AWS (American Welding Society)

Revision

BSR/AWS G2.3M/G2.3-201x, Guide for the Joining of Solid Solution Austenitic Stainless Steels (revision of ANSI/AWS G2.3M/G2.3-2012)

This guide presents a description of solid solution austenitic stainless steels and the processes and procedures that can be used for the joining of these materials. This standard discusses the welding processes and welding parameters, qualifications, inspection and repair methods, cleaning, and safety considerations.

Single copy price: \$46.00

Obtain an electronic copy from: sborrero@aws.org

Order from: sborrero@aws.org

Send comments (with copy to psa@ansi.org) to: adavis@aws.org

NSF (NSF International)

New Standard

BSR/NSF 391.1-201x (i1r2), General Sustainability Assessment Criteria for Professional Services (new standard)

The Standard is one of the first to focus on the service industry subsectors described as "professional services". Professional service firms are often characterized as those that have low capital intensity, high knowledge intensity, and a professionalized workforce. This Standard is applicable to the professional service subsectors identified in GSA's Professional Services Schedule ("PSS"). These services include: Financial and Business Solutions; Advertising and Integrated Marketing Services; Language Services; Professional Engineering Services; Mission-Oriented Business Integrated Services; Worldwide Logistics Services; Environmental Services; and Consolidated Services. If you believe your organization meets the definition of professional services, but is not on this listing, please contact NSF Standards to see if this standard can be used by you to obtain sustainability certification.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/43249/JC%20Memo%20and%20Ballot.pdf

Send comments (with copy to psa@ansi.org) to: Kianda Franklin, (734) 827-3813, kfranklin@nsf.org

NSF (NSF International)

Revision

BSR/NSF 173-201x (i79r1), Dietary Supplements (revision of ANSI/NSF 173-2017)

The purpose of NSF/ANSI 173 is to serve as an evaluation tool for analyzing dietary supplements. Certification to this Standard serves as a communication tool between manufacturers of ingredients and finished product, retailers, healthcare practitioners, and consumers. This Standard provides test methods and evaluation criteria to allow for the determination that a dietary supplement contains the ingredients claimed on the label, either qualitatively or quantitatively, and that it does not contain specific undeclared contaminants. In some instances, validated laboratory methods are not yet available for analyzing certain ingredients. In such cases, new methods will be added to this Standard as they become available.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/43329/173i79r1%20-%20Pesticide%20list%20equation%20&%20SI%20figures%20-%20JC%20memo%20&%20ballot.pdf

Send comments (with copy to psa@ansi.org) to: rbrooker@nsf.org

NSF (NSF International)**Revision**

BSR/NSF 419-201x (i7r1), Public Drinking Water Equipment Performance - Membrane Filtration (revision of ANSI/NSF 419-2015)

This Standard is designed to describe the performance evaluation test procedure for the product-specific challenge testing of full-scale UF and MF membrane modules, bag filters, and cartridge filters for the removal of microbial contaminants. This Standard provides procedures to develop challenge testing Log Removal Values (LRVC_TEST), as required in the EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) published in 40 CFR 141-subpart W.

Single copy price: Free

Obtain an electronic copy from: https://standards.nsf.org/apps/group_public/download.php/43242/419i7r1%20-%20Section%206%20-%20JC%20memo%20&%20ballot.pdf

Send comments (with copy to psa@ansi.org) to: mleslie@nsf.org

RESNET (Residential Energy Services Network, Inc.)**Revision**

BSR/RESNET/ICC 301-201x, Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index (revision and redesignation of ANSI/RESNET/ICC 301-2014)

Standard ANSI/RESNET/ICC 301-2014 is being revised and redesignated as an updated edition with expanded scope and title. The standard will provide procedures for determining energy ratings for dwelling units and sleeping units in residential or commercial buildings, except hotels and motels. The updated standard will incorporate all approved addenda to ANSI/RESNET/ICC 301-2014 and additional revisions developed through this project.

Single copy price: \$55.00

Obtain an electronic copy from: An electronic copy of the amendment can be downloaded from the RESNET website by following the links from web page <http://www.resnet.us/blog/resnet-consensus-standards/>

Order from: Rick Dixon, Standards Manager, RESNET, P.O. Box 4561, Oceanside, CA 92052

Send comments (with copy to psa@ansi.org) to: Comments are submitted via RESNET's online comment form. See the links from webpage: <http://www.resnet.us/blog/resnet-consensus-standards/>

UL (Underwriters Laboratories, Inc.)**New Standard**

BSR/UL 180-201x, Standard for Liquid Level Gauges, Level Indicators and Aboveground Piping for Combustible Liquids (new standard)

This Standard covers the construction and performance requirements for the tank accessories, for use on atmospheric aboveground tanks not exceeding 19,927 L (5,000 U.S. gal) that are intended for the storage and supply of heating fuels for oil-burning equipment, diesel fuels for compression ignition engines, and motor oils (new or used) for automotive service stations, in similar combustible liquid applications.

Single copy price: Free

Obtain an electronic copy from: <http://www.shopulstandards.com>

Send comments (with copy to psa@ansi.org) to: Caitlin D'Onofrio, (613) 368-4430, caitlin.donofrio@ul.com

UL (Underwriters Laboratories, Inc.)**New Standard**

BSR/UL 1316-201x, Standard for Fibre Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids (new standard)

Recirculation of the proposed Joint Standard between UL 1316 and CAN/ULC-S615. This Standard sets forth minimum design and construction requirements for fibre-reinforced plastic, non-pressure tanks that are used for the underground storage of flammable and combustible liquids, such as: (A) Petroleum products, including petroleum hydrocarbon fuels with low bio-blends, per specifications, and similar flammable or combustible liquid petroleum derivatives, such as fuel components (cetane, hexane, heptane), and oils (lubricating, hydraulic, machine); (B) Oxygenated fuel blends, including all "petroleum product" liquids; plus petroleum hydrocarbon fuels with low-biofuels blends; (C) Oxygenates, including all "petroleum product" and "oxygenated fuel blends" liquids; plus pure/denatured or highest oxygenated blend stocks for use in mixing of dispensed lower fuel-blends and components, such as biodiesel and ethanol; and (D) Other flammable and combustible liquids (for which the test fuels in appendix A are not considered to be sufficient or applicable) that can be demonstrated or determined to be compatible with the reinforced plastic underground tank materials as determined by the certifier.

Single copy price: Free

Obtain an electronic copy from: <http://www.shopulstandards.com>

Send comments (with copy to psa@ansi.org) to: Caitlin D'Onofrio, (613) 368-4430, caitlin.donofrio@ul.com

UL (Underwriters Laboratories, Inc.)**Revision**

BSR/UL 541-201x, Standard for Safety for Refrigerated Vending Machines (revision of ANSI/UL 541-2016)

(1) Proposed revisions to update requirements for controls, (2) Proposed revision to and addition of requirements to prevent remote shut-off of vending machines, (3) Proposed revisions to and addition of requirements to address switch mode power supply units increasingly used in refrigerated vending machines, (4) Proposed revisions to clarify requirements for vending machines having two supply cords, (5) Proposed revisions to marking requirements to clarify application of UL 969 requirements, (6) Proposed revision to Ignition Protection Test requirements to provide an additional testing option, (7) Proposed revisions to EMI filter requirements to specify an alternate compliance option, and (8) Proposed revisions to incorporate editorial corrections.

Single copy price: Free

Obtain an electronic copy from: <http://www.shopulstandards.com>

Send comments (with copy to psa@ansi.org) to: Beth Northcott, (847) 664-3198, Elizabeth.Northcott@ul.com

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 751-201x, Standard for Safety for Vending Machines (revision of ANSI/UL 751-2016)

(1) Proposed revisions to update requirements for controls, (2) Proposed revision to and addition of requirements to prevent remote shut-off of vending machines, (3) Proposed revisions to clarify the scope of the standard, (4) Proposed revisions to and addition of requirements to address switch-mode power supply units increasingly used in vending machines, (5) Proposed revisions to clarify requirements for vending machines having two supply cords, (6) Proposed revisions to marking requirements to clarify application of UL 969 requirements, (7) Proposed revisions to EMI filter requirements to specify an alternate compliance option, (8) Proposed editorial revisions to clarify the compliance criteria of the Leakage Current Test.

Single copy price: Free

Obtain an electronic copy from: <http://www.shopulstandards.com>

Send comments (with copy to psa@ansi.org) to: Beth Northcott, (847) 664-3198, Elizabeth.Northcott@ul.com

UL (Underwriters Laboratories, Inc.)

Revision

BSR/UL 1889-201x, Standard for Safety for Commercial Filters for Cooking Oil (revision of ANSI/UL 1889-2009 (R2013))

This proposal for UL 1889 contains the following topic: (1) Reaffirmation and continuance of the first edition of the Standard for Commercial Filters for Cooking Oil, UL 1889, as an American National Standard.

Single copy price: Free

Obtain an electronic copy from: <http://www.shopulstandards.com>

Send comments (with copy to psa@ansi.org) to: Anne Marie Jacobs, (919) 549-0954, annemarie.jacobs@ul.com

VC (ASC Z80) (The Vision Council)

Revision

BSR Z80.10-201x, Tonometers (revision of ANSI Z80.10-2014)

This standard, together with ISO 15004-1 Fundamental requirements and test methods - Part 1: General requirements applicable to all instruments, specifies minimum requirements and the design compliance procedure for tonometers intended for routine clinical use in the estimation of intraocular pressure (IOP) for the detection, diagnosis, and management of ocular abnormalities.

Single copy price: \$50.00

Obtain an electronic copy from: ascz80@thevisioncouncil.org

Order from: Michele Stolberg, 585-387-9913, ascz80@thevisioncouncil.org

Send comments (with copy to psa@ansi.org) to: Same

30 Day Notice of Withdrawal: ANS 5 to 10 years past approval date

In accordance with clause 4.7.1 Periodic Maintenance of American National Standards of the ANSI Essential Requirements, the following American National Standards have not been reaffirmed or revised within the five-year period following approval as an ANS. Thus, they shall be withdrawn at the close of this 30-day public review notice in Standards Action.

IEEE (Institute of Electrical and Electronics Engineers)

ANSI/IEEE C37.43-2008, Standard Specifications for High-Voltage Expulsion, Current-Limiting and Combination Type Distribution and Power Class External Fuses, with Rated Voltages from 1 kV through 38 kV, Used for the Protection of Shunt Capacitors

Questions may be sent to Karen Evangelista, (732) 562-3854, k.evangelista@ieee.org

Call for Members (ANS Consensus Bodies)

Directly and materially affected parties who are interested in participating as a member of an ANS consensus body for the standards listed below are requested to contact the sponsoring standards developer directly and in a timely manner.

ASSP (ASC A10) (American Society of Safety Professionals)

Office: 520 N. Northwest Hwy.
Park Ridge, IL 60068

Contact: *Lauren Bauerschmidt*

Phone: (847) 768-3475

E-mail: LBauerschmidt@assp.org

BSR ASSP A10.13-201x, Safety Requirements for Steel Erection
(revision and redesignation of ANSI ASSE A10.13-2011 (R2017))

NSF (NSF International)

Office: 789 N. Dixboro Road
Ann Arbor, MI 48105-9723

Contact: *Jason Snider*

Phone: (734) 418-6660

E-mail: jsnider@nsf.org

BSR/NSF 14-201x (i97r2), Plastics Piping System Components and
Related Materials (revision of ANSI/NSF 14-2017)

BSR/NSF 49-201x (i110r3), Biosafety Cabinetry: Design, Construction,
Performance, and Field Certification (revision of ANSI/NSF 49-2016)

BSR/NSF 173-201x (i76r1), Dietary Supplements (revision of ANSI/NSF
173-2017)

BSR/NSF 173-201x (i78r1), Dietary Supplements (revision of ANSI/NSF
173-2017)

BSR/NSF 173-201x (i79r1), Dietary Supplements (revision of ANSI/NSF
173-2017)

BSR/NSF 173-201x (i80r1), Dietary Supplements (revision of ANSI/NSF
173-2017)

BSR/NSF 350-201x (i30r1), Onsite Residential and Commercial Water
Reuse Treatment Systems (revision of ANSI/NSF 350-2017)

BSR/NSF 391.1-201x (i1r2), General Sustainability Assessment Criteria
for Professional Services (new standard)

BSR/NSF 419-201x (i7r1), Public Drinking Water Equipment
Performance - Membrane Filtration (revision of ANSI/NSF 419-2015)

UL (Underwriters Laboratories, Inc.)

Office: 333 Pvingsten Road
Northbrook, IL 60062

Contact: *Beth Northcott*

Phone: (847) 664-3198

Fax: 927

E-mail: Elizabeth.Northcott@ul.com

BSR/UL 541-201x, Standard for Safety for Refrigerated Vending
Machines (revision of ANSI/UL 541-2016)

BSR/UL 751-201x, Standard for Safety for Vending Machines (revision
of ANSI/UL 751-2016)

Call for Members (ANS Consensus Bodies)

Alliance for Telecommunications Industry Solutions (ATIS)

ATIS, an ANSI-accredited SDO, brings together the top global ICT companies to advance the industry's most pressing business priorities. ATIS is currently working to address the All-IP transition, network functions virtualization, big data analytics, device solutions, emergency services, M2M, cyber security, network evolution, quality of service, billing support, operations, and much more. ATIS member companies encompass a broad scope of Communications Service Providers, Network Suppliers, Power Suppliers, Subsystems Suppliers, Government Agencies, Associations, Consumer Products Suppliers and Application/OTT Providers.

ATIS is currently seeking to broaden the membership base of its ANSI consensus bodies and is interested in new members to participate in its initiatives, including emergency services, sustainability, energy efficiency, network synchronization, and wireless technologies. Of particular interest is membership from the government, academia, and user (communications service provider) communities. Membership and participation in ATIS' activities is open to all organizations as defined in ATIS' operating procedures. More information is available at www.atis.org or by e-mail from membership@atis.org.

Call for Members (ANS Consensus Bodies)

Call for Committee Members

ASC O1 – Safety Requirements for Woodworking Machinery

Are you interested in contributing to the development and maintenance of valuable industry safety standards? The ASC O1 is currently looking for members in the following categories:

- General Interest
- Government
- Producer
- User

If you are interested in joining the ASC O1, contact WMMA Associate Director Jennifer Miller at jennifer@wmma.org.

Final Actions on American National Standards

The standards actions listed below have been approved by the ANSI Board of Standards Review (BSR) or by an ANSI-Audited Designator, as applicable.

ABYC (American Boat and Yacht Council)

Revision

ANSI/ABYC A-22-2018, Marine Compressed Natural Gas (CNG) Systems (revision of ANSI/ABYC A-22-2012): 6/22/2018

APTech (ASC CGATS) (Association for Print Technologies)

New National Adoption

ANSI CGATS.5-2018, Graphic technology - Spectral measurement and colorimetric computation for graphic arts images (identical national adoption of ISO 13655 and revision of ANSI CGATS.5 -2009): 6/22/2018

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)

Addenda

ANSI/ASHRAE 135bd-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

ANSI/ASHRAE 135be-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

- * ANSI/ASHRAE 135bi-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018
- * ANSI/ASHRAE 135bk-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018
- * ANSI/ASHRAE 135bl-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018
- * ANSI/ASHRAE 135bm-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

* ANSI/ASHRAE 135bn-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

* ANSI/ASHRAE 135bp-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

ANSI/ASHRAE Addendum 135bq-2018, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016): 6/14/2018

ASTM (ASTM International)

New Standard

ANSI/ASTM E3075-2018, Test Method for Water Immersion and Drying for Evaluation of Flood Damage Resistance (new standard): 6/12/2018

NSF (NSF International)

Revision

ANSI/NSF 14-2018 (i96r1), Plastics Piping System Components and Related Materials (revision of ANSI/NSF 14-2017): 6/19/2018

ANSI/NSF 51-2018 (i14Br1), Food Equipment Materials (revision of ANSI/NSF 51-2014): 5/20/2018

Project Initiation Notification System (PINS)

ANSI Procedures require notification of ANSI by ANSI-accredited standards developers (ASD) of the initiation and scope of activities expected to result in new or revised American National Standards (ANS). Early notification of activity intended to reaffirm or withdraw an ANS and in some instances a PINS related to a national adoption is optional. The mechanism by which such notification is given is referred to as the PINS process. For additional information, see clause 2.4 of the ANSI Essential Requirements: Due Process Requirements for American National Standards.

Following is a list of proposed actions and new ANS that have been received recently from ASDs. Please also review the section in Standards Action entitled "American National Standards Maintained Under Continuous Maintenance" for additional or comparable information with regard to standards maintained under the continuous maintenance option. Use the following Public Document Library url to access PDF & EXCEL reports of approved & proposed ANS:

[List of Approved and Proposed ANS](#)

Directly and materially affected interests wishing to receive more information or to submit comments are requested to contact the standards developer directly within 30 days of the publication of this announcement.

ADA (American Dental Association)

Office: 211 East Chicago Avenue
Chicago, IL 60611-2678

Contact: Paul Bralower

E-mail: bralowerp@ada.org

BSR/ADA 169-201x, Periodontal Probes: General Requirements
(identical national adoption of ISO 21672-1:2012)

Stakeholders: Dentists, manufacturers.

Project Need: Periodontal probes are classified according to their intended function and shape, with material requirements and test methods provided for each type to ensure effective instruments suitable for use in dentistry.

This standard specifies general requirements and test methods for periodontal probes made of austenitic and stainless steel.

BSR/ADA 170-201x, Periodontal Probes: Dental Excavators - Discoid-type: General Requirements (identical national adoption of ISO 13397-4:1997)

Stakeholders: Dentists, manufacturers.

Project Need: Dimensions and designation and marking requirements are given for the various classifications of excavator forms to ensure effective instruments suitable for use in dentistry.

This standard specifies the dimensions for dental excavators with discoid working ends.

BSR/ADA 171-201x, Analysis of fluoride concentration in aqueous solutions by use of fluoride ion-selective electrode (identical national adoption of ISO 19448:2018)

Stakeholders: Dentists, manufacturers, researchers, policy makers.

Project Need: Adoption of as a national standard will be useful for industry, research, and policy makers by providing a solid basis for the analysis of fluoride in oral care products.

This standard provides methods for the analysis of fluoride in dental oral care products.

