# ANSI STANDARDS ACTION

PUBLISHED WEEKLY BY THE AMERICAN NATIONAL STANDARDS INSTITUTE 25 West 4 3rd Street, NY, NY 10036

VOL. 49, #41

October 12, 2018

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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

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# Comment Deadline: November 11, 2018

# **API (American Petroleum Institute)**

### Supplement

BSR/API Spec 7-1/ISO 10424-1-2004-201x, Petroleum and natural gas industries - Rotary drilling equipment - Part 1: Rotary drill stem elements (supplement to ANSI/API Specification 7-1/ISO 10424-1-2007 (R2015))

This standard specifies requirements for the following drill stem elements: upper and lower Kelly valves; square and hexagonal Kellys; drill stem subs; standard steel and non-magnetic drill collars; drilling and coring bits. This standard is not applicable to drill pipe and tool joints, rotary-shouldered connection designs, thread-gauging practice, or grand master, reference master and working gauges.

#### Click here to view these changes in full

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

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

#### Addenda

BSR/ASHRAE Addendum 62.1i-201x, Ventilation for Acceptable Indoor Air Quality (addenda to ANSI/ASHRAE Standard 62.1-2016) The current scope of Standard 62.1 contains informative text and is also unclear in the current Section 2.3 regarding when or where additional ventilation requirements apply. This proposed addendum removes informative text that is not scope definition and clarifies when the standard does not provide ventilation rates. Addendum h adds informative text to Informative Appendix G – Application.

#### Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Online Comment Database at https://www.ashrae.org/technical-resources/standardsand-guidelines/public-review-drafts

# AWS (American Welding Society)

## Addenda

BSR/AWS D17.1/D17.1M-2017-AMD2, Specification for Fusion Welding for Aerospace Applications (addenda to ANSI/AWS D17.1/D17.1M-2017a)

This specification provides the general welding requirements for welding aircraft and space hardware. It includes but is not limited to the fusion welding of aluminum-based, nickel-based, iron-based, cobalt-based, magnesium-based, and titanium-based alloys using electric arc and high-energy beam processes. There are requirements for welding design, personnel and procedure qualification, inspection, and acceptance criteria for aerospace, support, and non-flight hardware. Additional requirements cover repair welding of existing hardware.

#### Click here to view these changes in full

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

# UL (Underwriters Laboratories, Inc.)

#### Revision

BSR/UL 913-201X, Standard for Safety for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations (revision of ANSI/UL 913-2015)

This proposal includes revisions to clarify the inclusion of the use of electronic medium for required documentation based on the responses to comments received on the Proposal dated August 24, 2018.

#### Click here to view these changes in full

Send comments (with copy to psa@ansi.org) to: Vickie Hinton, (919) 549-1851, Vickie.T.Hinton@ul.com

BSR/UL 2353-201x, Standard for Safety for Single- and Multi-Layer Insulated Winding Wire (revision of ANSI/UL 2353-2016)

(1) Revision to insulation thickness.

#### 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

# Comment Deadline: November 26, 2018

# AAFS (American Academy of Forensic Sciences)

### New Standard

BSR/ASB Std 019-201x, Wildlife Forensics General Standards (new standard)

This document provides minimum standards and recommendations for practicing wildlife forensic analysts. This document covers good laboratory practices, evidence handling, and training as well as considerations of taxonomy and reference collections that are specific to wildlife forensic science.

Single copy price: Free

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

Order from: 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. This is a public comment period for a recirculation. Updated document, redline version, and comments can be viewed on the AAFS Standards Board website at: https://asb.aafs.org/notification-of-standard-development-and-coordination/

#### BSR/ASB Std 028-201x, Wildlife Forensics Morphology Standard (new standard)

This document describes morphology, which is the study of form. In a wildlife forensic context, it is the discipline using physical comparison to identify wildlife parts and products, typically to the family, genus, or species source. Depending on the nature of the evidence, a variety of macroscopic and microscopic comparison techniques may be employed.

Single copy price: Free

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

Order from: 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/

#### BSR/ASB Std 029-201x, Wildlife Forensics Report Writing Standard (new standard)

This document describes the information to be provided in reports of wildlife forensic examinations for use in legal proceedings. Requirements for both genetic and morphological examination reports are covered. Forensic reports serve a variety of audiences, and must provide a clear and concise summary of methods, results and limitations for the use of the investigator, the court, and the litigants.

Single copy price: Free

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

Order from: 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. This is a public comment period for a recirculation. Updated document, redline version, and comments can be viewed on the AAFS Standards Board website at: https://asb.aafs.org/notification-of-standard-development-and-coordination/

# **API (American Petroleum Institute)**

#### Supplement

BSR/API RP 2EQ/ISO 19901-2-2004-201x, Petroleum and natural gas industries - Specific requirements for offshore structures - Part 2: Seismic design procedures and criteria (supplement to ANSI/API Recommended Practice 2EQ-2014)

This standard contains requirements for defining the seismic design procedures and criteria for offshore structures. The requirements are applicable to fixed steel structures and fixed concrete structures. The effects of seismic events on floating structures and partially buoyant structures are also briefly discussed. The site-specific assessment of jack-ups in elevated condition is only covered to the extent that the requirements are applicable. Only earthquake-induced ground motions are addressed in detail. Other geologically induced hazards such as liquefaction, slope instability, faults, tsunamis, mud volcanoes, and shock waves are mentioned and briefly discussed. For high seismic areas and/or high-exposure-level fixed structures, a site-specific seismic hazard assessment is required; for such cases, the procedures and requirements for a site-specific probabilistic seismic hazard analysis (PSHA) are addressed. However, a thorough explanation of PSHA procedures is not included. Where a simplified design approach is allowed, worldwide offshore maps are included in Annex B that show the intensity of ground shaking corresponding to a return period of 1000 years. In such cases, these maps may be used with corresponding scale factors to determine appropriate seismic actions for the design of a structure.

Single copy price: \$50.00

Obtain an electronic copy from: cocob@api.org

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

# ASABE (American Society of Agricultural and Biological Engineers)

### Reaffirmation

BSR/ASABE S516-2014 (R201x), Terminology for Forest Operations and Equipment (reaffirmation of ANSI/ASABE S516-2014)

This Standard specifies terminology for operations and equipment commonly used to establish, tend, and harvest forest stands. The intent of this Standard is to establish uniform terminology to describe forest operations and equipment in technical papers, specifications, standards, and general use.