BSR/ADA 172-201x, Minimal Dental Implant Data Set (identical national adoption of ISO 16498:2013)

Stakeholders: Dentists, manufacturers, consumers, insurers.

Project Need: This standard will help ensure that important information is not omitted from patient records and will facilitate communication among clinicians and between clinicians, patients, and other stakeholders, such as insurers.

This standard specifies the minimal data set to be recorded for a patient receiving dental implant treatment. This will comprise the locations and types of dental implant bodies, connecting components and adjunctive devices, including grafting materials, placed in a patient's jaw(s).

BSR/ADA 173-201x, Designation System for Dental Implants (identical national adoption of ISO 19429:2015)

Stakeholders: Dentists, manufacturers, consumers, insurers.

Project Need: This standards is needed to facilitate communication among clinicians and between clinicians and other stakeholders as to the location of implants in patients' jaws.

This standard provides a system for designating the location of an implant body within a jaw, and is intended for use with the scheme described in ISO 3950.

ASC X9 (Accredited Standards Committee X9, Incorporated)

Office: 275 West Street
Suite 107
Annapolis, MD 21401

Contact: Ambria Frazier

E-mail: Ambria.frazier@x9.org

BSR X9.143-201X, Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms (new standard)

Stakeholders: SCD vendors, transaction processing hosts, key loading facilities, networks, PCI SSC.

Project Need: To standardize secure key exchange for symmetric algorithms.

A standard based on TR-31 will support interoperable implementations for secure key exchange for symmetric algorithms. TR-31 will be the starting point for this work.

ASSP (ASC A10) (American Society of Safety Professionals)

Office: 520 N. Northwest Hwy.
Park Ridge, IL 60068

Contact: Lauren Bauerschmidt

E-mail: LBauerschmidt@assp.org

BSR ASSP A10.13-201x, Safety Requirements for Steel Erection (revision and redesignation of ANSI ASSE A10.13-2011 (R2017))

Stakeholders: Construction and demolition occupational safety and health professionals.

Project Need: Based upon the consensus of the A10 Committee.

This standard establishes safety requirements for erecting, handling, fitting, fastening, reinforcing, and dismantling of structural steel, plate steel, steel joist, and metal deck at a final in-place field site during construction, maintenance, and dismantling operations.

ASTM (ASTM International)

Office: 100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Contact: *Laura Klineburger*

E-mail: accreditation@astm.org

BSR/ASTM WK63871-201x, New Specification for Playground Surface Impact Testing in a Lab at a Specified Test Height (new standard)

Stakeholders: Playground Surfacing Systems industry.

Project Need: This standard test method will use test methods and test criteria from F1292 to analyze surface shock absorption properties of a playground surface at a specific impact height and report the results for additional information to the F1292 standard. This specification is not to replace F1292 standard for critical fall-height testing but to be a companion standard to help the owner operator to acquire more information about impact ratings of various surface systems that better represent specific fall heights within their playground.

The current laboratory impact test method for playground surfacing established under F1292 only allows for critical fall height testing (sections 12-15) which only gives the owner/operator maximum fall height test results just before the surface fails the limits of the test, then a test is done a foot over that height and a foot under the maximum height and the results are reported.

ATIS (Alliance for Telecommunications Industry Solutions)

Office: 1200 G Street NW
Suite 500
Washington, DC 20005

Contact: *Emily Hoefer*

E-mail: ehoefer@atis.org

BSR/ATIS 0300220-201x, Structure for the Representation of the Communications Industry Manufacturers, Suppliers, and Related Service Companies for Information Exchange (revision of ANSI/ATIS 0300220-2016)

Stakeholders: Communications industry.

Project Need: The informative references, as well as other items within ATIS 0300220, need updating. The proposed changes are in support of consistency with ATIS 0300251-2017, Structure for the Representation of Service Providers for Information Exchange.

This standard provides the code and format structure for the representation of the names of communications industry manufacturers, suppliers, and related service companies for the purpose of efficient information exchange.

AWS (American Welding Society)

Office: 8669 NW 36th Street
Suite #130
Miami, FL 33166-6672

Contact: *Jennifer Rosario*

E-mail: jrosario@aws.org

BSR/AWS B2.1-1/8-324-201X, Standard Welding Procedure

Specification for Naval Applications (SWPS-N) for Shielded Metal Arc Welding of Carbon Steel (S-1) to Austenitic Stainless Steel (S-8), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, MIL-309-XX, MIL-309L-XX, in the As-Welded Condition, Primarily Pipe for Naval Applications (new standard)

Stakeholders: Navy, manufacturers, shipyards, welders, engineers, and CWIs.

Project Need: Need for pretested welding procedures that satisfy the technical requirements for the commonly used construction codes and specifications.

This standard contains the essential welding variables for carbon steel to austenitic stainless steel in the thickness range of 1/8 inch [3 mm] through 1-1/2 inch [38 mm], using manual shielded metal arc welding. It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications, and joint designs for groove and fillet welds. This SWPS-N was developed primarily for naval applications that require performance to NAVSEA Technical Publication S9074-AQ-GIB-010/248, Requirements for Welding and Brazing Procedure and Performance Qualification.

BSR/AWS-NAVSEA B2.1-1/8-323-201X, Standard Welding Procedure Specification for Naval Applications (SWPS-N) for Gas Tungsten Arc Welding of Carbon Steel (S-1) to Austenitic Stainless Steel (S-8), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, MIL-309, ER309L, in the As-Welded Condition, Primarily Pipe for Naval Applications (new standard)

Stakeholders: Navy, manufacturers, shipyards, welders, engineers, and CWIs.

Project Need: Need for pretested welding procedures that satisfy the technical requirements for the commonly used construction codes and specifications.

This standard contains the essential welding variables for carbon steel to austenitic stainless steel in the thickness range of 1/8 inch [3 mm] through 1-1/2 inch [38 mm], using manual gas tungsten arc welding. It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications and joint designs for groove and fillet welds. This SWPS-N was developed primarily for naval applications that require performance to NAVSEA Technical Publication S9074-AQ-GIB-010/248, Requirements for Welding and Brazing Procedure and Performance Qualification.

BSR/AWS-NAVSEA B2.1-1/8-325-201x, Standard Welding Procedure Specification for Naval Applications (SWPS-N) for Gas Tungsten Arc Welding Followed by Shielded Metal Arc Welding of Carbon Steel (S-1) to Austenitic Stainless Steel (S-8), 1/8 inch [3 mm] through 1-1/2 inch [38 mm] Thick, MIL-309/ER309L and MIL-309-XX/MIL-309L-XX, in the As-Welded Condition, Primarily Pipe for Naval Applications (new standard)

Stakeholders: Navy, manufacturers, shipyards, welders, engineers, and CWIs.

Project Need: Need for pretested welding procedures that satisfy the technical requirements for the commonly used construction codes and specifications.

This standard contains the essential welding variables for carbon steel to austenitic stainless steel in the thickness range of 1/8 inch [3 mm] through 1-1/2 inch [38 mm], using manual gas tungsten arc welding followed by shielded metal arc welding. It cites the base metals and operating conditions necessary to make the weldment, the filler metal specifications, and joint designs for groove and fillet welds. This SWPS-N was developed primarily for naval applications that require performance to NAVSEA Technical Publication S9074-AQ-GIB-010/248, Requirements for Welding and Brazing Procedure and Performance Qualification.

IEEE (ASC C63) (Institute of Electrical and Electronics Engineers)

Office: 445 Hoes Lane
Piscataway, NJ 08854

Contact: *Jennifer Santulli*

E-mail: J.Santulli@ieee.org

BSR N42.38-201x, Standard for Performance Criteria for Spectroscopy-Based Portal Monitors Used in Homeland Security (revision of ANSI N42.38-2015)

Stakeholders: Radiation detection instrument users, testing organizations, and instrument manufacturers.

Project Need: To address an observation made by a user of the standard. The observation raised a concern that misunderstandings may occur due to the common use of "tn" for other calculations. To address the concern, "tn" was changed to "p". The value, for the number of trials used in by the standard, remains the same.

Specifies the operational and performance requirements for spectroscopy-based portal monitors (SRPMs) used in homeland security applications. SRPMs have the ability to detect radioactivity and identify radionuclides that may be present in or on persons, vehicles, or containers through the use of gamma spectroscopy techniques.

MHI (ASC MHC) (Material Handling Industry)

Office: 8720 Red Oak Boulevard
Suite 201
Charlotte, NC 28217

Contact: *Patrick Davison*

E-mail: pdavison@mhi.org

BSR MH10.8.8-201X, Radio Frequency Identification for Packages, Parcels, and Flat Mail (revision of ANSI MH10.8.8-2011)

Stakeholders: Parties engaged in the manufacture, marketing, purchase, or use of automatic identification equipment, software, and services.

Project Need: The committee decided it was necessary to review this document's efficacy, and to see to withdrawing it, potentially, in favor of ISO 17365.

This standard provides guidance for the use of radio-frequency identification (RFID) for the handling and tracking of packages, parcels, and flat mail. The standard identifies minimum data requirements as well as semantic and syntactical recommendations. This standard further provides specific recommendations for the air interface communications of RFID devices based on the application requirements identified by the carriers.

NEBB (National Environmental Balancing Bureau)

Office: 8575 Grovemont Circle
Gaithersburg, MD 20877

Contact: *Bohdan Fedyk*

E-mail: don@nebb.org

BSR/NEBB S120-2016, Rev. 2-201x, Technical Retro-Commissioning of Existing Buildings Standard (revision of ANSI/NEBB S120-2016, Rev. 1-2017)

Stakeholders: Private and government building owners and building operators, commissioners, and testing firms.

Project Need: Revises Normative Appendix A only, to include the new instrument list in the current American National Standard.

This standard describes the technical retro-commissioning procedures utilized for existing building technical systems for the improvement and optimization of indoor environmental quality and comfort and energy and water utility usage reduction. It defines the technical work procedures, testing and system adjustments that are required to improve system performance by optimizing existing systems. This standard may be utilized in tandem with existing energy audit standards as a technical performance standard.

American National Standards Maintained Under Continuous Maintenance

The ANSI Essential Requirements: Due Process Requirements for American National Standards provides two options for the maintenance of American National Standards (ANS): periodic maintenance (see clause 4.7.1) and continuous maintenance (see clause 4.7.2). Continuous maintenance is defined as follows:

The standard shall be maintained by an accredited standards developer. A documented program for periodic publication of revisions shall be established by the standards developer. Processing of these revisions shall be in accordance with these procedures. The published standard shall include a clear statement of the intent to consider requests for change and information on the submittal of such requests. Procedures shall be established for timely, documented consensus action on each request for change and no portion of the standard shall be excluded from the revision process. In the event that no revisions are issued for a period of four years, action to reaffirm or withdraw the standard shall be taken in accordance with the procedures contained in the ANSI Essential Requirements.

The Executive Standards Council (ExSC) has determined that for standards maintained under the Continuous Maintenance option, separate PINS announcements are not required. The following ANSI Accredited Standards Developers have formally registered standards under the Continuous Maintenance option

- AAMI (Association for the Advancement of Medical Instrumentation)
- AARST (American Association of Radon Scientists and Technologists)
- AGA (American Gas Association)
- AGSC-AGRSS (Auto Glass Safety Council)
- ASC X9 (Accredited Standards Committee X9, Incorporated)
- ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.)
- ASME (American Society of Mechanical Engineers)
- ASTM (ASTM International)
- GBI (Green Building Initiative)
- HL7 (Health Level Seven)
- IES (Illuminating Engineering Society)
- MHI (Material Handling Industry)
- NAHBRC (NAHB Research Center, Inc.)
- NBBPVI (National Board of Boiler and Pressure Vessel Inspectors)
- NCPDP (National Council for Prescription Drug Programs)
- NEMA (National Electrical Manufacturers Association)
- NISO (National Information Standards Organization)
- NSF (NSF International)
- PRCA (Professional Ropes Course Association)
- RESNET (Residential Energy Services Network, Inc.)
- SAE (SAE International)
- TCNA (Tile Council of North America)
- TIA (Telecommunications Industry Association)
- UL (Underwriters Laboratories, Inc.)

To obtain additional information with regard to these standards, including contact information at the ANSI Accredited Standards Developer, please visit ANSI Online at www.ansi.org/asd, select "Standards Activities," click on "Public Review and Comment" and "American National Standards Maintained Under Continuous Maintenance." This information is also available directly at www.ansi.org/publicreview

Alternatively, you may contact the Procedures & Standards Administration department (PSA) at psa@ansi.org or via fax at 212-840-2298. If you request that information be provided via E-mail, please include your E-mail address; if you request that information be provided via fax, please include your fax number. Thank you.

ANSI-Accredited Standards Developers Contact Information

The addresses listed in this section are to be used in conjunction with standards listed in PINS, Call for Comment and Final Actions. This section is a list of developers who have submitted standards for this issue of *Standards Action* – it is not intended to be a list of all ANSI-Accredited Standards Developers. Please send all address corrections to Standards Action Editor at standact@ansi.org.

AAFS

American Academy of Forensic Sciences
410 North 21st Street
Colorado Springs, CO 80904
Phone: (719) 453-1036
Web: www.aafs.org

ABYC

American Boat and Yacht Council
613 Third Street
Suite 10
Annapolis, MD 21403
Phone: (410) 990-4460
Web: www.abycinc.org

ADA (Organization)

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611-2678
Phone: (312) 587-4129
Web: www.ada.org

AISI

American Iron and Steel Institute
25 Massachusetts Avenue, NW
Suite 800
Washington, DC 20001
Phone: (202) 452-7100
Web: www.steel.org

APCO

Association of Public-Safety Communications Officials-International
351 N. Williamson Boulevard
Daytona Beach, FL 32114
Phone: (920) 579-1153
Web: www.apcointl.org

APTech (ASC CGATS)

Association for Print Technologies
1899 Preston White Drive
Reston, VA 20191
Phone: (703) 264-7200
Web: www.printtechnologies.org

ASC X9

Accredited Standards Committee X9, Incorporated
275 West Street
Suite 107
Annapolis, MD 21401
Phone: (410) 267-7707
Web: www.x9.org

ASHRAE

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329-2305
Phone: (678) 539-1125
Web: www.ashrae.org

ASSP (ASC A10)

American Society of Safety Professionals
520 N. Northwest Hwy.
Park Ridge, IL 60068
Phone: (847) 768-3475
Web: www.asse.org

ASSP (Safety)

American Society of Safety Professionals
520 N. Northwest Highway
Park Ridge, IL 60068
Phone: (847) 232-2012
Web: www.asse.org

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Phone: (610) 832-9696
Web: www.astm.org

ATIS

Alliance for Telecommunications Industry Solutions
1200 G Street NW
Suite 500
Washington, DC 20005
Phone: (202) 662-8654
Web: www.atis.org

AWS

American Welding Society
8669 NW 36th Street
Suite #130
Miami, FL 33166-6672
Phone: (800) 443-9353
Web: www.aws.org

IEEE (ASC C63)

Institute of Electrical and Electronics Engineers
445 Hoes Lane
Piscataway, NJ 08854
Phone: (732) 562-3874
Web: www.ieee.org

MHI (ASC MHC)

Material Handling Industry
8720 Red Oak Boulevard
Suite 201
Charlotte, NC 28217
Phone: (704) 714-8755
Web: www.mhi.org

NEBB

National Environmental Balancing Bureau
8575 Grovemont Circle
Gaithersburg, MD 20877
Phone: (301) 977-3968
Web: www.nebb.org

NSF

NSF International
789 N. Dixboro Road
Ann Arbor, MI 48105-9723
Phone: (734) 827-3813
Web: www.nsf.org

RESNET

Residential Energy Services Network, Inc.
4867 Patina Court
Oceanside, CA 92057
Phone: (760) 408-5860
Web: www.resnet.us.com

UL

Underwriters Laboratories, Inc.
Ottawa, Canada,
Phone: (613) 368-4430
Web: www.ul.com

VC (ASC Z80)

The Vision Council
225 Reinekers Lane
Alexandria, VA 22314
Phone: 585-387-9913
Web: www.z80asc.com



ISO & IEC Draft International Standards

This section lists proposed standards that the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) are considering for approval. The proposals have received substantial support within the technical committees or subcommittees that developed them and are now being circulated to ISO and IEC members for comment and vote. Standards Action readers interested in reviewing and commenting on these documents should order copies from ANSI.

Comments

Comments regarding ISO documents should be sent to ANSI's ISO Team (isot@ansi.org); comments on IEC documents must be submitted electronically in the approved ISO template and as a Word document as other formats will not be accepted.

Those regarding IEC documents should be sent to Tony Zertuche, General Secretary, USNC/IEC, at ANSI's New York offices (tzertuche@ansi.org). The final date for offering comments is listed after each draft.

Ordering Instructions

ISO and IEC Drafts can be made available by contacting ANSI's Customer Service department. Please e-mail your request for an ISO or IEC Draft to Customer Service at sales@ansi.org. When making your request, please provide the date of the Standards Action issue in which the draft document you are requesting appears.