Single copy price: 65.00 (non-members) / \$44.00 (ASABE members)

Obtain an electronic copy from: brace@asabe.org

Order from: Walter Brace, (269) 932-7009, brace@asabe.org

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

BSR/ASABE/ISO 12140-2014, Agricultural Machinery - Agricultural trailers and trailed equipment - Drawbar jacks (reaffirm a national adoption ANSI/ASABE/ISO 12140:2014)

This International Standard specifies terms and definitions, establishes test procedures, and creates minimum performance requirements for telescopic mechanical screw-type jacks or hydraulic jacks mounted on agricultural implements as original equipment and/or replacement jacks. Furthermore, this International Standard defines terms, establishes test procedures, and creates minimum acceptance criteria for the use of telescopic mechanical screw-type jacks or hydraulic jacks mounted on agricultural implements as original equipment jacks or jacks fitted with a jack attachment mounts (both weld-on and removable). In addition, it specifies minimum markings and information for use to be provided by the jack manufacturer. These jacks are used specifically for supporting the hitch points of towed agricultural implements during storage, lifting and lowering of implement hitches to facilitate attaching to or disconnecting from an agricultural tractor or other agricultural machines, and leveling of machinery for stationary use.

Single copy price: 65.00 (non-members) / \$44.00 (ASABE members)

Obtain an electronic copy from: brace@asabe.org

Order from: Walter Brace, (269) 932-7009, brace@asabe.org

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

BSR/ASABE/ISO 15077:2008 (R201x), Tractors and self-propelled machinery for agriculture - Operator Controls - Actuating forces, displacement, location, and method of operation (reaffirm a national adoption ANSI/ASABE/ISO 15077:2008 (R2013))

This International Standard specifies the preferred method of operation and requirements related to operator controls actuated by hand and foot, installed in agricultural tractors and self-propelled agricultural machinery and used by a seated operator as intended and under the conditions foreseen by the manufacturer. It also gives recommendations for the maximum control actuating forces, direction of motion, and location of these controls.

Single copy price: 65.00 (non-members) / \$44.00 (ASABE members)

Obtain an electronic copy from: brace@asabe.org

Order from: Walter Brace, (269) 932-7009, brace@asabe.org

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

BSR/ASAE EP282.2-1993 (R201x), Design Values for Emergency Ventilation and Care of Livestock and Poultry (reaffirmation of ANSI/ASAE EP282.2-1993 (R2013))

Many natural, man-made, and unexpected events (i.e., power interruptions, equipment failures, extreme weather condition, storms, and natural disasters) occur requiring temporary emergency ventilation and care of livestock and poultry. These events may require either short term (i.e., minutes to days) or long term (i.e., weeks to months) temporary emergency ventilation. The purpose of this Engineering Practice is to provide data and guidelines to assist designing emergency ventilation, feeding, watering, and lighting systems for livestock and poultry.

Single copy price: 65.00 (non-members) / \$44.00 (ASABE members)

Obtain an electronic copy from: walsh@asabe.org

Order from: Jean Walsh, (269) 932-7027, walsh@asabe.org

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

BSR/ASAE S423.1-2014 (R201x), Thermal Performance Testing of Open-Loop Solar Ambient Air Heaters with Defined Inlet and Outlet Conditions (reaffirmation of ANSI/ASAE S423.1-2014)

The purpose of this Standard is to provide a method for testing the thermal efficiency of open-looped solar air heaters which are used exclusively for heating ambient air. The test data should provide a basis for computing technical performance and for comparing efficiency of collectors of different design and/or construction. Examples of use of solar ambient air heaters are preheating of ventilation air, heating make-up air for all types of environmental control systems, and heating of air to dry agricultural products without recirculation. This test procedure simplifies the testing equipment needs, procedures and computations as compared to the currently recognized methods. The scope of this Standard is restricted to collectors which have a fixed orientation and slope during the test and are used exclusively for heating ambient air with defined inlet and outlet conditions. This Standard provides the method for using a 6-hour continuous test consisting of twenty-four 15-minute test periods.

Single copy price: 65.00 (non-members) / \$44.00 (ASABE members)

Obtain an electronic copy from: brace@asabe.org

Order from: Walter Brace, (269) 932-7009, brace@asabe.org

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

BSR/ASAE S289.2 FEB1998 (R201x), Concrete Slip-Form Canal Linings (reaffirmation of ANSI/ASAE S289.2 FEB1998 (R2013)) This standard is to provide standards and specifications for the installation of concrete slip-form canal linings in the interest of reducing costs and assuring quality control.

Single copy price: \$65.00

Obtain an electronic copy from: walsh@asabe.org

Order from: Jean Walsh, (269) 932-7027, walsh@asabe.org

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

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

### Addenda

BSR/ASHRAE Addendum 135bs-201x, BACnet - A Data Communication Protocol for Building Automation and Control Networks (addenda to ANSI/ASHRAE Standard 135-2016)

The current standard does not address the need of elevator applications regarding BIBBs and device profiles. The addendum adds new elevator application specific BIBBs and device profiles.

Single copy price: \$35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

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

#### Revision

BSR/ASHRAE Standard 30-201x, Method of Testing Liquid Chillers (revision of ANSI/ASHRAE Standard 30-2017)

This revision of ANSI/ASHRAE Standard 30-2017 prescribes methods of testing to measure the thermal capacity, energy efficiency, and water pressure drop of packaged liquid chiller equipment using a refrigerant vapor compression cycle.

Single copy price: \$35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

BSR/ASHRAE Standard 146-201x, Method of Test for Rating Pool Heaters (revision of ANSI/ASHRAE Standard 146-2011) This revision of ANSI/ASHRAE Standard 146-2011 provides methods of testing for rating pool heaters, heating capacity, and energy efficiency.

Single copy price: \$35.00

Obtain an electronic copy from: http://www.ashrae.org/standards-research--technology/public-review-drafts

Order from: standards.section@ashrae.org

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

# ASME (American Society of Mechanical Engineers)

### Revision

BSR/ASME A120.1-201x, Safety Requirements for Powered Platforms and Traveling Ladders and Gantries for Building Maintenance (revision of ANSI/ASME A120.1-2014)

This Standard establishes safety requirements for powered platforms (scaffolds) for buildings where window cleaning and related services are accomplished by means of suspended equipment at heights in excess of 35 ft (11 m) above a safe surface (e.g., grade, street, floor, or roof level). Additionally, this Standard establishes safety requirements for permanent traveling ladders and gantries (TLG).

Single copy price: Free

Obtain an electronic copy from: http://cstools.asme.org/publicreview

Order from: Mayra Santiago, ASME; ansibox@asme.org

Send comments (with copy to psa@ansi.org) to: Elijah Dominguez, (212) 591-8521, domingueze@asme.org

BSR/ASME B31.12-201x, Hydrogen Piping and Pipelines (revision of ANSI/ASME B31.12-2014)

This Code is applicable to piping in gaseous and liquid hydrogen service and to pipelines in gaseous hydrogen service. This Code is applicable up to and including the joint connecting the piping to associated pressure vessels and equipment but not to the vessels and equipment themselves. It is applicable to the location and type of support elements but not to the structure to which the support elements are attached. The design for pressure and temperature shall be in accordance with the requirements of Part IP for industrial piping and Part PL for pipelines.

Single copy price: Free

Obtain an electronic copy from: http://cstools.asme.org/publicreview

Order from: Mayra Santiago, ASME; ansibox@asme.org

Send comments (with copy to psa@ansi.org) to: Justin Wu, (212) 591-7074, wuj@asme.org

BSR/ASME BPVC Section III-201x , Rules for Construction of Nuclear Facility Components (revision of ANSI/ASME BPVC Section III -2017)

The rules of this Section constitute requirements for the design, construction, stamping, and overpressure protection of items used in nuclear power plants and other nuclear facilities. This Section consists of the following divisions:

(a) Division 1. Metallic vessels, heat exchangers, storage tanks, piping systems, pumps, valves, core support structures, supports, and similar items;

(b) Division 2. Concrete containments with metallic liners;

(c) Division 3. Containment Systems for Spent Nuclear Fuel and High-Level Radioactive Material;

(d) Division 4. Components for fusion devices; and

(e) Division 5. High temperature reactors, vessels, storage tanks, piping, pumps, valves, core support structures and non-metallic core components for use in nuclear power plants and other nuclear facilities.

Single copy price: Free

Obtain an electronic copy from: http://cstools.asme.org/publicreview

Order from: Mayra Santiago, ASME; ansibox@asme.org

Send comments (with copy to psa@ansi.org) to: Allyson Byk, (212) 591-8521, byka@asme.org

# ASSP (Safety) (American Society of Safety Professionals)

### Revision

BSR/ASSP Z359.7-201x, Qualification and Verification Testing of Fall Protection Products (revision and redesignation of ANSI/ASSE Z359.7-2011)

This standard specifies requirements for qualification and verification testing of ANSI/ASSP Z359, Fall Protection Code, products. It includes requirements for third-party testing, witness testing and manufacturer testing of fall protection products to the requirements of the ANSI/ASSP Z359 standards.

Single copy price: \$99.00

Obtain an electronic copy from: OMunteanu@ASSP.org

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

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

# HI (Hydraulic Institute)

# New Standard

BSR/HI 14.3-201x, Rotodynamic Pumps for Design and Application (new standard)

The purpose and aims of the Hydraulic Institute are to promote the advancement of the pump manufacturing industry and further the interests of the public and to this end, among other things.

Single copy price: Free Obtain an electronic copy from: tserazi@pumps.org Order from: Tori Serazi, (973) 267-9700, tserazi@pumps.org Send comments (with copy to psa@ansi.org) to: Same

# HI (Hydraulic Institute)

# Revision

BSR/HI 9.6.9-201x, Rotary Pumps Guidelines for Condition Monitoring (revision of ANSI/HI 9.6.9-2013) This guideline is for rotary pumps, including both sealed and sealless pump designs as stated in each section. Single copy price: \$70.00 Obtain an electronic copy from: tserazi@pumps.org Order from: Tori Serazi, (973) 267-9700, tserazi@pumps.org Send comments (with copy to psa@ansi.org) to: Same

# ICE (Institute for Credentialing Excellence)

# Revision

BSR/ICE 1100-201x, Standard for Assessment-Based Certificate Programs (revision and redesignation of ANSI/NOCA 1100-2009)

This standard pertains to assessment-based certificate programs. An assessment-based certificate program is a non-degree granting program that: (a) provides instruction and training to aid participants in acquiring specific knowledge, skills, and/or competencies associated with intended learning outcomes; (b) evaluates participants' accomplishment of the intended learning outcomes; and (c) awards a certificate only to those participants who meet the performance, proficiency, or passing standard for the assessment(s) (hence, the term, "assessment-based certificate program").

Single copy price: Free

Obtain an electronic copy from: standards@credentialingexcellence.org

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

# **PLASTICS (Plastics Industry Association)**

# Reaffirmation

BSR/PLASTICS B151.20-2013 (R2018), Safety Requirements for Plastic Sheet Production Machinery (reaffirmation and redesignation of ANSI/SPI B151.20-2013)

The requirements of this standard shall apply to plastic sheet production machinery. This standard also specifies safety requirements relating to the design and construction of multi-roll calenders intended for the processing of plastics and concerns the calender including all components fixed to its frame.

Single copy price: Free

Obtain an electronic copy from: mhayes@plasticsindustry.org

Order from: Megan Hayes, (202) 974-5217, mhayes@plasticsindustry.org

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

# UL (Underwriters Laboratories, Inc.)

### New National Adoption

BSR/UL 62841-3-12-201x, Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - Part 3-12 Particular Requirements for Transportable Threading Machines (identical national adoption of IEC 62841-3-12)

(1) Proposed adoption of the first edition of IEC 62841-3-12, Standard for Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety - Part 3-12: Particular Requirements for Transportable Threading Machines, as the first edition of UL 62841-3-12.