ISO Standards

ANAESTHETIC AND RESPIRATORY EQUIPMENT (TC 121)

ISO/DIS 8836, Suction catheters for use in the respiratory tract - 11/6/2021, \$93.00

BIOLOGICAL EVALUATION OF MEDICAL AND DENTAL MATERIALS AND DEVICES (TC 194)

ISO/DIS 14155, Clinical investigation of medical devices for human subjects - Good clinical practice - 7/13/2018, \$155.00

CORROSION OF METALS AND ALLOYS (TC 156)

ISO/DIS 22479, Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (Fixed gas method) - 7/12/2018, \$62.00

EQUIPMENT FOR FIRE PROTECTION AND FIRE FIGHTING (TC 21)

ISO/DIS 7203-1, Fire extinguishing media - Foam concentrates - Part 1: Specification for low-expansion foam concentrates for top application to water-immiscible liquids - 7/16/2018, \$112.00

ISO/DIS 7203-2, Fire extinguishing media - Foam concentrates - Part 2: Specification for medium- and high-expansion foam concentrates for top application to water-immiscible liquids - 7/16/2018, \$107.00

ISO/DIS 7203-3, Fire extinguishing media - Foam concentrates - Part 3: Specification for low-expansion foam concentrates for top application to water-miscible liquids - 7/16/2018, \$107.00

FOOTWEAR (TC 216)

ISO/DIS 17700, Footwear - Test methods for upper components and insoles - Colour fastness to rubbing and bleeding - 9/6/2018, \$62.00

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO/DIS 19136-1, Geographic information - Geography Markup Language (GML) - Part 1: Fundamentals - 9/7/2018, \$269.00

GRAPHICAL SYMBOLS (TC 145)

ISO 7010/DAMd243, - Amendment 2: Safety sign E030: Emergency exit for people unable to walk or with walking impairment (right) - 7/16/2018, \$29.00

INTERNAL COMBUSTION ENGINES (TC 70)

ISO/DIS 8178-3, Reciprocating internal combustion engines - Exhaust emission measurement - Part 3: Test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using a filter type smoke meter - 7/14/2018, \$58.00

ISO/DIS 8178-9, Reciprocating internal combustion engines - Exhaust emission measurement - Part 9: Test cycles and test procedures for measurement of exhaust gas smoke emissions from compression ignition engines using an Opacimeter - 7/19/2018, \$134.00

MATERIALS, EQUIPMENT AND OFFSHORE STRUCTURES FOR PETROLEUM AND NATURAL GAS INDUSTRIES (TC 67)

ISO/DIS 35102, Petroleum and natural gas industries - Arctic operations - Escape, evacuation and rescue from offshore installations - 7/14/2018, \$155.00

ISO/DIS 20257-1, Installation and equipment for liquefied natural gas - Design of floating LNG installations - Part 1: General requirements - 9/13/2018, \$194.00

NON-DESTRUCTIVE TESTING (TC 135)

ISO/DIS 12718, Non-destructive testing - Eddy current testing - Vocabulary - 7/15/2018, \$77.00

NUCLEAR ENERGY (TC 85)

ISO 15080/DAMd1, Nuclear facilities - Ventilation penetrations for shielded enclosures - Amendment 1 - 9/6/2018, \$40.00

OPTICS AND OPTICAL INSTRUMENTS (TC 172)

ISO/DIS 10110-12, Optics and photonics - Preparation of drawings for optical elements and systems - Part 12: Aspheric surfaces - 7/19/2018, \$88.00

PACKAGING (TC 122)

ISO/DIS 22015, Packaging - Accessible design - Handling and manipulation - 9/10/2018, \$88.00

PAPER, BOARD AND PULPS (TC 6)

ISO/DIS 1762, Paper, board, pulps and cellulose nanomaterials - Determination of residue (ash content) on ignition at 525 degrees C - 9/6/2018, \$33.00

PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO/DIS 16900-1, Respiratory protective devices - Methods of test and test equipment - Part 1: Determination of inward leakage - 9/13/2018, \$107.00

ISO/DIS 16900-14, Respiratory protective devices - Methods of test and test equipment - Part 14: Measurement of sound level - 9/13/2018, \$58.00

PLASTICS (TC 61)

ISO/DIS 10350-2, Plastics - Acquisition and presentation of comparable single-point data - Part 2: Long-fibre-reinforced plastics - 9/14/2018, \$53.00

POWDER METALLURGY (TC 119)

ISO/DIS 4499-2, Hardmetals - Metallographic determination of microstructure - Part 2: Measurement of WC grain size - 7/15/2018, \$71.00

ROAD VEHICLES (TC 22)

ISO/DIS 21498, Electrically propelled road vehicles - Electrical tests for voltage class B components - 9/10/2018, \$119.00

ISO/DIS 14229-1, Road vehicles - Unified diagnostic services (UDS) - Part 1: Application layer - 7/15/2018, \$269.00

ISO/DIS 21782-1, Electrically propelled road vehicles - Test specification for electric propulsion components - Part 1: General - 9/6/2018, \$58.00

ISO/DIS 21782-2, Electrically propelled road vehicles - Test specification for electric propulsion components - Part 2: Performance testing of motor system - 9/6/2018, \$58.00

ISO/DIS 21782-3, Electrically propelled road vehicles - Test specification for electric propulsion components - Part 3: Performance testing of motor and inverter - 9/6/2018, \$98.00

STEEL (TC 17)

ISO/DIS 11484, Steel products - Employers qualification system of non-destructive testing (NDT) personnel - 11/9/2029, \$71.00

TEXTILES (TC 38)

ISO/DIS 2370, Textiles - Determination of fineness of flax fibres - Permeametric methods - 7/15/2018, \$77.00

ISO/DIS 1833-16, Textiles - Quantitative chemical analysis - Part 16: Mixtures of polypropylene fibres with certain other fibres (method using xylene) - 7/14/2018, \$29.00

TOBACCO AND TOBACCO PRODUCTS (TC 126)

ISO/DIS 16055, Tobacco and tobacco products - Monitor test piece - Requirements and use - 9/10/2018, \$67.00

ISO/DIS 10362-1, Cigarettes - Determination of water in total particulate matter from the mainstream smoke - Part 1: Gas-chromatographic method - 9/15/2018, \$53.00

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 4254-11/DAmD1, Agricultural machinery - Safety - Part 11: Pick-up balers - Amendment 1 - 9/14/2018, \$58.00

ISO/DIS 15077, Tractors and self-propelled machinery for agriculture and forestry - Operator controls - Actuating forces, displacement, location and method of operation - 12/25/2028, \$77.00

ISO/DIS 16122-5, Agricultural and forestry machines - Inspection of sprayers in use - Part 5: Aerial spray systems - Environmental protection - 9/13/2018, \$53.00

WATER RE-USE (TC 282)

ISO/DIS 22519, Purified water and water for injection pretreatment and production systems - 9/8/2018, \$107.00

WELDING AND ALLIED PROCESSES (TC 44)

ISO/DIS 15609-1, Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding - 7/12/2018, \$40.00

ISO/IEC JTC 1, Information Technology

ISO/IEC DIS 15434, Information technology - Automatic identification and data capture techniques - Syntax for high-capacity ADC media - 9/10/2018, \$71.00

ISO/IEC DIS 18013-2, Information technology - Personal identification - ISO-compliant driving licence - Part 2: Machine-readable technologies - 9/6/2018, \$146.00

ISO/IEC DIS 18013-4, Information technology - Personal identification - ISO-compliant driving licence - Part 4: Test methods - 9/14/2018, \$194.00

IEC Standards

CABPUB/164/CD, ISO/IEC CD 1 17000:2004 Conformity assessment - Vocabulary and general principles, 2018/8/17

9/2427/CD, IEC 62973-2 ED1: Railway applications - Batteries for auxiliary power supply systems - Part 2: Nickel Cadmium (NiCd) batteries, 2018/9/14

9/2410/CDV, IEC 62590 ED2: Railway applications - Fixed installations - Electronic power converters for substations, 2018/9/14

14/971/CD, IEC 60076-22-7 ED1: Power transformers - Part 22-7: Power transformer and reactor fittings - Accessories and fittings, 2018/9/14

15/850/CD, IEC 60667-3-1 ED2: Vulcanized fibre for electrical purposes - Part 3: Specification for individual materials - Sheet 1: Flat sheets, 2018/9/14

15/848/CD, IEC 60667-1 ED2: Vulcanized fibre for electrical purposes - Part 1: Definitions and general requirements, 2018/9/14

15/849/CD, IEC 60667-2 ED2: Vulcanized fibre for electrical purposes - Part 2: Methods of test, 2018/9/14

15/851/CD, IEC 60763-2/AMD1 ED2: Specification for laminated pressboard - Part 2: Methods of test, 2018/9/14

17C/683/NP, PNW 17C-683: Compact Equipment Assemblies for Sub-Transmission Substation; CEASTS; (High Voltage/Medium Voltage, 52 kV - 145 kV) Insulation Medium: Synthetic Oil, or Low Pressure GIS - using Polymeric Insulation, 2018/9/14

34C/1391/CD, IEC 61347-2-7/AMD2/FRAG2 ED3: Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained), 2018/9/14

34D/1387/CD, IEC 60598-1/AMD2/FRAG23 ED8: Luminaires - Part 1: General requirements and tests, 2018/9/14

34D/1389/CD, IEC 60598-1/AMD2/FRAG24 ED8: Luminaires - Part 1: General requirements and tests, 2018/9/14

34D/1384/CD, IEC 60598-2-1 ED2: Luminaires - Part 2: Particular requirements - Section One: Fixed general purpose luminaires, 2018/9/14

34D/1385/CD, IEC 60598-2-22/AMD2/FRAG3 ED4: Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting, 2018/9/14

34D/1386/CD, IEC 60598-1/AMD2/FRAG22 ED8: Luminaires - Part 1: General requirements and tests, 2018/9/14

35/1395/CDV, IEC 62281 ED4: Safety of primary and secondary lithium cells and batteries during transport, 2018/9/14

- 38/567/CD, IEC/IEEE TS 61869-105 ED1: Instrument transformers - Part 105: Uncertainty evaluation in the calibration of Instrument Transformers, 2018/9/14
- 45B/906(F)/CDV, IEC 62387 ED2: Radiation protection instrumentation - Dosimetry systems with integrating passive detectors for individual, workplace and environmental monitoring of photon and beta radiation, 018/9/7/
- 45B/907/CDV, IEC 62963 ED1: Radiation protection instrumentation - Bottle/can liquid X-ray computed tomography (CT) inspection systems, 2018/9/14
- 46F/417/CDV, IEC 61169-24 ED3: Radio-frequency connectors - Part 24: Sectional specification - Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ohms cable networks (type F), 2018/9/14
- 47/2492/FDIS, IEC 62951-3 ED1: Semiconductor devices - Flexible and stretchable semiconductor devices - Part 3: Evaluation of thin film transistor characteristics on flexible substrates under bulging, 018/8/3/
- 47E/610/CD, IEC 60747-5-62 ED1: Semiconductor devices - Part 5-9: Optoelectronic devices - Light emitting diodes - Test method of the internal quantum efficiency based on the temperature-dependent electroluminescence, 2018/8/17
- 47E/611/CD, IEC 60747-5-63 ED1: Semiconductor devices - Part 5-10: Optoelectronic devices - Light emitting diodes - Test method of the internal quantum efficiency by the room-temperature reference point, 2018/8/17
- 48D/679/CD, IEC 62966-2/Ed.1.0: Mechanical structures for electrical and electronic equipment - Aisle containment for IT cabinets - Part 2: Details of air flow, air separation and air cooling requirements, 2018/9/14
- 55/1655/NP, PNW 55-1655: Specifications for particular types of winding wires - Part 27-2: Paper tape covered round aluminum wire, 2018/9/14
- 55/1657/NP, PNW 55-1657: Specifications for particular types of winding wires - Part 27-4: Paper tape covered rectangular aluminum wire, 2018/9/14
- 55/1656/NP, PNW 55-1656: Specifications for particular types of winding wires - Part 27-1: Paper tape covered round copper wire, 2018/9/14
- 55/1653/CDV, IEC 60851-3/AMD2 ED3: Winding wires - Test methods - Part 3: Mechanical properties, 2018/9/14
- 57/1989A/CDV, IEC 61968-5 ED1: Application integration at electric utilities - System interfaces for distribution management - Part 5: Distributed energy optimization, 018/9/7/
- 57/1989(F)/CDV, IEC 61968-5 ED1: Application integration at electric utilities - System interfaces for distribution management - Part 5: Distributed energy optimization, 018/9/7/
- 61/5698/CD, IEC 60335-2-115 ED1: Household and Similar Electrical Appliances - Safety - Part 2-115: Particular requirements for beauty care appliances, 2018/8/17
- 64/2275(F)/CDV, IEC 60479-1 ED1: Effects of current on human beings and livestock - Part 1: General aspects, 018/9/7/
- 65/699/CD, IEC TS 63164-1 ED1: Reliability of Industrial Automation Devices and Systems - Part 1: Assurance of automation devices reliability data and specification of their source, 2018/8/17
- 69/597/CDV, IEC 63119-1 ED1: Information exchange for Electric Vehicle charging roaming service - Part 1:General, 2018/9/14
- 80/893/FDIS, IEC 62923-2 ED1: Maritime navigation and radiocommunication equipment and systems - Bridge alert management - Part 2: Alert and cluster identifiers and other additional features, 018/8/3/
- 80/892/FDIS, IEC 62923-1 ED1: Maritime navigation and radiocommunication equipment and systems - Bridge alert management - Part 1: Operational and performance requirements, methods of testing and required test results, 018/8/3/
- 82/1446/CD, IEC TS 63156 ED1: Photovoltaic systems - Power conditioners - Energy evaluation method, 2018/9/14
- 90/410/NP, PNW 90-410: Normal state resistance measurement - High-Tc Josephson junction, 2018/9/14
- 91/1518/CD, IEC 61189-5-601 ED1: Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 5-601: General test methods for materials and assemblies - Reflow soldering ability test for solder joint, and reflow heat resistance test for printed boards, 2018/9/14
- 95/390/CD, IEC 60255-27 ED3: Measuring relays and protection equipment - Part 27: Product safety requirements, 2018/9/14
- 104/807/CD, IEC 60068-2-70 ED2: Environmental testing - Part 2-70: Tests - Test Xb: Abrasion of markings and letterings caused by rubbing of fingers and hands, 2018/9/14
- 110/994/CD, IEC 63145-20-20 ED1: Eyewear display - Part 20-20: Fundamental measurement methods - Image quality, 2018/8/17
- 113/431/CD, IEC TS 62607-6-13 ED1: Nanomanufacturing - Key control characteristics - Part 6-13: Graphene powder - Oxygen functional groups content: Boehm titration method, 2018/8/17
- 119/227/FDIS, IEC 62899-202-5 ED1: Printed electronics - Part 202-5: Materials - Conductive ink - Mechanical bending test of a printed conductive layer on a substrate, 018/8/3/
- 119/226/FDIS, IEC 62899-203 ED1: Printed Electronics - Part 203: Materials - Semiconductor ink, 018/8/3/
- 121A/232/CD, IEC 60947-6-1 ED3: Low-voltage switchgear and controlgear - Part 6-1: Multiple function equipment - Transfer switching equipment, 2018/9/14
- 121A/223/CDV, IEC 60947-1 ED6: Low-voltage switchgear and controlgear - Part 1: General rules, 2018/9/14
- CIS/F/738/CDV, CISPR 14-2/AMD1/FRAG2 ED2: Fragment 2 of Amendment 1: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard, 2018/9/14
- CIS/F/737/CDV, CISPR 14-1/AMD1/FRAG2 ED6: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission, 2018/9/14



Newly Published ISO Standards

Listed here are new and revised standards recently approved and promulgated by ISO - the International Organization for Standardization. Most are available at the ANSI Electronic Standards Store (ESS) at www.ansi.org. All paper copies are available from Standards resellers (<http://webstore.ansi.org/faq.aspx#resellers>).

AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO 18593:2018, Microbiology of the food chain - Horizontal methods for surface sampling, \$68.00

CRANES (TC 96)

ISO 23853:2018, Cranes - Training of slingers and signallers, \$138.00

FOOTWEAR (TC 216)

ISO 17708:2018, Footwear - Test methods for whole shoe - Upper sole adhesion, \$68.00

INTERNAL COMBUSTION ENGINES (TC 70)

ISO 8528-2:2018, Reciprocating internal combustion engine driven alternating current generating sets - Part 2: Engines, \$103.00

MECHANICAL VIBRATION AND SHOCK (TC 108)

ISO 20816-4:2018, Mechanical vibration - Measurement and evaluation of machine vibration - Part 4: Gas turbines in excess of 3 MW, with fluid-film bearings, \$138.00

PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO 374-1/Amd1:2018, Protective gloves against dangerous chemicals and micro-organisms - Part 1: Terminology and performance requirements for chemical risks - Amendment 1, \$19.00

PETROLEUM PRODUCTS AND LUBRICANTS (TC 28)

ISO 4264:2018, Petroleum products - Calculation of cetane index of middle-distillate fuels by the four variable equation, \$68.00

QUALITY MANAGEMENT AND QUALITY ASSURANCE (TC 176)

ISO 10005:2018, Quality management - Guidelines for quality plans, \$162.00

SOIL QUALITY (TC 190)

ISO 20244:2018, Soil quality - Screening method for water content - Determination by refractometry, \$45.00

STEEL (TC 17)

ISO 4957:2018, Tool steels, \$162.00

TECHNICAL SYSTEMS AND AIDS FOR DISABLED OR HANDICAPPED PERSONS (TC 173)

ISO 7176-6:2018, Wheelchairs - Part 6: Determination of maximum speed of electrically powered wheelchairs, \$45.00

TOBACCO AND TOBACCO PRODUCTS (TC 126)

ISO 15152/Amd2:2018, Tobacco - Determination of the content of total alkaloids as nicotine - Continuous-flow analysis method - Amendment 2, \$19.00

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

ISO 11783-7/Amd1:2018, Tractors and machinery for agriculture and forestry - Serial control and communications data network - Part 7: Implement messages application layer - Amendment 1, \$162.00

TRANSPORT INFORMATION AND CONTROL SYSTEMS (TC 204)

ISO 29281-1:2018, Intelligent transport systems - Localized communications - Part 1: Fast networking & transport layer protocol (FNTP), \$209.00

WATER RE-USE (TC 282)

ISO 20761:2018, Water reuse in urban areas - Guidelines for water reuse safety evaluation - Assessment parameters and methods, \$138.00

WELDING AND ALLIED PROCESSES (TC 44)

ISO 15612:2018, Specification and qualification of welding procedures for metallic materials - Qualification by adoption of a standard welding procedure specification, \$45.00

ISO/IEC JTC 1, Information Technology

ISO/IEC 14443-3:2018, Cards and security devices for personal identification - Contactless proximity objects - Part 3: Initialization and anticollision, \$209.00

ISO/IEC 14443-4:2018, Cards and security devices for personal identification - Contactless proximity objects - Part 4: Transmission protocol, \$209.00

Registration of Organization Names in the United States

The Procedures for Registration of Organization Names in the United States of America (document ISSB 989) require that alphanumeric organization names be subject to a 90-day Public Review period prior to registration. For further information, please contact the Registration Coordinator at (212) 642-4975.

The following is a list of alphanumeric organization names that have been submitted to ANSI for registration. Alphanumeric names appearing for the first time are printed in bold type. Names with confidential contact information, as requested by the organization, list only public review dates.