Single copy price: Free

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

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

# UL (Underwriters Laboratories, Inc.)

# Reaffirmation

BSR/UL 1062-2014 (R201x), Standard for Safety for Unit Substations (reaffirmation of ANSI/UL 1062-2014) The intent of this project is to reaffirm UL 1062 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: Derrick Martin, (510) 319-4271, Derrick.L.Martin@ul.com

BSR/UL 1692-2009 (R201x), Standard for Safety for Polymeric Materials - Coil Forms (reaffirmation of ANSI/UL 1692-2009 (R2014)) The intent of this project is to reaffirm UL 1692 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: Derrick Martin, (510) 319-4271, Derrick.L.Martin@ul.com

# VITA (VMEbus International Trade Association (VITA))

### Revision

BSR/VITA 46.0-201x, VPX Baseline Standard (revision of ANSI/VITA 46.0-2013)

This standard describes VITA 46.0 VPX Baseline Standard, an evolutionary step forward for the provision of high-speed interconnects in harsh environment applications.

Single copy price: \$25.00

Obtain an electronic copy from: admin@vita.com

Send comments (with copy to psa@ansi.org) to: admin@vita.com

# Comment Deadline: December 11, 2018

Reaffirmations and withdrawals available electronically may be accessed at: webstore.ansi.org

# BOMA (Building Owners and Managers Association)

#### Revision

BSR/BOMA Z65.3-201x, Gross Areas of a Building: Standard Methods of Measurement (revision of ANSI/BOMA Z65.3-2009)

The purpose of the Gross Areas Standard is to provide a comprehensive and consistent methodology for measuring all building types while presenting the data in various ways that are useful to the stakeholders of any given property. This BOMA Gross Areas Standard includes four new Gross Area methods, known as Gross Area 1 (Leasing Method), Gross Area 2 (Valuation Method), Gross Area 3 (Volumetric Method) and Gross Area 4 (Construction Method). This new categorized and systematic approach provides users with an unlimited number of possible ways to dissect and analyze the areas of a building. This 2018 Gross Areas Standard includes many new features, enhancements, and clarifications. Key among them are compatibility with the International Property Measurement Standards (IPMS), greater variety of potential use cases and use by other industries, improved text and illustrations throughout, helpful hints, and an easier step-by-step layout among other things. It also addresses many questions that users have asked about previous versions of the standard.

Single copy price: Free of charge

Obtain an electronic copy from: tjohnston@boma.org

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

# **IEEE (Institute of Electrical and Electronics Engineers)**

### Addenda

BSR/IEEE 802.11ak-201x, Standard for Information technology -Telecommunications and information exchange between systems Local and metropolitan area networks-Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications - Amendment 4: Enhancements for Transit Links within Bridged Networks (addenda to ANSI/IEEE 802.11 -2003)

This amendment specifies protocols, procedures, and managed objects to enhance the ability of IEEE P802.11

media to provide internal connections as transit links within IEEE Std 802.1Q bridged networks.

Single copy price: \$94.00 (pdf); \$118.00 (print)

Order from: https://www.techstreet.com/ieee

Send comments (with copy to psa@ansi.org) to: k.evangelista@ieee.org

BSR/IEEE 1641.1a-201x, Guide for the Use of IEEE Std 1641(TM), IEEE Standard for Signal and Test Definition - Amendment 1: Addition of Guidelines for Producing Reusable Test Signal Frameworks for Use on Platforms Utilizing Automatic Test Markup Language (addenda to ANSI/IEEE 1641.1-2014)

To amend the guide to add guidelines for producing reusable TSFs for use on platforms utilizing ATML, and produce example TSFs showing conformance with the guidelines.

Single copy price: \$52.00 (pdf); \$64.00 (print)

Order from: https://www.techstreet.com/ieee

Send comments (with copy to psa@ansi.org) to: k.evangelista@ieee.org

# **IEEE (Institute of Electrical and Electronics Engineers)**

### New Standard

BSR/IEEE 2030.101-201x, Guide for Designing a Time Synchronization System for Power Substations (new standard)

This guide covers the design, installation and monitoring of time synchronization systems in power utility substations. This includes time sources such as Global Positioning Satellite (GPS) and time distribution systems such as Inter-Range Instrumentation Group-B (IRIG-B), Network Time Protocol (NTP) or Simple Network Time Protocol (SNTP), and IEEE Std C37.238<sup>™</sup> plus IEC/IEEE 61850-9-3 Precision time protocol profiles for power utility automation. This guide assumes that the time source and the Intelligent Electronic Device (IED) have accurate clocks.

Single copy price: \$145.00 (pdf); \$181.00 (print)

Order from: https://www.techstreet.com/ieee

Send comments (with copy to psa@ansi.org) to: k.evangelista@ieee.org

BSR/IEEE C37.100.2-201x, Standard for Common Requirements for Testing of AC Capacitive Current Switching Devices over 1000 V (new standard)

This standard provides common requirements for testing of ac capacitive current switching 301 devices over 1000V.

Single copy price: \$60.00 (pdf); \$75.00 (print)

Order from: https://www.techstreet.com/ieee

Send comments (with copy to psa@ansi.org) to: k.evangelista@ieee.org

# **IEEE (Institute of Electrical and Electronics Engineers)**

# Revision

BSR/IEEE 1527-201x, Recommended Practice for the Design of Buswork Located in Seismically Active Areas (revision of ANSI/IEEE 1527-2006)

This document provides recommended practices for the engineering and design of flexible and rigid bus connections

for bus and equipment in electric power substations located in seismically active areas. It covers the design of buswork connections in the seismic qualification of equipment covered within the scope of IEEE Std 693.

Single copy price: \$94.00 (pdf); \$118.00 (print)

Order from: https://www.techstreet.com/ieee

Send comments (with copy to psa@ansi.org) to: k.evangelista@ieee.org

# UL (Underwriters Laboratories, Inc.)

# Revision

BSR/UL 268-201x, Standard for Safety for Smoke Detectors for Fire Alarm Systems (revision of ANSI/UL 268-2016)

Proposed revisions to the 7th Edition of UL 268, a binational smoke detector standard with ULC-S529 containing requirements serving both Canada and the United States. Proposals include revisions to the sensitivity, fire, audibility, stability, and cooking nuisance tests and a new Go/No-Go Flaming Polyurethane Foam Test. Additional proposals include revisions for nuisance sensor requirements, firmware updates, and alarm silencing.

Single copy price: Free

Obtain an electronic copy from: https://csds.ul.com/Home/ProposalsDefault.aspx

Send comments (with copy to psa@ansi.org) to: Paul Lloret, (510) 319-4269, Paul.E.Lloret@ul.com

# **Projects Withdrawn from Consideration**

An accredited standards developer may abandon the processing of a proposed new or revised American National Standard or portion thereof if it has followed its accredited procedures. The following projects have been withdrawn accordingly:

# LEO (Leonardo Academy Inc.)

BSR/LEO S-002-201x, Life Cycle Impact Assessment Framework and Guidance for Establishing Public Declarations and Claims, for Environmental Declarations for Products and Systems, Environmentally Preferable Product Claims, Carbon Footprint Profiles (new standard)

Inquiries may be directed to Michael Arny, (608) 280-0255, michaelarny@leonardoacademy.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.

### ASA (ASC S12) (Acoustical Society of America)

Office: 1305 Walt Whitman Road Suite 300 Melville, NY 11747

Contact: Caryn Mennigke Phone: (631) 390-0215

E-mail: asastds@acousticalsociety.org

BSR/ASA S12.67-201x, Pre-Installation Airborne Sound Measurements and Acceptance Criteria of Shipboard Equipment (revision of ANSI/ASA S12.67-2008 (R2013))

#### HI (Hydraulic Institute)

Office: 6 Campus Drive Parsippany, NJ 07054

Contact: Tori Serazi

- Phone: (973) 267-9700
- E-mail: tserazi@pumps.org
- BSR/HI 9.6.9-201x, Rotary Pumps Guidelines for Condition Monitoring (revision of ANSI/HI 9.6.9-2013)
- BSR/HI 14.3-201x, Rotodynamic Pumps for Design and Application (new standard)

# PLASTICS (Plastics Industry Association)

- Office: 1425 K Street NW, Suite 500
- Washington, DC 20005
- Contact: Megan Hayes
- Phone: (202) 974-5217
- E-mail: mhayes@plasticsindustry.org
- BSR/PLASTICS B151.20-2013 (R2018), Safety Requirements for Plastic Sheet Production Machinery (reaffirmation and redesignation of ANSI/SPI B151.20-2013)

### TAPPI (Technical Association of the Pulp and Paper Industry)

- Office: 15 Technology Parkway South Suite 115 Peachtree Corners, GA 30092
- Contact: Priscila Briggs
- Phone: (770) 209-7249
- E-mail: standards@tappi.org
- BSR/TAPPI T 515 om-2014 (R201x), Visual grading and color matching of paper (reaffirmation of ANSI/TAPPI T 515 om-2014)
- BSR/TAPPI T 524 om-2013 (R201x), Color of paper and paperboard (45/0, C/2) (reaffirmation of ANSI/TAPPI T 524 om-2013)

BSR/TAPPI T 527 om-2013 (R201x), Color of paper and paperboard (d/0, C/2) (reaffirmation of ANSI/TAPPI T 527 om-2013)

BSR/TAPPI T 1200 sp-2014 (R201x), Interlaboratory evaluation of test methods to determine TAPPI repeatability and reproducibility (reaffirmation of ANSI/TAPPI T 1200 sp-2014)

BSR/TAPPI T 1205 sp-2014 (R201x), Dealing with suspect (outlying) test determinations (reaffirmation of ANSI/TAPPI T 1205 sp-2014)

#### TIA (Telecommunications Industry Association)

Office:	1320 North Courthouse Road
	Suite 200
	Arlington, VA 22201

*Contact: Teesha Jenkins* **Phone:** (703) 907-7706

- E-mail: standards@tiaonline.org
- BSR/TIA 492CAAC-201x, Detail Specification for class IVA Dispersion Un-shifted Single-mode Optical Fibers with low water peak; Modification of IEC 60793-2-50:2015, Optical fibres - Part 2-50: Product specifications - Sectional specification for class B singlemode fibres (national adoption with modifications of IEC 60793-2 -50:2015)

### UAMA (ASC B7) (Unified Abrasives Manufacturers' Association)

- Office: 30200 Detroit Road Cleveland, OH 44145-1967
- Contact: Donna Haders
- **Phone:** (440) 899-0010
- E-mail: djh@wherryassoc.com
- BSR B7.7-2003 (R201x), Safety Requirements for Abrading Materials with Coated Abrasive Systems (reaffirmation of ANSI B7.7-2003 (R2011))

### UAMA (ASC B74) (Unified Abrasives Manufacturers' Association)

- Office: 30200 Detroit Road Cleveland, OH 44145-1967
- Contact: Donna Haders
- Phone: (440) 899-0010
- E-mail: djh@wherryassoc.com
- BSR B74.4-201x, Procedure for Bulk Density of Abrasive Grains (revision of ANSI B74.4-1992 (R2013))

# UL (Underwriters Laboratories, Inc.)

Office:	333 Pfingsten Road Northbrook, IL 60062		
Contact:	Megan Monsen		
Phone:	(847) 664-1292		

E-mail: megan.monsen@ul.com

BSR/UL 2353-201x, Standard for Safety for Single- and Multi-Layer Insulated Winding Wire (revision of ANSI/UL 2353-2016)

# VITA (VMEbus International Trade Association (VITA))

Office: 929 W. Portobello Avenue

Mesa, AZ 85210

Contact: Jing Kwok

**Phone:** (602) 281-4497

E-mail: jing.kwok@vita.com

BSR/VITA 67.3-201x, Coaxial Interconnect on VPX, Spring-Loaded Contact on Backplane (revision of ANSI/VITA 67.3-2017)

# **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:

- o General Interest
- o Government
- Producer
- o 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.