PUBLIC REVIEW

South Carolina Law Enforcement Division (SLED)

Public Review: April 27 to July 23, 2018

NOTE: Challenged alphanumeric names are underlined. The Procedures for Registration provide for a challenge process, which follows in brief. For complete details, see Section 6.4 of the Procedures.

A challenge is initiated when a letter from an interested entity is received by the Registration Coordinator. The letter shall identify the alphanumeric organization name being challenged and state the rationale supporting the challenge.

A challenge fee shall accompany the letter. After receipt of the challenge, the alphanumeric organization name shall be marked as challenged in the Public Review list. The Registration Coordinator shall take no further action to register the challenged name until the challenge is resolved among the disputing parties.

Proposed Foreign Government Regulations

Call for Comment

U.S. manufacturers, exporters, regulatory agencies and standards developing organizations may be interested in proposed foreign technical regulations notified by Member countries of the World Trade Organization (WTO). In accordance with the WTO Agreement on Technical Barriers to Trade (TBT Agreement), Members are required to notify proposed technical regulations that may significantly affect trade to the WTO Secretariat in Geneva, Switzerland. In turn, the Secretariat issues and makes available these notifications. The purpose of the notification requirement is to provide global trading partners with an opportunity to review and comment on the regulations before they become final.

The USA Inquiry Point for the WTO TBT Agreement is located at the National Institute of Standards and Technology (NIST) in the Standards Coordination Office (SCO). The Inquiry Point distributes the notified proposed foreign technical regulations (notifications) and makes the associated full-texts available to U.S. stakeholders via its online service, Notify U.S. Interested U.S. parties can register with Notify U.S. to receive e-mail alerts when notifications are added from countries and industry sectors of interest to them.

To register for Notify U.S., please visit <http://www.nist.gov/notifyus/>.

The USA WTO TBT Inquiry Point is the official channel for distributing U.S. comments to the network of WTO TBT Enquiry Points around the world. U.S. business contacts interested in commenting on the notifications are asked to review the comment guidance available on Notify U.S. at <https://tsapps.nist.gov/notifyus/data/guidance/guidance.cfm> prior to submitting comments.

For further information about the USA TBT Inquiry Point, please visit: <https://www.nist.gov/standardsgov/what-we-do/trade-regulatory-programs/usa-wto-tbt-inquiry-point>

Contact the USA TBT Inquiry Point at:(301) 975-2918; Fax: (301) 926-1559; E-mail: usatbtep@nist.gov or notifyus@nist.gov.

Information Concerning

American National Standards

Call for Members

INCITS Executive Board – ANSI Accredited SDO and US TAG to ISO/IEC JTC 1, Information Technology

The InterNational Committee for Information Technology Standards (INCITS), an ANSI accredited SDO, is the forum of choice for information technology developers, producers and users for the creation and maintenance of formal de jure IT standards. INCITS' mission is to promote the effective use of Information and Communication Technology through standardization in a way that balances the interests of all stakeholders and increases the global competitiveness of the member organizations.

The INCITS Executive Board serves as the consensus body with oversight of its 40+ Technical Committees. Additionally, the INCITS Executive Board has the international leadership role as the US Technical Advisory Group (TAG) to ISO/IEC JTC 1, Information Technology.

Membership in the INCITS Executive Board is open to all directly and materially affected parties in accordance with INCITS membership rules. To find out more about participating on the INCITS Executive Board, contact Jennifer Garner at jgarner@itic.org or visit <http://www.incits.org/participation/membership-info> for more information.

Membership in all interest categories is always welcome; however, the INCITS Executive Board seeks to broaden its membership base in the following categories:

- Service Providers
- Users
- Standards Development Organizations and Consortia
- Academic Institutions

Society of Cable Telecommunications

ANSI Accredited Standards Developer

SCTE, an ANSI-accredited SDO, is the primary organization for the creation and maintenance of standards for the cable telecommunications industry. SCTE's standards mission is to develop standards that meet the needs of cable system operators, content providers, network and customer premises equipment manufacturers, and all others who have an interest in the industry through a fair, balanced and transparent process.

SCTE is currently seeking to broaden the membership base of its consensus bodies and is interested in new members in all membership categories to participate in new work in fiber-optic networks, advanced advertising, 3D television, and other important topics. Of particular interest is membership from the content (program and advertising) provider and user communities.

Membership in the SCTE Standards Program is open to all directly a materially affected parties as defined in SCTE's membership rules and operating procedures. More information is available at www.scte.org or by e-mail from standards@scte.org.

ANSI Accredited Standards Developers

Approval of Reaccreditation

National Association of State Boating Law Administration (NASBLA)

The reaccreditation of National Association of State Boating Law Administrators (NASBLA), an ANSI member and Accredited Standards Developer (ASD), has been approved at the direction of ANSI's Executive Standards Council, under its recently revised operating procedures for documenting consensus on NASBLA-sponsored American National Standards, effective June 22, 2018. For additional information, please contact: Ms. Pamela Dillon, Director, Education & Standards, National Association of State Boating Law Administrators, 1648 McGrathiana Parkway, Suite 360, Lexington, KY 40511; phone: 859.225.9487; e-mail: pam@nasbla.org.

Professional Ropes Course Association (PRCA)

The reaccreditation of the Professional Ropes Course Association (PRCA), an ANSI member and Accredited Standards Developer (ASD), has been approved at the direction of ANSI's Executive Standards Council, under its recently revised operating procedures for documenting consensus on PRCA-sponsored American National Standards, effective June 15, 2018. For additional information, please contact: Mr. Michael Barker, Vice-President, Professional Ropes Course Association, 6260 East Riverside Boulevard #104, Rockford, IL 61114; phone: 815.986.7776; e-mail: climb1guide@gmail.com.

Reaccreditation

Association for Challenge Course Technology (ACCT)

Comment Deadline: July 30, 2018

The Association for Challenge Course Technology (ACCT), an ANSI member and Accredited Standards Developer, has submitted revisions to its currently accredited operating procedures for documenting consensus on ACCT-sponsored American National Standards, under which it was last reaccredited in 2016. As the current revisions appear to be substantive in nature, the reaccreditation process is initiated.

To obtain a copy of the revised procedures or to offer comments, please contact: Mr. Shawn Tierney, Executive Director, Association for Challenge Course Technology, P.O. Box 19797, Boulder, CO 80308; phone: 303.328.5978; e-mail: shawn@acctinfo.org. You may view/download a copy of the revisions during the public review period at the following URL: www.ansi.org/accredPR. Please submit any public comments on the revised procedures to ACCT by July 30, 2018, with a copy to the ExSC Recording Secretary in ANSI's New York Office (jthomps@ANSI.org).

International Organization for Standardization (ISO)

ISO Proposal for a New Field of ISO Technical Activity

Sustainable Finance

Comment Deadline: July 13, 2018

BSI, the ISO member body for the United Kingdom, has submitted to ISO a new work item proposal for the development of an ISO standard on Sustainable Finance, with the following scope statement:

Standardization in the field of Sustainable Finance

The program of work will promote the integration of sustainability considerations and environmental, social and governance (ESG) practices into institutional investment decision-making and wider finance management. It will ultimately look to support the alignment of the global financial system with sustainable development goals.

Anyone wishing to review the proposal can request a copy by contacting ANSI's ISO Team (isot@ansi.org), with a submission of comments to Steve Cornish (scornish@ansi.org) by close of business on Friday, July 13.

U.S. Technical Advisory Groups

Approval of TAG Accreditation

U.S. TAG to ISO TC 279 – Innovation Management

ANSI's Executive Standards Council (ExSC) has formally approved the accreditation of the U.S. Technical Advisory Group to ISO TC 279, Innovation management under the Model Operating Procedures for U.S. Technical Advisory Groups to ANSI for ISO Activities (Annex A of the ANSI International Procedures) with the International Association of Innovation Professionals (IAOIP) serving as TAG Administrator, effective June 22, 2018. For additional information, please contact: Dr. Brett Trusko, President & CEO, International Association of Innovation Professionals, 4422 Castlewood Street, Suite 200, Sugar Land, TX 77479; phone: 925.858.0905; e-mail: brett@iaoip.org.

Meeting Notices

North American Crossbow Federation

NACF 001-2018 – Criteria of Crossbow Designs under Conditions of Reasonable Foreseeable Use and Abuse by Users

The North American Crossbow Federation continues with their efforts to establish basic definitions, standards and testing procedures for the crossbow industry according to the procedure set forth by ANSI. The NACF now has in place the required ANSI mandated balance of consensus committee members. Five NACF manufacture members and ten consensus committee members make up the consensus committee. These proposed standards are listed with ANSI as NACF 001-2018.

This consensus committee held a meeting on May 24th that was adjourned before all the proposed definitions, standards and testing procedures were reviewed and edited. For that reason, the NACF consensus committee will hold another meeting on July 9th at 1:00 P.M. EST. At that time, the meeting of May 24th will be called back to order.

Questions or comments in regards to these proposed matters should be sent before the meeting and can be sent by using the "Contact Us" feature on the NACF website. The NACF website is:

www.northamericancrossbowfederation.com/.

Plastics Industry Association (PLASTICS)

The Plastics Industry Association (PLASTICS) is announcing a meeting of the Machinery Safety Technical Committee for October 9-11, 2018 in Independence, OH. The main purpose of the meeting will be to review progress on the 2018 work plan (including plastic film and sheet winding machinery and size reduction standards) begin development of a work plan for 2019 (including discussion of the injection molding and robot interface standards). For additional information, including a draft agenda and registration, please visit our [website](#). PLASTICS standards meetings are open to all interested parties. For more information, contact Megan Hayes (mhayes@plasticsindustry.org).

Information Concerning

ANSI Accreditation Program for Greenhouse Gas Verification/Validation Bodies

Application for Accreditation

DNV GL Business Assurance USA, Inc.

Comment Deadline: July 30, 2018

In accordance with the following ISO standards:

ISO 14065:2013, *Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition*

DNV GL Business Assurance USA, Inc.
1400 Ravello Drive
Katy, TX 77449

has submitted a formal application for accreditation by ANSI for the following sectoral scopes:

Verification of assertions related to GHG emission reductions & removals at the organizational level

Group 1 – General

Group 2 – Manufacturing

Group 3 – Power Generation

Group 5 – Mining and Mineral Production

Group 6 – Metals Production

Group 7 – Chemical Production

Group 8 – Oil and Gas Extraction, Production and Refining, included Petrochemicals

Group 9 – Waste

Please send your comments by July 30, 2018 to Ann Howard, Director, Environmental Accreditation Programs, American National Standards Institute, 1899 L Street, NW, 11th Floor, Washington, DC 20036, e-mail: ahoward@ansi.org.

Supplement 1 to AISI S100-16:

1. Revise AISI S100-16 Sections A3.3.2 first paragraph as shown below:

A3.3.2 Strength Increase From Cold Work of Forming

Strength increase from cold work of forming is permitted by substituting F_{ya} for F_y , where F_{ya} is the average *yield stress* of the full section. Such increase shall be limited to Chapters D, E, F (excluding Section F2.4), Sections H1, I4, and I6.2 and to sections not subject to strength reduction from *local or distortional buckling at stress level F_y* ; specifically, for columns, $P_{nt} = P_{ne}$ from Section E3 and $P_{nd} = P_y$ from Section E4, and for beams, $M_{nt} = M_{ne}$ from Section F3 and $M_{nd} = M_y$ from Section F4. The limits and methods for determining F_{ya} shall be in accordance with (a), (b) and (c).

(No changes to the rest of this section)

2. Delete entire Section J7.2 and revise Section J7 as shown below:

J7 Connections to Other Materials

In bolted, screw, and power-actuated fastener connections, the available strength [factored resistance] of the connection to other materials shall be determined in accordance with Section J7.1. ~~For power-actuated fasteners embedded in concrete, Section J7.2 is permitted to be used as an alternative.~~

~~J7.2 Power-Actuated Fasteners (PAFs) in Concrete~~

~~J7.2.1 Minimum Spacing, Edge and End Distances~~

~~The minimum center to center spacing of the PAFs and the minimum distance from center of the fastener to any edge of the connected part, regardless of the direction of the force, shall be as provided by Table J7.2.1-1.~~

Table J7.2.1-1
Minimum Required Edge and Spacing Distances in Concrete

PAF Shank Diameter, d_s , in. (mm)	Minimum PAF Spacing in. (mm)	Minimum Edge Distance in. (mm)
$0.106 (2.69) \leq d_s < 0.158 (4.01)$	4.00 (102)	3.20 (81.3)
$0.158 (4.01) \leq d_s < 0.197 (5.00)$	5.00 (127)	3.50 (88.9)
$0.197 (5.00) \leq d_s < 0.206 (5.23)$	6.00 (152)	4.00 (102)

~~J7.2.2 Pull-Out Strength in Shear~~

~~For PAFs, as depicted in Figure J5-1(a), used to cold formed steel framing track to concrete connections, the nominal pull out strength [resistance] in shear is permitted to be taken as $P_{nos} = 1,450$ lbs (6,450 N), and the following safety factor and resistance factors shall be applied to determine the available strength [factored resistance] in accordance with Section B3.2.1, B3.2.2, or B3.2.3:~~

~~$$\Omega = 3.25 \text{ (ASD)}$$~~

~~$$\phi = 0.50 \text{ (LRFD)}$$~~

~~$$= 0.40 \text{ (LSD)}$$~~

~~In addition, the following limit conditions shall apply:~~

~~(a) $d_s \geq 0.118$ in. (3.00 mm),~~

AISI S100-16/S1-18, Supplement 1 to North American Specification for the Design of Cold-Formed Steel Structural Members

~~(b) Normal weight concrete as defined in ACI 318 for the United States and Mexico and CAN/CSA A23.3 for Canada with minimum specified compressive strength, f'_c , of 2.5 ksi (17.2 MPa),~~

~~(c) $d_e \geq 3(h_{ET})$,~~

~~(d) $h_{ET} \geq 1.0$ in. (25.4 mm), and~~

~~(e) Minimum required edge and spacing distances as shown in Table J7.2.1-1.~~

~~where~~

~~d_s — Nominal shank diameter~~

~~d_e — Thickness of supporting concrete~~

~~h_{ET} — Embedment depth of PAF in concrete~~

Supplement 1 to AISI S100-16-C:

1. Revise Section A3.3.2 10th paragraph as follows:

A3.3.2 Strength Increase From Cold Work of Forming

(Revise the 10th paragraph as follows)

Prior to 2016, the requirements for applying the provisions of strength increase from cold work of forming were written for using the *Effective Width Method*. The requirements were revised in 2016 to make the provisions also applicable to the *Direct Strength Method*. The strength increase from cold work of forming is applicable to sections that are not subject to strength reduction from *local and distortional buckling at a stress level of F_y for compression members or when the extreme compression fiber reaches F_y for flexural members*. ~~In some cases, when evaluating the effective width of the web using the Effective Width Method, the reduction factor ρ according to Specification Section 1.1.2 may be less than unity but the sum of b_1 and b_2 of Figure 1.1.2-1 of the Specification may be such that the web is fully effective, and cold work of forming may be used. This situation only arises when the web width to flange width ratio, h_w/b_f , is less than or equal to 4. This requires the cross-section to be fully effective when using the Effective Width Method, or $\lambda_c \leq 0.776$ in Specification Section E3.2 or F3.2 when using the Direct Strength Method.~~

(No changes to the rest of this section)

2. Delete the entire Section J7.2 and revise Section J7 as shown below:

J7 Connections to Other Materials

When a *cold-formed steel structural member* is connected to other materials, such as hot-rolled steel, aluminum, concrete, masonry or wood, the *connection* strength should be the smallest of the strength of the fastener, the strength of the fastener attachment to the *cold-formed steel structural member*, or the strength of the fastener attachment to the other material.

In 2016, provisions were added to Specification Section J7.2 for power-actuated fasteners (PAFs) connecting cold-formed steel framing track-to-concrete base materials. These provisions were based on an experimental study where cold-formed steel wall tracks were attached to concrete base materials and subjected to monotonic and cyclic/seismic test loads (AISI, 2013h). In 2018, these provisions were removed to avoid unconservative designs of track and other cold-formed steel structural member attachments to concrete and to avoid unintended interpretation of the validity of these provisions in different applications.

J7.2—Power-Actuated Fasteners (PAFs) in Concrete

~~In 2016, provisions were added to Specification Section J7.2 for power actuated fasteners (PAFs) connecting cold formed steel framing track to concrete base materials. These provisions are based on an experimental study where cold formed steel wall tracks were attached to concrete base materials and subjected to monotonic and cyclic/seismic test loads (AISI, 2013h). The experimental data demonstrated that residual monotonic shear strength of power actuated fastener connections after cyclic/seismic loading closely matched the reference monotonic shear strength.~~

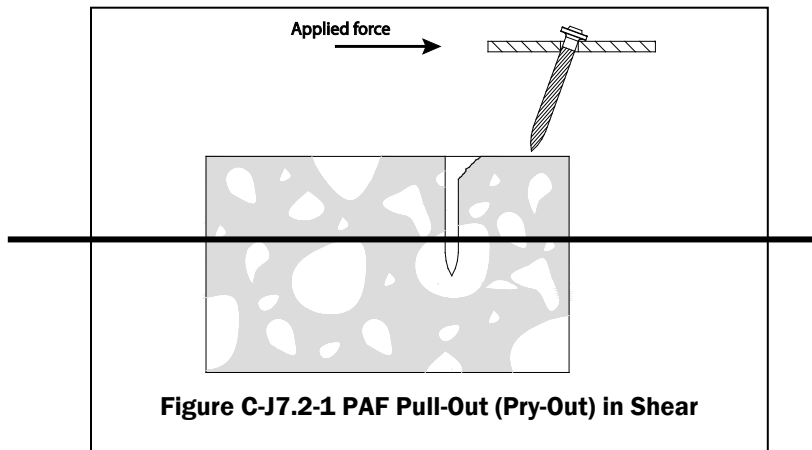
~~The experimental data further demonstrated that ductile steel failure modes limit the capacity of the connection with thinner cold formed steel track. Where this failure mode is dominant, the use of Specification Section J5.3.2 to determine the strength of cold formed steel track connection is appropriate. For thicker track, the limit state was pull out of the fastener in shear. Figure C J7.2-1 illustrates the connection failure of the power actuated fastener pull out (pry out) in shear. The nominal value of $P_{nos} = 1,450$ lbs (6,450 N) is given by Specification Section J7.2.2. This nominal value is based on tests with normalweight concrete as specified in ACI 318 for the United States and Mexico and in CAN/CSA A23.3 for Canada with the minimum specified concrete strength of 2.5 ksi (17.2 MPa). The nominal value is considered as a lower bound strength based on~~

AISI S100-16/S1-18, Supplement 1 to North American Specification for the Design of Cold-Formed Steel Structural Members

~~the concrete strength used in the test program. Where justified in manufacturers' evaluation reports or test data that the shear strength of PAF in lightweight concrete is equivalent to normalweight concrete, this nominal value may be extended to the following applications:~~

- ~~(a) For the United States and Mexico: Sand lightweight concrete, as specified in ACI 318, with a minimum specified concrete strength of 3.0 ksi (20.7 MPa) and a minimum embedment at 1 in. (25.4 mm); and~~
- ~~(b) For Canada: Structural low density concrete, as specified in CAN/CSA A23.3, with a minimum specified concrete strength of 20 MPa and a minimum embedment at 25 mm.~~

~~Industry installation guidelines recommend that the thickness of the concrete base material, d_c , should be greater than or equal to three times the PAF embedment, h_{EF} .~~





**BSR/ASHRAE/IES Addendum ao
to ANSI/ASHRAE/IES Standard 90.1-2016**

Public Review Draft

Proposed Addendum ao to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

**First Public Review (June 2018)
(Draft Shows Proposed Changes to Current Standard)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, www.ashrae.org.