# AAFS (American Academy of Forensic Sciences)

# New Standard

ANSI/ASB Best Practice Recommendation 010-2018, Forensic Anthropology in Disaster Victim Identification: Best Practice Recommendations for the Medicolegal Authority (new standard): 10/4/2018

# ALI (ASC A14) (American Ladder Institute)

# Reaffirmation

ANSI A14.3-2008 (R2018), Standard for Ladders - Fixed - Safety Requirements (reaffirmation of ANSI A14.3-2008): 10/5/2018

# ASA (ASC S1) (Acoustical Society of America)

# Reaffirmation

ANSI/ASA S1.14-1998 (R2018), Recommendations for Specifying and Testing the Susceptibility of Acoustical Instruments to Radiated Radio-frequency Electromagnetic Fields, 25 MHz to 1 GHz (reaffirmation of ANSI/ASA S1.14-1998 (R2013)): 10/5/2018

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

# Addenda

- ANSI/ASHRAE Addendum 62.1b-2018, Ventilation for Acceptable Indoor Air Quality (addenda to ANSI/ASHRAE Standard 62.1-2016): 10/1/2018
- ANSI/ASHRAE Addendum 62.1k-2018, Ventilation for Acceptable Indoor Air Quality (addenda to ANSI/ASHRAE Standard 62.1-2016): 10/1/2018
- ANSI/ASHRAE Standard 15h-2018, Safety Standard for Refrigeration Systems (addenda to ANSI/ASHRAE Standard 15-2016): 10/1/2018
- ANSI/ASHRAE/IES Addendum 90.1ap-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 10/1/2018
- ANSI/ASHRAE/IES Addendum 90.1aq-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 10/1/2018
- ANSI/ASHRAE/IES Addendum 90.1ar-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 10/1/2018
- ANSI/ASHRAE/IES Addendum 90.1z-2018, Energy Standard for Buildings Except Low-Rise Residential Buildings (addenda to ANSI/ASHRAE/IESNA Standard 90.1-2016): 10/1/2018

# AWWA (American Water Works Association)

# Revision

ANSI/AWWA G410-2018, Business Practices for Operation and Management (revision of ANSI/AWWA G410-2009): 10/5/2018

# BHMA (Builders Hardware Manufacturers Association)

# Reaffirmation

- ANSI/BHMA A156.16-2013 (R2018), Standard for Auxiliary Hardware (reaffirmation of ANSI/BHMA A156.16-2013): 10/5/2018
- ANSI/BHMA A156.28-2013 (R2018), Recommended Practice for Mechanical Keying Systems (reaffirmation of ANSI/BHMA A156.28 -2013): 10/5/2018

# CSA (CSA Group)

# Reaffirmation

ANSI/CSA FC-1-2014 (R2018), Fuel Cell Technologies - Part 3-100: Stationary fuel cell power systems- Safety (reaffirm a national adoption ANSI/CSA FC-1-2014): 10/3/2018

# CTA (Consumer Technology Association) *Revision*

\* ANSI/CTA 814-C/J-STD-42-C-2018, Emergency Alert Messaging for Cable (revision and redesignation of ANSI J-STD-42-B-2013): 10/4/2018

# DMSC, Inc. (Dimensional Metrology Standards Consortium, Inc.)

# Revision

ANSI/DMSC QIF 3.0-2018, Quality Information Framework (QIF) - An Integrated Model for Manufacturing Quality Information (revision, redesignation and consolidation of ANSI/QIF Part 1-2015 & ANSI/QIF Part 2-2015, ANSI/QIF Part 3-2015, ANSI/DMSC QIF Part 4-2014, ANSI/QIF Part 5-2015, ANSI/QIF Part 6-2015, ANSI/QIF Part 7-2015, and ANSI/QIF Part 8-2015): 10/5/2018

# NSF (NSF International) Revision

- ANSI/NSF 14-2018 (i99r2), Plastics Piping System Components and Related Materials (revision of ANSI/NSF 14-2017): 10/1/2018
- ANSI/NSF 455-3-2018 (i2r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i3r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i4r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i5r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i6r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i7r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018

- ANSI/NSF 455-3-2018 (i8r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i9r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i2r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i3r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i4r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i5r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i6r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-4-2018 (i7r1), Good Manufacturing Practices for Overthe-Counter Drugs (revision of ANSI/NSF 455-4-2018): 9/30/2018
- ANSI/NSF 455-3-2018 (i10r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 10/1/2018
- ANSI/NSF 455-3-2018 (i11r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 10/1/2018
- ANSI/NSF 455-3-2018 (i12r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 10/1/2018
- ANSI/NSF 455-3-2018 (i14r1), Good Manufacturing Practices for Cosmetics (revision of ANSI/NSF 455-3-2018): 10/2/2018
- ANSI/NSF 455-4-2018 (i10r1), Good Manufacturing Practices for Over-the-Counter Drugs (revision of ANSI/NSF 455-4-2018): 10/2/2018
- ANSI/NSF 455-4-2018 (i11r1), Good Manufacturing Practices for Over-the-Counter Drugs (revision of ANSI/NSF 455-4-2018): 10/2/2018
- ANSI/NSF 455-4-2018 (i12r1), Good Manufacturing Practices for Over-the-Counter Drugs (revision of ANSI/NSF 455-4-2018): 10/2/2018

# RESNA (Rehabilitation Engineering and Assistive Technology Society of North America)

# New Standard

ANSI/RESNA IF-1-2018, RESNA Standard for Inclusive Fitness -Volume 1: Standard for Inclusive Fitness (new standard): 10/4/2018

# UL (Underwriters Laboratories, Inc.)

# New National Adoption

ANSI/UL 60034-1-2018, Standard for Safety for Rotating Electrical Machines - Part 1: Rating and Performance (identical national adoption of IEC 60034-1 and revision of ANSI/UL 60034-1-2016): 9/11/2018

# Reaffirmation

ANSI/UL 2351-2014 (R2018), Standard for Spray Nozzles for Fire-Protection Service (reaffirmation of ANSI/UL 2351-2014): 10/2/2018

# Revision

- ANSI/UL 101-2018, Standard for Safety for Leakage Current for Appliances (revision of ANSI/UL 101-2017): 10/2/2018
- ANSI/UL 110-2018, Standard for Sustainability for Mobile Phones (revision of ANSI/UL 110-2017): 9/28/2018

- ANSI/UL 110-2018a, Standard for Sustainability for Mobile Phones (revision of ANSI/UL 110-2017): 9/28/2018
- ANSI/UL 444-2018, Standard for Safety for Communication Cables (revision of ANSI/UL 444-2017): 9/24/2018
- ANSI/UL 541-2018, Standard for Safety for Refrigerated Vending Machines (revision of ANSI/UL 541-2016): 10/2/2018
- ANSI/UL 751-2018, Standard for Safety for Vending Machines (revision of ANSI/UL 751-2016): 10/2/2018
- ANSI/UL 1703-2018, Standard for Safety for Flat-Plate Photovoltaic Modules and Panels (revision of ANSI/UL 1703-2017): 9/26/2018
- ANSI/UL 1703-2018a, Standard for Safety for Flat-Plate Photovoltaic Modules and Panels (revision of ANSI/UL 1703-2017): 9/26/2018
- ANSI/UL 1703-2018b, Standard for Safety for Flat-Plate Photovoltaic Modules and Panels (revision of ANSI/UL 1703-2017): 9/26/2018
- ANSI/UL 2238-2018, Standards for Safety for Cable Assemblies and Fittings for Industrial Control and Signal Distribution (revision of ANSI/UL 2238-2013): 10/2/2018