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ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305

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FOREWORD

This revised fan product efficiency requirement complements the fan power limitation in section 6.5.3.1.1.

A Fan Efficiency Grade (FEG) requirement has existed since the 2013 edition of 90.1 for fans that are used in heating, ventilating, and air conditioning systems for buildings. FEG is a metric for bare-shaft fans as products by themselves; is based on fan's peak total efficiency, and is defined in the rating standard, ANSI/AMCA 205, Energy Efficiency Classification for Fans. In the course of a U.S. Department of Energy (DOE) rulemaking for commercial fans and blowers, FEG was rejected as a metric that DOE would use for regulatory purposes. Although DOE has since stalled the fan rulemaking, the State of California has initiated an efficiency regulation for commercial and industrial fans under its Title 20 appliance/equipment efficiency standard.

Stemming from the DOE rejection of FEG, a new fan efficiency metric, called Fan Energy Index (FEI) was developed by AMCA International and member companies, working collaboratively with efficiency advocates and DOE. FEI is defined in the calculation standard, ANSI/AMCA 208-2018.

FEI is a ratio of electrical input powers that accounts for the electrical and mechanical losses upstream of the impeller shaft compared to a reference fan. The reference fan's electrical input power, defined in AMCA 208, is the numerator of the ratio, and the subject fan's electrical input power is the denominator. The lower the subject fan's electrical input power, the higher the FEI rating. FEI is a wire-to-air metric that considers losses of motors, variable speed drives, belts, etc., and FEI differentiates selections based on fan static pressure from selections based on fan total pressure.

FEI applies to the fan's selected duty points across its entire range of operation rather than a single point of peak total efficiency. FEI is a simple metric for designers, contractors, manufacturers, and code officials to apply and enforce because it does not have a sizing/selection window.

Energy savings will primarily result from better fan selections out of existing product portfolios rather than marginal improvements from costly fan redesigns. FEI incentivizes a good match of the fan with its mechanical drive and the electric motor even at part load. The fan velocity pressure is credited in the FEI metric for fans with ducted outlets. Velocity pressure is not included for fans with unducted outlets.

The lower scope limit is expressed in nameplate motor output power and in nameplate fan electrical input power because only the former is available for some fans and for others only the latter. The conversion from motor output power to fan input power uses the reference motor efficiency curve fit from AMCA 208.

The cost benefit impact of this proposal was evaluated using information from various trade organizations, manufacturers and regulatory studies. The cost effectiveness analysis was found to meet the SSPC scalar ratio requirement.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum ao to 90.1-2016

Modify the standard as follows (IP and SI Units)

3 Definitions, Abbreviations, and Acronyms

fan, embedded: A fan that is part of a manufactured assembly where the assembly includes functions other than air movement.

fan array: multiple fans in parallel between two *plenum* sections in an air *distribution system*.

fan nameplate electrical input power: the nominal electrical input power rating stamped on a fan assembly nameplate.

fan efficiency grade (FEG): the fan efficiency without consideration of drives, as defined in AMCA 205.

fan energy index (FEI): the ratio of the electric input power of a reference fan to the electric input power of the actual fan as calculated per AMCA 208.

fan system electrical power: the sum of the fan electrical power of all fans that are required to operate at *fan system design conditions* to supply air from the heating or cooling source to the *conditioned spaces* and/or return it to the source or exhaust it to the outdoors.

6.5.3.1.3 Fan Efficiency

Each fan and fan array shall have a fan efficiency grade (FEG) of 67 fan energy index (FEI) of 1.00 or higher based on manufacturers' certified data, as defined by AMCA 205. The total efficiency of the fan at the design point of operation shall be within 15 percentage points of the maximum total efficiency of the fan. Each fan and fan array used for a variable-air-volume system that meets the requirements of Section 6.5.3.2.1 shall have an FEI of 0.95 or higher. The FEI for fan arrays shall be calculated in accordance with AMCA 208 Annex C.

Exceptions to 6.5.3.1.3

- 1 Individual fans Fans that are not embedded fans with a motor nameplate horsepower of less than 1.0 5 hp (3.7 kW) (0.75 kW) or with a fan nameplate electrical input power of less than 0.89 kW less that are not part of a group operated as the functional equivalent of a single fan.

- 2 ~~Embedded fans and fan arrays with multiple fans in series or parallel (e.g., fan arrays) that have a combined motor nameplate horsepower of 5 hp or less or with a fan system electrical input power of 4.1 kW or less and are operated as the functional equivalent of a single fan.~~
- 3 Embedded fans that are part of *equipment* listed under Section 6.4.1.1
- 4 Embedded fans included in *equipment* bearing a third-party-certified seal for air or *energy* performance of the *equipment* package.
- 5 ~~Powered wall/roof ventilators (PRV).~~
- 5 Ceiling fans, i.e., nonportable devices suspended from a ceiling or overhead structure for circulating air via the rotation of fan blades.
- 6 Fans used for moving gases at temperatures above 482°F (250°C).
- 7 Fans used for operation in explosive atmospheres.
- 8 Reversible fans used for tunnel ventilation.
- 69 Fans outside the scope of AMCA ~~205~~ 208.
- 710 Fans that are intended to only operate during emergency conditions.

...

12 Normative References

Air Movement and Control Association International, Inc. (AMCA)
30 West University Drive, Arlington Heights, IL 60004-1806

AMCA 205-12

Energy Efficiency Classification for Fans

AMCA 208-18

Calculation of the Fan Energy Index



**BSR/ASHRAE/IES Addendum ap
to ANSI/ASHRAE/IES Standard 90.1-2016**

Public Review Draft

Proposed Addendum ap to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

**First Public Review (June 2018)
(Draft Shows Proposed Changes to Current Standard)**

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FOREWORD

HVAC systems with simultaneous heating and cooling require supply air temperature (SAT) reset except in climate zones 0A through 3A. In these climate zones, several system types can successfully dehumidify the outside air while still providing SAT reset and reducing reheat energy use.

Supply temperature reset saves significant heating energy in VAV reheat systems in high outside air systems, and that savings is higher in climate zone 3A than 2A, 1A and 0A. Separately dehumidifying the outside air reduces the total volume of air that must be cooled, significantly reducing cooling energy use in all the warm and humid climate zones.

An investigation using EnergyPlus of a system with a separate outside air coil for dehumidification for buildings with both 50% and 10% outside air using dual-max controlled VAV reheat boxes was conducted. It found that this approach was cost effective at or above 3000 cfm of outside air in climate zones 0A, 1A, and 3A. In climate zone 2A, cost effectiveness was found for systems with 10,000 cfm or more of outside air. In all but climate zone 2A both the low and high outside air cases were cost effective at or above 3000 cfm of outside air. In climate zone 2A, the low cfm case had a longer payback and did not meet the scalar threshold at 3000 cfm, so the airflow threshold was increased for climate zone 2A to 10,000 cfm.

While the system with a separate outside air cooling coil proved cost effective, there are other systems that may have lower costs that produce similar savings. These include: bypassing return air around the cooling coil, a dedicated outside air system, and series heat recovery.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum ap to 90.1-2016

Modify the standard as follows (IP and SI Units)

6.5.3.5 Supply Air Temperature Reset Controls

Multiple zone HVAC systems shall ~~must~~ include controls that are capable of and configured to automatically *reset* the supply air temperature in response to representative *building* loads, or to *outdoor air* temperature. The *controls* shall *reset* the supply air temperature at least 25% of the difference between the design supply air temperature and the design room air temperature. *Controls* that adjust the *reset* based on

zone humidity are allowed in Climate Zones 0B, 1B, 2B, 3B, 3C and 4 through 8. *HVAC Z-zones* that are expected to experience relatively constant loads, such as ~~electronic equipment rooms~~, shall be have maximum airflow designed for to accommodate the fully reset supply air temperature.

Informative Note

HVAC zones that are expected to experience relatively constant loads typically include electronic equipment rooms and interior zones.

Exceptions to 6.5.3.5

1. *Systems* in Climate Zones 0A, 1A, 2A, and 3A with less than 3000 cfm (1500 L/s) of design outside air.
2. *Systems* in Climate Zone 2A with less than 10,000 cfm (5000 L/s) of design outside air.
3. *Systems* in Climate Zones 0A, 1A, 2A, and 3A with at least 80% outside air and employing exhaust air *energy* recovery complying with Section 6.5.6.1.
4. *Systems* that prevent *reheating*, *recooling*, or mixing of heated and cooled supply air.
5. *Systems* in which at least 75% of the *energy* for *reheating* (on an annual basis) is from *site recovered energy* or *site-solar energy*.

6.5.3.5.1 Dehumidification Control Interaction. In climate Zones 0A, 1A, 2A, and 3A, the system design shall allow supply air temperature *reset* while dehumidification is provided. When dehumidification *control* is active, air economizers shall be locked out.

Informative Note

Examples of *HVAC systems* that can allow supply air temperature reset while dehumidifying include cooling of outside air with a separate cooling coil, bypassing return air around the cooling coil, a dedicated outside air system, and series energy recovery.

The following shows how the standard would appear if addendum ap is published with addenda ac and ai. This includes changes in italicization of defined words from addenda ac and ai-ISC.

6.5.3.5 Supply Air Temperature Reset Controls

Multiple zone *HVAC systems* shall include controls that are capable of and configured to *automatically reset* the supply air temperature in response to representative *building* loads, or to *outdoor air* temperature. The controls shall *reset* the supply air temperature at least 25% of the difference between the design supply air temperature and the design room air temperature. Controls that adjust the *reset* based on zone humidity are allowed in Climate Zones 0B, 1B, 2B, 3B, 3C and 4 through 8. *HVAC zones* that are expected to experience relatively constant loads shall have maximum airflow designed to accommodate the fully *reset* supply air temperature.

Informative Note

HVAC zones that are expected to experience relatively constant loads typically include electronic equipment rooms and interior zones.

Exceptions to 6.5.3.5

1. *Systems* in Climate Zones 0A, 1A, and 3A with less than 3000 cfm (1500 L/s) of design outside air.
2. *Systems* in Climate Zone 2A with less than 10,000 cfm (5000 L/s) of design outside air.
3. *Systems* in Climate Zones 0A, 1A, 2A, and 3A with at least 80% outside air and employing exhaust air *energy* recovery complying with Section 6.5.6.1.
4. *Systems* that prevent *reheating, recooling,* or mixing of heated and cooled supply air.
5. *Systems* in which at least 75% of the *energy* for *reheating* (on an annual basis) is from *site recovered energy* or *site-solar energy*.

6.5.3.5.1 Dehumidification Control Interaction. In climate Zones 0A, 1A, 2A, and 3A, the system design shall allow supply air temperature *reset* while dehumidification is provided. When dehumidification control is active, air economizers shall be locked out.

Informative Note

Examples of *HVAC systems* that can allow supply air temperature reset while dehumidifying include cooling of outside air with a separate cooling coil, bypassing return air around the cooling coil, a dedicated outside air system, and series energy recovery.



**BSR/ASHRAE/IES Addendum aq
to ANSI/ASHRAE/IES Standard 90.1-2016**

Public Review Draft

Proposed Addendum aq to Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings

**First Public Review (April 2018)
(Draft Shows Proposed Changes to Current Standard)**

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FOREWORD

Objective Summary

- Lighting control requirements for lighting applications not covered in Table 9.6.2 require clarity and alignment to the mandatory lighting control provisions in section 9.4.1.
- This addendum assures that each application listed plainly identifies which lighting control provisions apply to that specific lighting.
- These changes help simplify specification by designers and improve compliance.
- The clarifications included in this addendum do not represent a cost impact or change to the original requirements, but bring better clarity to application of the Standard.

Summary of specific changes

Sections 9.2.2.3, 9.4.1.3, 9.4.4, and 9.6.2 include lighting control requirements for certain lighting applications that are not specifically covered in Table 9.6.1, but they are in many cases stated in a generic way, such as “controlled separately from the general lighting”, without being specific about how to control those lighting applications.

For example, the intent of the Standard has always been to ensure that lighting in commercial buildings is not ON 24/7, unless required for safety or security reasons. In some very specific cases automatic shutoff requirements do not make sense, such as in the case of lighting for processes and procedures, lighting for theatrical or sporting events or lighting in dwelling units. This addendum clarifies the lighting control requirements for lighting applications not specifically covered in Table 9.6.1.

Addendum aq to 90.1-2016

9.1 General

9.1.1 Scope

Exception to 9.1.1

1. Emergency lighting that is automatically off during normal *building* operation.
 2. Lighting, including exit signs, that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
 3. Decorative gas *lighting systems*.
-

Exception to 9.2.2.3

~~The following Lighting equipment and applications listed in Table 9.2.2.3 shall not be considered when determining the interior lighting power allowance developed in accordance with Section 9.5 or 9.6, nor shall the wattage for such lighting be included in the installed interior lighting power identified in accordance with Section 9.1.3. However, any such This exemption shall only apply when the lighting and controls shall not be exempt unless it is are in compliance with the requirements of Table 9.2.2.3, an addition to general lighting and is controlled by an independent control device. Lighting controls noted in this table are the only required controls for this equipment and these applications.~~

[Reviewer note: the following list of exempt lighting was moved from the section below into new Table 9.2.2.3 and renumbered into like control groupings. Where new language for this lighting was added or removed, those changed are shown by underline or strikethrough in the new Table 9.2.2.3]

- ~~1. Display or accent lighting that is an essential element for the function performed in galleries, museums, and monuments.~~
- ~~2. Lighting that is integral to equipment or instrumentation and is installed by its manufacturer.~~
- ~~3. Lighting specifically designed for use only during medical or dental procedures and lighting integral to medical equipment.~~
- ~~4. Lighting integral to both open and glass enclosed refrigerator and freezer cases.~~
- ~~5. Lighting integral to food warming and food preparation equipment.~~
- ~~6. Lighting specifically designed for the life support of nonhuman life forms.~~
- ~~7. Lighting in retail display windows, provided the display area is enclosed by ceiling height partitions.~~
- ~~8. Lighting in interior spaces that have been specifically designated as a registered interior historic landmark.~~
- ~~9. Lighting that is an integral part of advertising or directional signage.~~
- ~~10. Exit signs.~~
- ~~11. Lighting that is for sale or lighting educational demonstration systems.~~
- ~~12. Lighting for theatrical purposes, including performance, stage, and film and video production.~~
- ~~13. Lighting for television broadcasting in sporting activity areas.~~
- ~~14. Casino gaming areas.~~
- ~~15. Furniture mounted supplemental task lighting that is controlled by automatic shutoff and complies with Section 9.4.1.3(e).~~
- ~~16. Mirror lighting in dressing rooms and accent lighting in religious pulpit and choir areas.~~
- ~~17. Parking garage transition lighting lighting for covered vehicle entrances and exits from buildings and parking structures that complies with Section 9.4.1.2(a) and 9.4.1.2(e); each transition zone shall not exceed a depth of 66 ft inside the structure and a width of 50 ft.~~

Table 9.2.2.3 Exceptions to Interior Lighting Power and Minimum Control Requirements

<u>Item #</u>	<u>Equipment/Application</u>	<u>In Addition to and controlled Separately from General Lighting</u>	<u>Required Controls</u>
<u>1</u>	Lighting that is integral to <u>equipment, medical equipment</u> or instrumentation and is installed by its <u>manufacturer</u> .	<u>YES</u>	<u>No control requirements</u>
<u>2</u>	Lighting specifically designed for use only during medical or dental procedures and lighting integral to medical equipment.	<u>YES</u>	<u>9.4.1.1(a) - Local control</u>
<u>3</u>	Lighting specifically designed for the life support of non-human life forms.		
<u>4</u>	Lighting for theatrical purposes, including performance, stage, <u>broadcast studio</u> , and film and video production.		

<u>5</u>	<u>Lighting in sporting activity areas for television broadcasting in sporting activity areas.</u>		
<u>6</u>	<u>Lighting for photographic processes.</u>		
<u>7</u>	Lighting that is an integral part of advertising or directional signage.	<u>YES</u>	<u>9.4.1.1(i) - Scheduled shutoff</u>
<u>8</u>	Lighting integral to both open and glass-enclosed refrigerator and freezer cases.	<u>YES</u>	<u>9.4.1.1(h) - Automatic full OFF or</u>
<u>9</u>	Casino gaming areas.	<u>NO</u>	<u>9.4.1.1(i) - Scheduled shutoff</u>
<u>10</u>	Lighting in retail display windows, provided the display area is enclosed by ceiling-height partitions.	<u>YES</u>	<u>9.4.1.1(a) - Local control and</u> <u>9.4.1.1(i) - Scheduled shutoff</u>
<u>11</u>	Display or accent lighting that is an essential element for the function performed in galleries, museums, and monuments.	<u>YES</u>	<u>9.4.1.1(a) - Local control and</u> <u>either</u> <u>9.4.1.1(h) - Automatic full OFF or</u> <u>9.4.1.1(i) - Scheduled shutoff</u>
<u>12</u>	Lighting integral to food warming and food preparation equipment.		
<u>13</u>	Lighting that is for sale or lighting educational demonstration systems.		
<u>14</u>	Mirror lighting in dressing rooms. and accent lighting in religious pulpit and choir areas		
<u>15</u>	<u>Accent lighting in religious pulpit and choir areas.</u>		
<u>16</u>	Lighting in interior spaces that have been specifically designated as a registered interior historic landmark.	<u>NO</u>	
<u>17</u>	Furniture-mounted supplemental task lighting that is controlled by automatic shutoff and complies with Section 9.4.1.3(c).	<u>YES</u>	<u>9.4.1.3(c) - Special Applications</u>
<u>18</u>	Parking garage daylight transition lighting—lighting for covered vehicle entrances and exits from buildings and parking structures— that complies with Section 9.4.1.2(a) and 9.4.1.2(e); each transition zone shall not exceed a depth of 66 ft inside the structure and a width of 50 ft.	<u>YES</u>	<u>9.4.1.2(a) & (c) - Parking Garage Control</u>

9.4.1.1 Interior Lighting Controls

j. Scheduled OFF during non-business hours: Lighting shall be scheduled to provide automatic OFF control so that lights are turned off at the end of business hours, using either (1) a time-of-day operated control device that automatically turns the lighting off at specific programmed times or (2) a signal from another automatic control device or alarm/security system. Any manual control installed to provide override of the scheduled control shall not turn the lighting on for more than two hours per activation during scheduled off periods.

9.4.1.3 Special Applications

Lighting controls noted in this section are the only required controls for this equipment and these applications. Lighting exempt from interior lighting power shall be controlled in accordance with Table 9.2.2.3. Lighting using additional interior lighting power applications shall be controlled in accordance with Section 9.6.2.

- a. ~~The following lighting shall be separately controlled from~~ Lighting used for the following applications shall be equipped with a local control independent of the control of the general lighting in all spaces; in accordance with Section 9.4.1.1(a). In addition, such lighting shall be controlled in accordance with Section 9.4.1.1(h) or Section 9.4.1.1(i).

- 1. Display or accent lighting.

2. Lighting in display cases.
 3. ~~Nonvisual lighting, such as for plant growth or food warming.~~
 4. ~~Lighting equipment that is for sale or used for demonstrations in lighting education.~~
- c. ~~All~~Supplemental *task lighting*, including *permanently installed* undershelf or undercabinet lighting, shall be controlled from either (1) a *control device* integral to the *luminaires* or (2) ~~by a wall-mounted control device that is readily accessible and located so that the occupant can see the controlled lighting~~ a local control independent of the control of the general lighting in accordance with Section 9.4.1.1(a). In addition, such lighting shall be controlled in accordance with Section 9.4.1.1(h) or Section 9.4.1.1(i).

9.4.4 Dwelling Units

Not less than 75% of the *permanently installed lighting fixtures* shall use *lamps* with an *efficacy* of at least 55 lm/W or have a total *luminaire efficacy* of at least 45 lm/W. No other provisions of Section 9 apply to dwelling units.

Exception to 9.4.4:

1. Lighting that is controlled with *dimmers* or ~~automatic control devices~~ controlled in accordance with Section 9.4.1.1(h).
 2. Hotel/motel guest rooms. The requirements for hotel/motel guest rooms are covered in Table 9.6.1 and Section 9.4.1.3(b).
-

...

9.6.2 Additional Interior Lighting Power

When using the Space-by-Space Method, an increase in the *interior lighting power allowance* is allowed for specific lighting functions. Additional power shall be allowed only if the specified lighting is installed and ~~automatically~~ controlled independently of the general lighting in accordance with Section 9.4.1.1(j) separately from the general lighting, to be turned off during nonbusiness hours. This additional power shall be used only for the specified *luminaires* and shall not be used for any other purpose unless otherwise indicated. Lighting control requirements referenced in Section 9.6.2, are the only required controls for these applications.

An increase in the *interior lighting power allowance* is permitted in the following cases:

- a. For each spaces in which lighting is specified to be installed in addition to the *general lighting* for the purpose of decorative appearance or for highlighting art or exhibits not exempted in Section 9.2.2.3, Exception 1, Item 11 of Table 9.2.2.3, provided that the additional lighting power shall not exceed 0.75 W/ft² of such *spaces*.
-
-



**BSR/ASHRAE/IES Addendum ar
to ANSI/ASHRAE/IES Standard 90.1-2016**

Public Review Draft

**Proposed Addendum ar to
Standard 90.1-2016, *Energy
Standard for Buildings Except
Low-Rise Residential Buildings***

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FOREWORD

During the development of the 2016 Standard, comments were received on Addendum di which were not incorporated at the time but were delayed until now so that the rest of Addendum di could be included in the 2016 version. The changes below reflect some of those comments as well as changing the titles to a few of the new tables to make them consistent with other similar tables.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and strikethrough (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum ar to 90.1-2016

Revise the Standard as follows (IP and SI Units)

G3.1.2.9 System Fan Power

System fan electrical power for supply, return, exhaust, and relief (excluding power to fan-powered VAV boxes) shall be calculated using the following formulas:

For *Systems* 1 and 2,

$$P_{fan} = CFMs \times 0.3 \text{ ((cubic metres per second) } \times 1.4158e-4)$$

For *Systems* 3 through 8, and 11, 12, and 13,

$$P_{fan} = bhp \times 746 / \text{fan motor efficiency (input kW/fan motor efficiency)}$$

For *Systems* 9 and 10 (supply fan),

$$P_{fan} = CFMs \times 0.3$$

For *Systems* 9 and 10 (non-mechanical cooling fan if required by Section G3.1.2.8.2),

$$P_{fan} = CFM_{nmc} \times 0.054$$

where

P_{fan} = electric power to fan motor, W

bhp = brake horsepower (input kilowatts) of baseline fan motor from Table G3.1.2.9

fan motor *efficiency* = the *efficiency* from Table G3.9.1 for the next motor size greater than the bhp (input kW) ~~using a totally enclosed fan-cooled motor at 1800 rpm~~

CFMs = the baseline *system* maximum design supply fan airflow rate, cfm (L/s)

CFM_{nmc} = the baseline non-mechanical cooling fan airflow, cfm (L/s)

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

12. Receptacle and Other Loads - Baseline Building Performance

Motors shall ~~have~~ be modeled as having the *efficiency* ratings found in Table G3.9.1. Other *systems* covered by Section 10 and miscellaneous loads shall be modeled as identical to those in the *proposed design*, including schedules of operation and *control* of the *equipment*. *Energy* used for cooking *equipment*, receptacle loads, computers, medical or laboratory *equipment*, and manufacturing and industrial process *equipment* not specifically identified in the standard power and *energy* rating or capacity of the *equipment* shall be identical between the *proposed building performance* and the *baseline building performance*.

Exceptions: When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the *Performance Rating Method* as an alternative path for minimum standard compliance per Section 4.2.1.1) variations of the power requirements, schedules, or *control* sequences of the *equipment* modeled in the *baseline building design* from those in the *proposed design* shall be approved by the *rating authority* based on documentation that the *equipment* installed in the *proposed design* represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in *baseline building equipment* different from that installed in the *proposed design*. Occupancy and occupancy schedules shall not be changed.

Table G3.5.5 Performance Rating Method Warm-Air Furnaces and Unit Heaters

<rest of table remains the same>

Table G3.5.6 Performance Rating Method Gas-Fired Boilers—Minimum Efficiency Requirements

<rest of table remains the same>

Table G3.6 Performance Rating Method Lighting Power Densities for Building Exterior

<rest of table remains the same>

Table G3.9.1 Performance Rating Method Motor Efficiency Requirements

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~~Motor Horsepower(kilowatts) Shaft Input Power Minimum Nominal-Full-Load~~ Motor Efficiency for Modeling, %

<rest of table remains the same>

Table G3.9.3 Performance Rating Method Hydraulic Elevator Motor Efficiency

~~Horsepower (kilowatts) Shaft Input Power~~ Full-Load Motor Efficiency for Modeling

<rest of table remains the same>

Below is how the standard will appear in reference to Table G3.1 Part 12 if addendum ar and ag are both published.

Motors shall be modeled as having the efficiency ratings found in Table [G3.9.1](#). Other *systems* covered by Section [10](#) and miscellaneous loads shall be modeled as identical to those in the *proposed design*, including schedules of operation and *control* of the *equipment*. *Energy* used for cooking *equipment*, receptacle loads, computers, medical or laboratory *equipment*, and manufacturing and industrial process *equipment* not specifically identified in the standard power and *energy* rating or capacity of the *equipment* shall be identical between the *proposed building performance* and the *baseline building performance*. Receptacle schedules shall be the same as the *proposed design* before the receptacle power credit is applied.

Exceptions: When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the *Performance Rating Method* as an alternative path for minimum standard compliance per Section [4.2.1.1](#)) variations of the power requirements, schedules, or *control* sequences of the *equipment* modeled in the *baseline building design* from those in the *proposed design* shall be approved by the *rating authority* based on documentation that the *equipment* installed in the *proposed design* represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in *baseline building equipment* different from that installed in the *proposed design*. Occupancy and occupancy schedules shall not be changed.



**BSR/ASHRAE/IES Addendum m
to ANSI/ASHRAE/IES Standard 90.1-2016
Public Review Draft**

**Proposed Addendum m to Standard
90.1-2016, *Energy Standard for
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Second Public Review (June 2018)

**(Draft Shows Proposed Independent Substantive
Changes to Previous Public Review Draft)**

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Second Public Review Draft – Independent Substantive Changes

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FOREWORD

When Addendum bm to Standard 90.1-2013 was developed it set baseline requirements in Appendix G approximately equal to the stringency of the 2004 Standard. Rules for modelling infiltration were developed in parallel to Addendum bm and included proposed building infiltration at 0.4 cfm/ft² of the building envelope at a fixed building pressure differential of 0.3 in. of water. However, the strategy of setting baseline requirements at the 2004 level was omitted and baseline infiltration was set same as the proposed building. This proposed change addresses that oversight by adding a requirement that the baseline include infiltration at 1.0 cfm/ft² based on the mean of publicly available measured building air leakage data from NIST. The Second ISC also recognizes that the air-barrier verification path is qualitative while the measurement and testing path is quantitative. The proposal has been revised to only allow a credit for buildings using the verification approach in order to help incentivize the more rigorous measurement and testing approach. To achieve this credit the Proposed Design air leakage has been set to 0.6 CFM/sq.ft. which is consistent with the value in Section 5.4.3.1.3(a)2. Buildings that measure/test air-leakage will continue to be allowed to use the measured air-leakage in the Proposed Design. This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

[Note to Reviewers: This public review draft makes proposed independent substantive changes to the previous public review draft. These changes are indicated in the text by underlining (for additions) and strikethrough (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the previous draft are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.]

Addendum m to 90.1-2016

Revise the Standard as follows (IP and SI Units) Revise the Standard as follows (IP and SI Units)

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

No.	Proposed Building Performance	Baseline Building Performance
5. <i>Building Envelope</i> (contd.)		
b.	<i>Infiltration</i> shall be modeled using the same methodology, and adjustments for weather and <i>building</i> operation in both the <i>proposed design</i> and the <i>baseline building design</i> . These adjustments shall be made for each simulation time step and must account for but not be limited to weather conditions and HVAC system operation, including strategies that are intended to positively pressurize the <i>building</i> . The air leakage rate of the <i>building envelope</i> (175Pa) at a <i>fixed building</i> pressure differential of 0.3 in. of water shall be 0.4 <u>0.6</u> cfm/ft ² (<u>3.0 L/s-m²</u>) for buildings providing verification in accordance with Section 5.9.2.2(a). The air leakage rate of the <i>building envelope</i> shall be converted to appropriate units for the <i>simulation program</i> using one of the methods in Section <u>G3.1.1.4</u> h. The air leakage rate of the <i>building envelope</i> (175Pa) at a <i>fixed building</i> pressure differential of 0.3 in. (75 Pa) of water shall be 1.04-2 cfm/ft ² . (<u>5.1 L/s-m²</u>)
	Exception: When whole-building air leakage testing, in accordance with Section 5.9.2.2(b) ASTM E779, is specified	

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Second Public Review Draft – Independent Substantive Changes

during design and completed after *construction*, the *proposed design* air leakage rate of the *building envelope* shall be as measured.

Below is how Table G3.1 of the Standard will appear if addendum m and q are both published.

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

No.	Proposed Building Performance	Baseline Building Performance
5. <i>Building Envelope</i> (contd.)		
	<p>b. <i>Infiltration</i> shall be modeled using the same methodology, and adjustments for weather and <i>building operation</i> in both the <i>proposed design</i> and the <i>baseline building design</i>. These adjustments shall be made for each simulation time step and must account for but not be limited to weather conditions and <i>HVAC system</i> operation, including strategies that are intended to positively pressurize the <i>building</i>. The air leakage rate of the <i>building envelope</i> (I_{75Pa}) at a <i>fixed building</i> pressure differential of 0.3 in. of water shall be 0.6 cfm/ft² (3.0 L/s-m²) for buildings providing verification in accordance with Section 5.9.1.1. The air leakage rate of the <i>building envelope</i> shall be converted to appropriate units for the <i>simulation program</i> using one of the methods in Section G3.1.1.4.</p> <p>Exception: When whole-<i>building</i> air leakage testing, in accordance with Section 5.9.1.2, is specified during design and completed after <i>construction</i>, the <i>proposed design</i> air leakage rate of the <i>building envelope</i> shall be as measured.</p>	<p>....</p> <p>h. The air leakage rate of the <i>building envelope</i> (I_{75Pa}) at a <i>fixed building</i> pressure differential of 0.3 in. (75 Pa) of water shall be 1.0 cfm/ft² (5.1 L/s-m²)</p>



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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

The formulas in Section 11 and G3.1.2.1 for removing fan energy from baseline packaged heating and cooling efficiency ratings, removes more fan energy than allowed by Section 6 and Appendix G for large cooling equipment. This is corrected by capping the system capacity equations in Section 11 and providing a fixed baseline efficiency rating with the fan energy removed for each capacity range. The efficiencies are calculated using the formulas being deleted.

This addendum impacts an optional performance path in the standard designed to provide increased flexibility and therefore was not subjected to cost effectiveness analysis.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and strikethrough (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum z to 90.1-2016

Revise the Standard as follows (IP and SI Units)

11.5 Calculation of Design Energy Cost and Energy Cost Budget

11.5.1

The simulation model for calculating the *design energy cost* and the *energy cost budget* shall be developed in accordance with the requirements in Table 11.5.1.

11.5.2 HVAC Systems

The *HVAC system* type and related performance parameters for the *budget building design* shall be determined from Figure 11.5.2, the *system* descriptions in Table 11.5.2-1 and accompanying notes, and the following rules:

...

- b. **Supply Fan Energy in Certain Package Equipment.** Where *efficiency* ratings include supply fan energy, the *efficiency* rating shall be adjusted to remove the supply fan energy. For Budget System Types 3, 4, 6, 9, and 11, calculate the minimum $COP_{nfcooling}$ and $COP_{nfheating}$ using the equation for the applicable performance rating as indicated in Tables 6.8.1-1 through 6.8.1-4. Where a

full- and part-load *efficiency* rating is provided in Tables 6.8.1-1 through 6.8.1-4, the full-load equation below shall be used:

IP units

$$COP_{nfcooling} = 7.84E-8 \times EER \times Q + 0.338 \times EER$$

$$COP_{nfcooling} = -0.0076 \times SEER^2 + 0.3796 \times SEER$$

$$COP_{nfheating} = 1.48E-7 \times COP_{47} \times Q + 1.062 \times COP_{47}$$

(applies to heat pump heating *efficiency* only)

$$COP_{nfheating} = -0.0296 \times HSPF^2 + 0.7134 \times HSPF$$

SI Units

$$COP_{nfcooling} = 9.13E-4 \times COP_C \times Q + 1.15 \times COP_C$$

$$COP_{nfcooling} = -0.0885 \times SCOP_C^2 + 1.295 \times SCOP_C$$

(applies to cooling *efficiency* only)

$$COP_{nfheating} = 5.05E-4 \times COP_{H8.3} \times Q + 1.062 \times COP_{H8.3}$$

(applies to heat-pump heating *efficiency* only)

$$COP_{nfheating} = -0.3446 \times SCOP_H^2 + 2.434 \times SCOP_H$$

where $COP_{nfcooling}$ and $COP_{nfheating}$ are the packaged HVAC *equipment* cooling and heating *energy efficiency*, respectively, to be used in the *budget building design*, which excludes supply fan power, and Q is the AHRI-rated cooling capacity in Btu/h (kW). If Q is greater than 760,000 Btu/h (223 kW), use 760,000 Btu/h (223 kW) in the calculation.

EER , $SEER$, COP , and $HSPF$ shall be at AHRI test conditions. Fan *energy* shall be modeled separately according to Section 11.5.2(h). Supply and return/relief *system* fans shall be modeled as operating at least whenever the *spaces* served are occupied, except as specifically noted in Table 11.5.2-1.

...

G3.1.2 General Baseline HVAC System Requirements

HVAC systems in the *baseline building design* shall conform with the general provisions in this section.

G3.1.2.1 Equipment Efficiencies

All HVAC *equipment* in the *baseline building design* shall be modeled at the minimum *efficiency* levels, both part load and full load, in accordance with Tables G3.5.1 through G3.5.6. ~~Chillers shall use Path A efficiencies as shown in Table 6.8.1-3. Where *efficiency* ratings include supply fan *energy*, the *efficiency* rating shall be adjusted to remove the supply fan *energy*. For Baseline HVAC Systems 1, 2, 3, 4, 5, and 6, calculate the minimum $COP_{nfcooling}$ and $COP_{nfheating}$ using the equation for the applicable performance rating as indicated in Tables 6.8.1-1 through 6.8.1-4. Where a full and partload *efficiency* rating is provided in Tables 6.8.1-1 through 6.8.1-4, the full load equation below shall be used.~~ Fan *energy* shall be modeled separately according to Section G3.1.2.9.

$$COP_{nfcooling} = 7.84E-8 \times EER \times Q + 0.338 \times EER$$

$$COP_{nfcooling} = 0.0076 \times SEER_2 + 0.3796 \times SEER$$

$$COP_{nfheating} = 1.48E-7 \times COP_{47} \times Q + 1.062 \times COP_{47}$$

(applies to heat pump heating efficiency only)

$$COP_{nfheating} = 0.0296 \times HSPF_2 + 0.7134 \times HSPF$$

where $COP_{nfcooling}$ and $COP_{nfheating}$ are the packaged HVAC equipment cooling and heating energy efficiency, respectively, to be used in the baseline building design, which excludes supply fan power, and Q is the AHRI-rated cooling capacity in Btu/h. ~~EER, SEER, COP, and HSPF shall be at AHRI test conditions. Fan energy shall be modeled separately according to Section G3.1.2.9.~~

...