# **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.

# ASA (ASC S12) (Acoustical Society of America)

Contact: Caryn Mennigke, (631) 390-0215, asastds@acousticalsociety.org 1305 Walt Whitman Road, Suite 300, Melville, NY 11747

# Revision

BSR/ASA S12.67-201x, Pre-Installation Airborne Sound Measurements and Acceptance Criteria of Shipboard Equipment (revision of ANSI/ASA S12.67-2008 (R2013))

Stakeholders: US Navy, manufacturers supplying the Navy, shipyards, ship designers.

Project Need: Revision required mainly to update a prime reference and use new airborne noise acceptance criteria from that reference.

Describes instrumentation and procedures for the pre-installation measurement and analysis of airborne noise generated by shipboard equipment. Maximum noise level criteria are presented for several types of equipment. This standard may be used in the achievement of shipboard noise goals through the timely and affordable airborne noise testing of shipboard equipment before it is delivered and installed. This standard is based on MIL-STD-740-1 "Airborne Sound Measurements and Acceptance Criteria of Shipboard Equipment" and MIL-STD-1474D (Requirement 5, Shipboard Equipment Noise). New reference is MIL-STD -1474-E.

# **TAPPI (Technical Association of the Pulp and Paper Industry)**

Contact: Priscila Briggs, (770) 209-7249, standards@tappi.org 15 Technology Parkway South, Suite 115, Peachtree Corners, GA 30092

# Reaffirmation

BSR/TAPPI T 515 om-2014 (R201x), Visual grading and color matching of paper (reaffirmation of ANSI/TAPPI T 515 om-2014)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products; consumers or converters of such products and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This method describes the spectral, photometric, and geometric characteristics of a light source; the illuminating and viewing conditions; and the procedures to be used for the visual evaluation of color differences of paper, including those containing fluorescent whitening agents. This method specifies light sources which are selected to accomplish three objectives: (a) simulation of the actual and illuminating conditions of ultimate use, (b) employment of two light sources which are spectrally very different in order to exaggerate observable differences between the sample and standard if any difference exists, and (c) employment of a UV radiator to detect the presence of fluorescent whitening agents (FWA) and assess their impact on final appearance. This method is applicable when the testers have normal color vision.

BSR/TAPPI T 524 om-2013 (R201x), Color of paper and paperboard (45/0, C/2) (reaffirmation of ANSI/TAPPI T 524 om-2013)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products; consumers or converters of such products and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This method specifies a procedure for measuring the color of paper or paperboard with tristimulus filter colorimeters or spectrophotometers incorporating directional (45/0) geometry and CIE (International Commission on Illumination) illuminant C.

BSR/TAPPI T 527 om-2013 (R201x), Color of paper and paperboard (d/0, C/2) (reaffirmation of ANSI/TAPPI T 527 om-2013)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products; consumers or converters of such products and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This method specifies a procedure for measuring the color of paper or paperboard with tristimulus filter colorimeters or spectrophotometers incorporating diffuse/0 geometry and CIE (International Commission on Illumination) illuminant C.

BSR/TAPPI T 1200 sp-2014 (R201x), Interlaboratory evaluation of test methods to determine TAPPI repeatability and reproducibility (reaffirmation of ANSI/TAPPI T 1200 sp-2014)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products; consumers or converters of such products and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This practice describes techniques for conducting and analyzing the results of intralaboratory and interlaboratory studies. The steps described here will result in a good statistical design that provides sound data for formulating a broadly applicable precision statement regarding the performance of a TAPPI test method. Two values are considered: (a) repeatability, which is defined as comparison of test results within a laboratory (same material, operator, apparatus, environmental conditions, making tests in the shortest reasonable timeframe); and (b) reproducibility, which is defined as comparison of test results among laboratories (same material, but different operator, apparatus and perhaps environmental conditions). In the data chain leading to test results there are many possible sources of variation, and one can conduct studies to isolate these other sources, e.g., same laboratory and operator using different instruments or different laboratories using a shared calibration standard, etc. For the purposes of TAPPI test methods, all of these sources of variation are to be captured in a reproducibility value.

BSR/TAPPI T 1205 sp-2014 (R201x), Dealing with suspect (outlying) test determinations (reaffirmation of ANSI/TAPPI T 1205 sp -2014)

Stakeholders: Manufacturers of pulp, paper, packaging, or related products; consumers or converters of such products and suppliers of equipment, supplies, or raw materials for the manufacture of such products.

Project Need: To conduct required five-year review of an existing TAPPI/ANSI Standard.

This TAPPI Standard Practice provides a procedure for judging whether suspect test determinations should be investigated further for possible rejection. A suspect determination (apparent outlier) is one that appears to deviate markedly from other determinations on the same sample of material. An outlying determination (outlier) is a suspect determination for which the deviation has, in fact, been found to be significant using an appropriate statistical test.

### TIA (Telecommunications Industry Association)

Contact: Teesha Jenkins, (703) 907-7706, standards@tiaonline.org 1320 North Courthouse Road, Suite 200, Arlington, VA 22201

#### New National Adoption

BSR/TIA 492CAAC-201x, Detail Specification for class IVA Dispersion Un-shifted Single-mode Optical Fibers with low water peak; Modification of IEC 60793-2-50:2015, Optical fibres - Part 2-50: Product specifications - Sectional specification for class B singlemode fibres (national adoption with modifications of IEC 60793-2-50:2015)

Stakeholders: Users of optical fiber such as optical fiber cable manufacturers and their customers, optical fiber transmission and test equipment manufacturers. Specifiers of optical fiber and cable such as telecommunications companies and standards bodies that define transmission protocols.

Project Need: Adopt ISO or IEC standard with modifications.