IP Units

Table G3.5.1 Performance Rating Method Air Conditioners (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure
Air conditioners, air-cooled	<65,000 Btu/h	All	Single Package	9.7 SEER 3.0 COP_{nfcooling}	AHRI 210/240
	≥65,000 Btu/h and <135,000 Btu/h		Split-system and single-package	40.1 EER 3.5 COP_{nfcooling}	AHRI 340/360
	≥135,000 Btu/h and <240,000 Btu/h			9.5 EER 3.4 COP_{nfcooling}	
	≥240,000 Btu/h and <760,000 Btu/h			9.3 EER 9.4 IEER 3.5 COP_{nfcooling}	
	≥760,000 Btu/h			9.0 EER 9.1 IEER 3.6 COP_{nfcooling}	

Table G3.5.2 Performance Rating Method Electrically Operated Unitary and Applied Heat Pumps—Minimum Efficiency Requirements (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure
Air-cooled (cooling mode)	<65,000 Btu/h	All	Single-package	9.7 SEER 3.0 COP_{nfcooling}	AHRI 210/240
	≥65,000 Btu/h and <135,000 Btu/h		Split-system and single-package	9.9 EER 3.4 COP_{nfcooling}	AHRI 340/360
	≥135,000 Btu/h and <240,000 Btu/h			9.1 EER 3.2 COP_{nfcooling}	
	≥240,000 Btu/h			8.8 EER 8.9 IEER 3.1 COP_{nfcooling}	
Air-Cooled (heating-mode)	<65,000 Btu/h (cooling capacity)		Single-package	6.6 HSPF 3.4 COP_{nfheating}	AHRI 210/240
	≥65,000 Btu/h and <135,000 Btu/h (cooling capacity)		47°F db/43°F wb outdoor air	3.2 COP_H 3.4 COP_{nfheating}	AHRI 340/360
	≥135,000 Btu/h (cooling capacity)	17°F db/15°F wb outdoor air		2.2 COP_H 2.3 COP_{nfheating}	
		≥135,000 Btu/h (cooling capacity)	47°F db/43°F wb outdoor air	3.1 COP_H 3.4 COP_{nfheating}	
	≥135,000 Btu/h (cooling capacity)		17°F db/15°F wb outdoor air	2.0 COP_H 2.1 COP_{nfheating}	

Table G3.5.4 Performance Rating Method Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Subcategory or Rating Condition	Minimum Efficiency ^a	Test Procedure
PTAC (cooling mode)	All capacities	95°F db outdoor air	42.5 — (0.213 × Cap/1000) EER 3.2 COP_{nfcooling}	AHRI 310/380

<i>PTHP</i> (cooling mode)	All capacities	95°F db <i>outdoor air</i>	12.3 $(0.213 \times \text{Cap}/1000)$ <i>EER</i> 3.1 <i>COP</i>_{nfcooling}	AHRI 310/380
<i>PTHP</i> (heating mode)	All capacities		3.2 $(0.026 \times \text{Cap}/1000)$ <i>COP</i> 3.1 <i>COP</i>_{nfheating}	AHRI 310/380

a. "Cap" means the rated cooling capacity of the product in Btu/h. If the unit's capacity is less than 7000 Btu/h, use 7000 Btu/h in the calculation. If the unit's capacity is greater than 15,000 Btu/h, use 15,000 Btu/h in the calculation.

SI Units

Table G3.5.1 Performance Rating Method Air Conditioners (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure
Air conditioners, air-cooled	<19 kW	All	Single-package	2.84 <i>SCOP</i> 3.0 <i>COP</i> _{nfcooling}	AHRI 210/240
	≥19 kW and <40 kW		Split-system and single-package	2.96 <i>COP</i> 3.5 <i>COP</i> _{nfcooling}	AHRI 340/360
	≥40 kW and <70 kW			2.78 <i>COP</i> 3.4 <i>COP</i> _{nfcooling}	
	≥70 kW and <223 kW			2.73 <i>COP</i> 2.76 <i>ICOP</i> 3.5 <i>COP</i> _{nfcooling}	
	≥223 kW			2.64 <i>COP</i> 2.67 <i>ICOP</i> 3.6 <i>COP</i> _{nfcooling}	

Table G3.5.2 Performance Rating Method Electrically Operated Unitary and Applied Heat Pumps—Minimum Efficiency Requirements (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure
Air-cooled (cooling mode)	<19 kW	All	Single-package	9.7 <i>SEER</i> 3.0 <i>COP</i> _{nfcooling}	AHRI 210/240
	≥19 kW and <40 kW		Split-system and single-package	9.9 <i>EER</i> 3.4 <i>COP</i> _{nfcooling}	AHRI 340/360
	≥40 kW and <70 kW			9.1 <i>EER</i> 3.2 <i>COP</i> _{nfcooling}	
	≥70 kW			2.58 <i>COP</i> 2.61 <i>ICOP</i> 3.1 <i>COP</i> _{nfcooling}	
Air-cooled (heating mode)	<19 kW (cooling capacity)		Single-package	6.6 <i>HSPF</i> 3.4 <i>COP</i> _{nfheating}	AHRI 210/240
	≥19 kW and <40 kW (cooling capacity)		8.3°C db/6.1°C wb <i>outdoor air</i>	3.2 <i>COP</i> 3.4 <i>COP</i> _{nfheating}	AHRI 340/360
			-8.3°C db/-9.4°C wb <i>outdoor air</i>	2.2 <i>COP</i> 2.3 <i>COP</i> _{nfheating}	
	≥40 kW (cooling capacity)		8.3°Cdb/6.1°C wb <i>outdoor air</i>	3.1 <i>COP</i> 3.4 <i>COP</i> _{nfheating}	
			-8.3°C db/-9.4°C wb <i>outdoor air</i>	2.0 <i>COP</i> 2.1 <i>COP</i> _{nfheating}	

Table G3.5.4 Performance Rating Method Electrically Operated Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps (efficiency ratings excluding supply fan power)

Equipment Type	Size Category	Subcategory or Rating Condition	Minimum Efficiency ^a	Test Procedure
PTAC (cooling mode)	All capacities	35°C db outdoor air	3.66 - (0.213 x Cap/4000) 3.2 $COP_{nfcooling}$	AHRI 310/380
PTHP (cooling mode)	All capacities	35°C db outdoor air	3.60 - (0.213 x Cap/4000) COP 3.1 $COP_{nfcooling}$	AHRI 310/380
PTHP (heating mode)	All capacities		3.2 - (0.026 x Cap/4000) COP 3.1 $COP_{nfheating}$	AHRI 310/380

a. "Cap" means the rated cooling capacity of the product in kW. If the unit's capacity is less than 2.1 kW, use 2.1 kW in the calculation. If the unit's capacity is greater than 4.4 kW, use 4.4 kW in the calculation.

Below is how the Standard will appear in reference to section G3.1.2.1 when addendum z and f are both published.

G3.1.2.1 Equipment Efficiencies

All HVAC equipment in the baseline building design shall be modeled at the minimum efficiency levels, both part load and full load, in accordance with Tables G3.5.1 through G3.5.6. Where multiple HVAC zones or residential spaces are combined into a single thermal block in accordance with Table G3.1, the efficiencies (for baseline HVAC System Types 1, 2, 3, 4, 9, and 10) taken from Tables G3.5.1, G3.5.2, G3.5.4, and G3.5.5 shall be based on the equipment capacity of the thermal block divided by the number of HVAC zones or residential spaces. HVAC System Types 5 or 6 efficiencies taken from Table G3.5.1 shall be based on the cooling equipment capacity of a single floor when grouping identical floors in accordance with Section G3.1.1(a)(4). Fan energy shall be modeled separately according to Section G3.1.2.9.

$COP_{nfcooling}$ and $COP_{nfheating}$ are the packaged HVAC equipment cooling and heating energy efficiency, respectively, to be used in the baseline building design, which excludes supply fan power.

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NSF/ANSI Standard for Plastics —

Plastics piping system components and related materials

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3 Definitions

3.56 start-up: Initiation of a production process involving a new material, process parameter (e.g. temperature, pressure, throughput), or manufacturing equipment (e.g. extruder, molder, compounder). A change in extrusion die size does not constitute a new start-up as long as the material, machine parameters and manufacturing equipment remain the same.

Subsequent definitions will have their section number changed accordingly.

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9 Quality assurance

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9.2 Start-up and qualification

In each case, with the exception of annual and semi-annual tests, the frequency of testing indicated in 9.9 shall be interpreted as follows: the indicated tests shall be performed at the start-up of any production operation, on each extruder or injection molder, ~~and continued until a steady-state operation that meets the test requirement is obtained.~~ The test shall be repeated at the required frequency ~~until there is a change in the steady-state operation. When there is a change in operation, testing shall be conducted continuously until a new steady-state operation is achieved. After a steady-state operation is attained, the applicable testing frequencies shown in 9.9 shall resume.~~

Mold qualification as discussed in this section shall be defined as molds that produce precise functional finish dimensions not otherwise obtained by an additional manufacturing process. The test frequency indicated for fittings shall be used only after the mold has been qualified. In order for a new or retooled mold to be considered "qualified," all products from all cavities in the mold shall attain compliance with all of the appropriate dimensions and tests. This shall not include annual or semiannual tests. After qualification, the indicated test frequencies shall apply to one cavity per mold, rotating cavities within the mold, including start-ups. If any physical change is made to the mold itself, all cavities within the mold shall be re-qualified.

When annual testing is required, annual testing performed by a third-party certifier shall satisfy the requirement.

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Table 9.2 – Minimum number of test specimens for a sample

Test	Number of specimens	
acetone	1	
burst ¹ pressure	start-up	5
	during steady-state operation	1
crush	1	
deflection load and crush resistance	3	
degree of cross-linking	1	
elongation (microtensile)	2	
environmental stress crack resistance		
materials tests	10	
pipe tests	6	
flattening	3	
impact	10	
pipe stiffness	3	
stabilizer functionality	2	
sustained pressure	6	
tup puncture resistance	3	
¹ If one compound is continuously used in several machines or sizes, when a steady-state operation is obtained on each machine the manufacturer shall choose one of the following sampling methods: <ul style="list-style-type: none"> — Option 1: Sample selection shall be from a different extruder each day and rotated in sequence among all machines or sizes. Refer to Table 9.2 for minimum sample size; or — Option 2: If more than three extruders are in operation, the sample shall consist of a minimum of one specimen from each extruder and shall be burst tested every 12 hours (minimum of 8 samples). This option requires additional testing than option 1 where there are more than 3 extruders. 		

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[Note – the changes are illustrated below using ~~strikeout~~ for proposed removal of existing text and grey highlights to indicate the proposed new text. ONLY the highlighted text and ~~strikeout~~ text is within the scope of this ballot. Rationale Statements are in **RED** and only used to add clarity; these statements will NOT be in the finished publication]

NSF/ANSI International Standard for Biosafety Cabinetry —

Biosafety Cabinetry: Design, Construction, Performance, and Field Certification

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1.3 Variations in design and construction

Cabinetry varying in design, construction, or installation of accessory equipment may qualify under this Standard, if appropriate tests and investigations indicate that the equipment is durable and reliable, can be cleaned and decontaminated, and performs in conformance to this Standard. Such equipment shall meet the requirements for materials and finishes in this Standard.

Major modifications require appropriate tests for conformance. Major modifications include, but are not limited to, ~~changes to the following:~~ any of the following changes to the blower/motor(s): location, ~~or~~ capacity, ~~or~~ quantity, or automatic airflow adjustment ~~or all three of blower/motor(s);~~ size or design or both of air plenums; position of High Efficiency Particulate Air/Ultra Low Penetrating Air (HEPA/ULPA) filters; position or redesign of work surface; work area intake and exhaust air grilles; window placement or design; access opening size; location and size of exhaust port; ~~the visibility or audibility of the safety signaling;~~ and built-in accessory equipment (centrifuges, ultraviolet lighting, supports for intravenous drug container, arm rests, etc.). Major modifications also include changes affecting the safe use of the cabinet including the ability to see, hear and understand the required alarms. Relocation of utility service equipment (electrical outlets, petcocks, etc.), the visual appearance of the cabinet, or user interface(s) ~~is~~ are not considered a major modification if other provisions of this Standard are not compromised.

***Rationale:** Standard 49 currently requires appropriate tests for conformance when cabinet designs undergo various major modifications. However, the standard does not specifically address BSC software and consider elements of that software where changes would be considered ‘major’ modifications. This language specifically calls out instances where safety elements are involved and therefore considered ‘major’.*

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NSF International Standard for Dietary Supplements —

Dietary supplements

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5 Product requirements

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5.6 Proteins

~~Protein content, for products that claim protein at greater than 5% daily value,~~ Protein content shall be verified for products that claim protein at $\geq 5\%$ daily value, and may be verified for products that claim protein at less than 5% daily value, in accordance with 5.2.2. Protein content shall exclude quantifiable non-protein nitrogen-containing substances (e.g., free amino acids, taurine, creatine, alkaloids, etc.) that may be present in the product.

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NSF International Standard for Dietary Supplements —

Dietary supplements

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5 Product requirements

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5.3.3 Microbiological contaminants

Dietary ingredients shall not contain aflatoxins at levels greater than 20 ppb and shall not contain microorganisms in quantities greater than permitted in Tables 8-4 5.1 and 8-2- 5.2.

Finished products shall not contain aflatoxins at levels greater than 20 ppb and shall not contain microorganisms in quantities greater than permitted in Tables 8-3 5.3 and 8-4 5.4.

Finished products in a liquid form with an alcohol content less than or equal to 50% shall not contain *Pseudomonas aeruginosa*.

Finished products with an alcohol content greater than or equal to 50% are exempt from microbial testing. Products containing probiotic bacteria are exempt from Total Aerobic Microbial Count and the limits in Tables 8-4 5.1 and 8-3-5.3.

Products containing probiotic yeast or mold are exempt from Total Combined Yeast Mold Count and the limits in Tables 8-4 5.1 and 8-3- 5.3.

Table 5.1 – Acceptable limits for microbiological contaminants in dietary ingredients

Ingredient	Aerobic	Yeast/Mold	Enterobacteriaceae
Vitamin and/or mineral ingredient	1 x 10 ³ CFU/g	1 x 10 ² CFU/g	1 x 10 ² CFU/g
Botanical ingredient – non-extract	1 x 10 ⁷ CFU/g	1 x 10 ⁵ CFU/g	1 x 10 ⁴ CFU/g
Botanical ingredient – extract / other dietary supplement ingredient	1 x 10 ⁴ CFU/g	1 x 10 ³ CFU/g	1 x 10 ² CFU/g

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Table 5.2– Acceptable limits for pathogenic microbiological contaminants in dietary ingredients

Ingredient	<i>Salmonella</i> spp.	<i>E. coli</i> ⁽¹⁾	<i>S. aureus</i>
Vitamin and/or mineral ingredient	ND ⁽²⁾	ND ⁽²⁾	ND ⁽²⁾
Botanical ingredient – non-extract ⁽¹⁾	ND ⁽²⁾	1 x 10 ² CFU/g	ND ⁽²⁾
Botanical ingredient – extract / Other dietary supplement ingredient	ND ⁽²⁾	ND ⁽²⁾	ND ⁽²⁾

⁽¹⁾ Upon the presence of *E. coli*, 7.3.6.2 is to be followed to determine whether the colonies are enterovirulent. There is a zero tolerance for the presence of enterovirulent *E. coli*.

⁽²⁾ ND = Not Detected. Not Detected requires that no colonies shall be present in 10 g of sample when tested under the conditions of the USP method cited in 7.3. The detection level for this testing is 10 CFU/g for the period of time tested.

Table 5.3 – Acceptable limits for microbiological contaminants in finished products(1)

Finished Products		Aerobic	Yeast/Mold	Enterobacteriaceae
Category 1	Finished products containing only vitamin and minerals	1 x 10 ³ CFU/g	1 x 10 ² CFU/g	1 x 10 ² CFU/g
Category 2	Finished products containing Botanical ingredient – extract / Other dietary supplement ingredient	1 x 10 ⁴ CFU/g	1 x 10 ³ CFU/g	1 x 10 ² CFU/g
Category 3	Finished products containing botanical ingredients – non-extract	1 x 10 ⁷ CFU/g	1 x 10 ⁵ CFU/g	1 x 10 ⁴ CFU/g

⁽¹⁾ The category designation shall be based on ingredients present at 1% or more by weight in the formula as provided in the full product formulation. For a product containing ingredients from more than one category, the finished product category will be assigned based on the ingredient with the highest category number.

Table 5.4– Acceptable limits for pathogenic microbiological contaminants in finished products(1)

Finished Products		<i>Salmonella</i> spp.	<i>E. coli</i> ⁽²⁾	<i>S. aureus</i>
Category 1	Finished products containing only vitamin and minerals	ND ⁽³⁾	ND ⁽³⁾	ND ⁽³⁾
Category 2	Finished products containing Botanical ingredient – extract / Other dietary supplement ingredient	ND ⁽³⁾	ND ⁽³⁾	ND ⁽³⁾
Category 3	Finished products containing botanical ingredients – non-extract	ND ⁽³⁾	1 x 10 ² CFU/g	ND ⁽³⁾
<p>(1) The category designation shall be based on ingredients present at 1% or more by weight in the formula as provided in the full product formulation. For a product containing ingredients from more than one category, the finished product category will be assigned based on the ingredient with the highest category number.</p> <p>Examples:</p> <ol style="list-style-type: none"> A product containing only Vitamin C and Zinc shall be in category 1. A product containing Vitamin C, Zinc, and Green Tea Extract shall be in category 2. A product containing Vitamin C, Zinc and Echinacea shall be in category 3. <p>(2) Upon the presence of <i>E. Coli</i>, 7.3.7 is to be followed to determine whether the colonies are enterovirulent. There is a zero tolerance for the presence of enterovirulent <i>E. Coli</i>.</p> <p>(3)ND = Not detected. Not Detected requires that no colonies shall be present in 10 g of sample when tested under the conditions of the USP method cited in 7.3. The detection level for this testing is 10 CFU/g for the period of time tested.</p>				

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8 Good manufacturing practices

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8.5 Requirement for oils

For products containing oils listed in Annex A, Table A.2, manufacturers shall have controls in place to assess and prevent rancidity. Written procedures shall be established and followed.

Table 8.1 – Acceptable limits for microbiological contaminants in dietary ingredients

Ingredient	Aerobic	Yeast/Mold	Enterobacteriaceae
Vitamin and/or mineral ingredient	1 x 10 ³ CFU/g	1 x 10 ² CFU/g	1 x 10 ² MPN/g or 1 x 10 ² MPN/mL
Botanical ingredient – non-extract	1 x 10 ⁷ CFU/g	1 x 10 ⁵ CFU/g	1 x 10 ⁴ MPN/g or 1 x 10 ⁴ MPN/mL
Botanical ingredient – extract / other dietary supplement ingredient	1 x 10 ⁴ CFU/g	1 x 10 ³ CFU/g	1 x 10 ² MPN/g or 1 x 10 ² MPN/mL

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Issue 78, Revision 1 (June 2018)

Table 8.2 – Acceptable limits for pathogenic microbiological contaminants in dietary ingredients

Ingredient	<i>Salmonella</i> spp.	<i>E. coli</i> ⁽¹⁾	<i>S. aureus</i>
Vitamin and/or mineral ingredient	ND ⁽²⁾	ND ⁽²⁾	ND ⁽²⁾
Botanical ingredient – non-extract ⁽¹⁾	ND ⁽²⁾	1 x 10 ² CFU/g	ND ⁽²⁾
Botanical ingredient – extract / Other dietary supplement ingredient	ND ⁽²⁾	ND ⁽²⁾	ND ⁽²⁾

⁽¹⁾ Upon the presence of *E. coli*, 7.3.6.2 is to be followed to determine whether the colonies are enterovirulent. There is a zero tolerance for the presence of enterovirulent *E. coli*.

⁽²⁾ ND = Not Detected. Not Detected requires that no colonies shall be present in 10 g of sample when tested under the conditions of the USP method cited in 7.3. The detection level for this testing is 10 CFU/g for the period of time tested.

Table 8.3 – Acceptable limits for microbiological contaminants in finished products⁽¹⁾

Finished products		Aerobic	Yeast/Mold	Enterobacteriaceae
Category 1	Finished products containing only vitamin and minerals	1 x 10 ³ CFU/g	1 x 10 ² CFU/g	1 x 10 ² MPN/g or 1 x 10 ² MPN/mL
Category 2	Finished products containing Botanical ingredient – extract / Other dietary supplement ingredient	1 x 10 ⁴ CFU/g	1 x 10 ³ CFU/g	1 x 10 ² MPN/g or 1 x 10 ² MPN/mL
Category 3	Finished products containing botanical ingredients – non-extract	1 x 10 ⁷ CFU/g	1 x 10 ⁵ CFU/g	1 x 10 ⁴ MPN/g or 1 x 10 ⁴ MPN/mL

⁽¹⁾ The category designation shall be based on ingredients present at 1% or more by weight in the formula as provided in the full product formulation. For a product containing ingredients from more than one category, the finished product category will be assigned based on the ingredient with the highest category number.

Table 8.4 – Acceptable limits for pathogenic microbiological contaminants in finished products⁽¹⁾

Finished products		<i>Salmonella</i> spp.	<i>E. coli</i> ⁽²⁾	<i>S. aureus</i>
Category 1	Finished products containing only vitamin and minerals	ND ⁽³⁾	ND ⁽³⁾	ND ⁽³⁾
Category 2	Finished products containing Botanical ingredient – extract / Other dietary supplement ingredient	ND ⁽³⁾	ND ⁽³⁾	ND ⁽³⁾
Category 3	Finished products containing botanical ingredients – non-extract	ND ⁽³⁾	1 x 10 ² CFU/g	ND ⁽³⁾

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Issue 78, Revision 1 (June 2018)

⁽¹⁾ The category designation shall be based on ingredients present at 1% or more by weight in the formula as provided in the full product formulation. For a product containing ingredients from more than one category, the finished product category will be assigned based on the ingredient with the highest category number.

— Examples:

- a) A product containing only Vitamin C and Zinc shall be in category 1.
- b) A product containing Vitamin C, Zinc, and Green Tea Extract shall be in category 2.
- c) A product containing Vitamin C, Zinc and Echinacea shall be in category 3.

⁽²⁾ Upon the presence of *E. Coli*, 7.3.7 is to be followed to determine whether the colonies are enterovirulent. There is a zero tolerance for the presence of enterovirulent *E. Coli*.

⁽³⁾ ~~ND – Not detected. Not Detected requires that no colonies shall be present in 10 g of sample when tested under the conditions of the USP method cited in 7.3. The detection level for this testing is 10 CFU/g for the period of time tested.~~

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Annex B¹

(informative)

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B.2 Microbiological contaminants

The acceptance limits contained in Tables ~~8.1, 8.2, 8.3~~ 5.1, 5.2, 5.3 and ~~8.4–5.4~~ for microbiological contaminants were established with consideration of limits allowed by WHO and USP and were agreed to by the Joint Committee on Dietary Supplements.

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NSF International Standard for Dietary Supplements —

Dietary supplements

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2 Normative references

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FDA, *Food Code 2004* **2017** *Recommendations of the United States Public Health Service Food and Drug Administration*¹¹

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5 Product requirements

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5.5 Caffeine

Supplements containing caffeine shall have caffeine content tested and verified. The amount of caffeine consumed shall not exceed 200 mg/serving every 4 hours and 800 mg/day. The product use instructions shall indicate no more than 200 mg of caffeine is to be consumed every 4 hours. ~~In addition, if the product contains caffeine in the amount of 100 mg/serving or greater the following warnings (or equivalent) must be present on the label:~~

- ~~— Do not use if sensitive to caffeine.~~
- ~~— Not recommended for use by children under 18 years of age.~~
- ~~— Not recommended for use by pregnant or nursing women.~~

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NSF/ANSI Standard For Wastewater Technology –

Onsite residential and commercial water reuse treatment systems

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5 Design and construction

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5.11 Alternate air delivery components

To ensure stabilized air flow conditions are met, proposed alternate air delivery components—either air compressors or blowers—that create air pressure shall be run for a minimum of four hours at the system pressure recorded at the outset of the evaluation of the system as outlined in 8.1.8. The alternate air delivery components must deliver flow in the range of 90-130% of the flow produced by the original air delivery component. Justification for qualifying air delivery components with flows higher than 130% may be considered by the certification body based on sound engineering principles. Air delivery components with flows lower, or higher, than the stated range of 90-130% may be considered for qualification by the certification body based on system performance testing.

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8 Performance testing and evaluation

The analytical methods listed in Table A.1 shall be used for testing. Alternate methods may also be used, provided equivalency is demonstrated by technical review and the review is documented. An equivalent method involves the same measurement technique. Equivalent methods are known to be capable of generating reliable results to equivalent quality requirements. All sample collection methods shall be in accordance with *Standard Methods* unless otherwise specified.

8.1 Greywater treatment systems with capacities up to 5,678 L/day (1,500 gal/day)

This section describes the methods used to evaluate the performance of onsite residential and commercial greywater treatment systems that treat greywater, those that treat laundry water from residential laundry facilities, and those that treat bathing water. Systems shall be classified as Class R (single-family residential), or Class C (multi-family or commercial), in accordance with 8.6. The performance classification shall be based upon the evaluation of effluent samples collected over a minimum 6 m (26 wk [182 d]) testing period. Manufacturers that recommend a service frequency longer than 6 m (26 wk [182 d]) shall be tested for the full period of the recommended service frequency.

8.1.1 Preparations for testing and evaluation of greywater treatment systems

8.1.1.1 The system shall be assembled, installed, and filled in accordance with the manufacturer's instructions.

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8.1.1.2 The manufacturer shall inspect the system for proper installation. If no defects are detected and the system is judged to be structurally sound, it shall be placed into operation in accordance with the manufacturer's start-up procedures. If the manufacturer does not provide a filling procedure, $\frac{2}{3}$ of the system's capacity shall be filled with water meeting the specifications of 8.1.2.1, and the remaining $\frac{1}{3}$ shall be filled with greywater meeting the specifications of 8.1.2.1.1, 8.1.2.1.2, or 8.1.2.1.3, as appropriate based upon manufacturer's decision to test with bathing water, laundry water, or both.

8.1.1.3 The system shall undergo design loading (see 8.1.2.2.1) until testing and evaluations are initiated. Sample collection and analysis shall be initiated within 3 wk (21 d) of filling the system and, except as specified in 8.6.1.2, shall continue without interruption until the end of the evaluation period.

8.1.1.4 If the system is to be installed outdoors, and conditions at the testing site preclude installation of the system at its normally prescribed depth, the manufacturer shall be permitted to cover the system with soil to achieve normal installation depth.

8.1.1.5 If the system is to be installed outdoors, performance testing and evaluation of systems shall not be restricted to specific seasons.

8.1.1.6 When possible, electrical or mechanical defects shall be repaired to prevent evaluation delays. All repairs made during the performance testing and evaluation shall be documented in the final report.

8.1.1.7 The system shall be operated in accordance with the manufacturer's instructions. Routine service and maintenance of the system shall not be permitted during the performance testing and evaluation period.

NOTE — The manufacturer may recommend or offer more frequent service and maintenance of the system but for the purpose of performance testing and evaluation, service and maintenance shall not be performed beyond what is specified in this Standard.

8.1.1.8 Prior to initiation of design loading, the air delivery component (if one is utilized)—either air compressor or blower—shall be connected to the system and run for a minimum of four hours. Air pressure shall be measured by a pressure gauge installed near the exhaust port of the air delivery component and that reading recorded. Then the air compressor or blower component shall be disconnected from the system and the air flow measured at the system pressure and recorded.

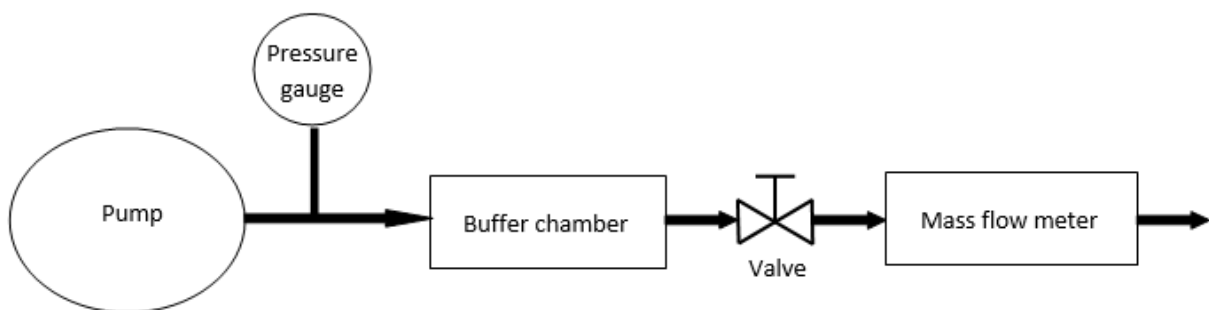


Figure 1

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8.2 Residential wastewater treatment systems with capacities up to 5,678 L/day (1,500 gal/day)

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This section describes the methods used to evaluate the performance of residential wastewater treatment systems. Systems shall be classified as Class R (residential), in accordance with 8.6.2. The performance classification shall be based upon the evaluation of effluent samples collected from the system over a 6 m (26 wk [182 d]) period.

8.2.1 Preparations for testing and evaluation

8.2.1.1 The system shall be assembled, installed, and filled in accordance with the manufacturer's instructions.

8.2.1.2 The manufacturer shall inspect the system for proper installation. If no defects are detected and the system is judged to be structurally sound, it shall be placed into operation in accordance with the manufacturer's start-up procedures. If the manufacturer does not provide a filling procedure, 2/3 of the system's capacity shall be filled with water and the remaining 1/3 shall be filled with residential wastewater.

8.2.1.3 The system shall undergo design loading (see 8.2.2.2.1) until testing and evaluations are initiated. Sample collection and analysis shall be initiated within 3 wk (21 d) of filling the system and, except as specified in 8.6.1.2 shall continue without interruption until the end of the evaluation period.

8.2.1.4 If conditions at the testing site preclude installation of the system at its normally prescribed depth, the manufacturer shall be permitted to cover the system with soil to achieve normal installation depth.

8.2.1.5 Performance testing and evaluation of systems shall not be restricted to specific seasons.

8.2.1.6 When possible, electrical or mechanical defects shall be repaired to prevent evaluation delays. All repairs made during the performance testing and evaluation shall be documented in the final report.

8.2.1.7 The system shall be operated in accordance with the manufacturer's instructions. Routine service and maintenance of the system shall not be permitted during the performance testing and evaluation period.

NOTE — The manufacturer may recommend or offer more frequent service and maintenance of the system but for the purpose of performance testing and evaluation, service and maintenance shall not be performed beyond what is specified in this Standard.

8.2.1.8 Prior to initiation of design loading, the air delivery component (if one is utilized)—either air compressor or blower—shall be connected to the system and run for a minimum of four hours. Air pressure shall be measured by a pressure gauge installed near the exhaust port of the air delivery component and that reading recorded. Then the air compressor or blower component shall be disconnected from the system and the air flow measured at the system pressure and recorded.

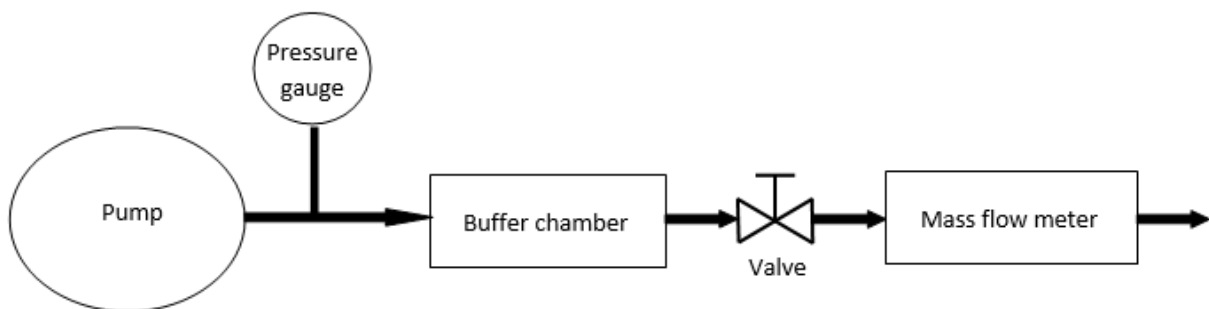


Figure 2

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8.5 Analyses (applicable to all reuse systems evaluated in accordance with 8.1, 8.2, and 8.3)

8.5.1 Color, odor, oil film, and foam

8.5.1.1 General

The effluent composite samples shall be diluted 1:1000 with deionized water. Three composite effluent samples shall be tested during the 6 m (26 wk [182 d]) evaluation period, as described in 8.1.2.4 and 8.2.2.4.

8.5.1.2 Color

The apparent color of the diluted effluent samples shall be determined with the visual comparison method described in Method 2120 B of *Standard Methods*.

8.5.1.3 Odor

A panel consisting of at least 5 evaluators shall qualitatively rate 200 mL aliquots of the diluted effluent samples as offensive or non-offensive when compared to odor-free water prepared in accordance with Method 2150 B of *Standard Methods*.

8.5.1.4 Oily film and foam

Diluted effluent sample aliquots shall be visually evaluated for the presence of an oily film or foaming.

8.5.1.5 Energy consumption

Total energy consumption of the system shall be measured throughout the test using a kilowatt meter. Consumption shall be reported.

8.5.2 Pressure and flow

Air pressure shall be measured using a gauge with accuracy of 2% or better. Airflow shall be measured using a flow meter with accuracy of 10% or better.

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8.6 Criteria (applicable to all reuse systems evaluated in accordance with 8.1, 8.2, and 8.3)

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8.6.4 Air pressure and flow

There are no criteria for aerator pressure or flow. Pressure and flow are measured for the purpose of qualifying alternate aerators following the test.

BSR/UL 498, Standard for Safety for Attachment Plugs and Receptacles

1. Revision of the Vertical-Ball Impact Test

140.3 Vertical-ball impact

140.3.1 The devices are to be mounted to a cast metal (malleable iron) outlet box and a nonmetallic flush-device cover plate is to be installed on the receptacle in the intended manner. The receptacle, faceplate, and box are to be placed on a steel plate at least 1/2 inch (12.7 mm) thick with the outlet facing upward.

140.3.2 The steel sphere is to be dropped from a height of 51 inches (1295 mm) to impact the center of each receptacle outlet as shown in Figure 140.3. For duplex receptacles, three devices are to be tested using one outlet, and three using the other.

Exception: For a receptacle that employs a recessed outlet (such as a clock-hanger receptacle) where the steel sphere is unable to impact the outlet slot area, other impact shape variations (i.e. steel ball or rod) are permitted, provided the applied force surface employs a 1 inch diameter radius capable of delivering an impact of 5.0 ft-lb (6.8 joules).

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BSR/UL 705, Standard for Safety for Power Ventilators

36.21 A ventilator employing more than one power source shall be provided with a disconnect for each power supply and the following warning: "WARNING: RISK OF ELECTRIC SHOCK. CAN CAUSE INJURY OR DEATH: DISCONNECT ALL REMOTE ELECTRIC POWER SUPPLIES BEFORE SERVICING", in letters not less than 3.2 mm (1/8 in) high, or the equivalent. This marking shall be located on all panels providing access to hazardous voltage uninsulated live parts.

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BSR/UL 1278, Standard for Safety for Movable and Wall- or Ceiling-Hung Electric Room Heaters

2.1.2 The requirements of this standard are based upon operation of a heater where it is manually placed by the user. The heater shall not be capable of moving autonomously or via remote control from the location in which it is manually placed by the user.

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