Adapt IEC 60793-2-50:2015 as ANSI/TIA 492CAAC. The modifications may include: (1) those described for ANSI/TIA 4920000-C. Because IEC standard 60793-2-50 contains detail and sectional specifications, ANSI/TIA 492CAAC cancels and replaces TIA -492C000, 492E000 sectional specifications; TIA-492CA00, 492EA00 blank detail specifications; TIA-492CAAB detail specifications. Justification: Improve harmonization of ANSI specs with IEC specs.

# UAMA (ASC B7) (Unified Abrasives Manufacturers' Association)

Contact: Donna Haders, (440) 899-0010, djh@wherryassoc.com 30200 Detroit Road, Cleveland, OH 44145-1967

#### Reaffirmation

BSR B7.7-2003 (R201x), Safety Requirements for Abrading Materials with Coated Abrasive Systems (reaffirmation of ANSI B7.7 -2003 (R2011))

Stakeholders: Manufacturers, consumers, governments, specialists, and insurance.

Project Need: This is an update to a PINS for a revision in 2016. The standard will now be reaffirmed.

This standard establishes the minimum safety requirements related to the usage of coated abrasive forms. The requirements apply to all hand-held and fixed mounted machine operations that use some form of coated abrasive product, and to safety-related maintenance precautions for the machines and machine parts.

# UAMA (ASC B74) (Unified Abrasives Manufacturers' Association)

Contact: Donna Haders, (440) 899-0010, djh@wherryassoc.com 30200 Detroit Road, Cleveland, OH 44145-1967

# Revision

BSR B74.4-201x, Procedure for Bulk Density of Abrasive Grains (revision of ANSI B74.4-1992 (R2013))

Stakeholders: Producer, consumer, general interest.

Project Need: Review of current information and possibly alternate test methods.

In this method, the bulk density of abrasive grains is determined by the weight of grain required to fill a cylinder of known volume when the abrasive is allowed to flow through a funnel and fall from a fixed height. Two test units are specified to cover the range of abrasive grain sizes, 6 grit through 8 grit and 1 grit through 240 grit. Test unit A shall be used for grits 10 through 240 and test unit B shall be used for grits 6 through 8.

# UL (Underwriters Laboratories, Inc.)

Contact: Elizabeth Northcott, (847) 664-3198, Elizabeth.Northcott@ul.com 333 Pfingsten Road, Northbrook, IL 60062

# New National Adoption

BSR/UL 62841-3-14-201x, Standard for Safety for Electric Motor-Operated Hand-Held Tools, Transportable Tools And Lawn And Garden Machinery - Safety - Part 3-14: Particular Requirements for Transportable Drain Cleaners (identical national adoption of IEC 62841-3-14)

Stakeholders: Consumers, manufacturers of hand-held, transportable, and garden tools - drain cleaners.

Project Need: To obtain national recognition of a standard covering electric motor-operated hand-held, transportable, and garden tools - transportable drain cleaners. The intent is to adopt IEC 62841-3-14, first edition as the first edition of UL 62841-3-14.

This clause of Part 1 is applicable, except as follows: Addition: This part of IEC 62841 applies to transportable drain cleaners. NOTE 101: Drain cleaners are also known as pipe cleaners. This standard does not apply to hand-held drain cleaners. NOTE 102: Hand-held drain cleaners are covered by IEC 62841-2-21 This standard does not apply to high-pressure cleaners to clean drains. NOTE 103: High-pressure cleaners are covered by IEC 60335-2-79. This standard does not apply to machines that use a solid rod to clean drains.

# VITA (VMEbus International Trade Association (VITA))

Contact: Jing Kwok, (602) 281-4497, jing.kwok@vita.com 929 W. Portobello Avenue, Mesa, AZ 85210

# Revision

BSR/VITA 67.3-201xx, Coaxial Interconnect on VPX, Spring-Loaded Contact on Backplane (revision of ANSI/VITA 67.3-2017)

Stakeholders: Manufacturers, suppliers, and users of modular embedded computers.

Project Need: Create a spring-loaded contact coaxial connector for VPX modules.

This document describes an open standard for configuration and interconnect within the structure of VITA 67.0 enabling an interface compatible with VITA 46 containing multi-position blind mate analog connectors with SMPM style contacts having fixed contacts on the Plug-In Module and spring action on the backplane. This revision adds higher density and alternate interfaces while maintaining the VITA 67.3 standard backplane cutouts and positions.

# 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)
- ITI (InterNational Committee for Information Technology Standards)
- 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

# ALI (ASC A14)

American Ladder Institute 330 N. Wabash Avenue, Suite 2000 Chicago, IL 60611-6610 Phone: (312) 321-6806

Web: www.americanladderinstitute. org

#### API

American Petroleum Institute 1220 L Street, NW Washington, DC 20005-4070 Phone: (202) 682-8056

Web: www.api.org

#### ASA (ASC S1)

Acoustical Society of America 1305 Walt Whitman Road Suite 300 Melville, NY 11747 Phone: (631) 390-0215

Web: www.acousticalsociety.org

ASA (ASC S12)

Acoustical Society of America 1305 Walt Whitman Road Suite 300 Melville, NY 11747 Phone: (631) 390-0215 Web: www.acousticalsociety.org

#### ASABE

American Society of Agricultural and Biological Engineers 2920 Niles Rd. Saint Joseph, MI 49085 Phone: (269) 932-7009

Web: www.asabe.org

#### ASHRAE

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 1791 Tullie Circle, NE

Atlanta, GA 30329 Phone: (404) 636-8400

Web: www.ashrae.org

### ASME

American Society of Mechanical Engineers Two Park Avenue New York, NY 10016-5990 Phone: (212) 591-8521 Web: www.asme.org

# ASSP (Safety)

American Society of Safety Professionals 520 N. Northwest Highway

Park Ridge, IL 60068 Phone: (847) 232-2012 Web: www.assp.org

#### AWS

American Welding Society 8669 Doral Blvd Suite 130 Doral, FL 33166 Phone: (305) 443-9353

# Web: www.aws.org

American Water Works Association 6666 W. Quincy Ave. Denver, CO 80235 Phone: (303) 347-6178 Web: www.awwa.org

Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th Floor 15th Floor New York, NY 10017-6603 Phone: (860) 944-4264

Web: www.buildershardware.com

#### BOMA

BHMA

Building Owners and Managers Association 1101 15th Street, NW Washington, DC 20005 Phone: (202) 326-6357

Web: www.boma.org

#### CSA CSA Group

8501 E. Pleasant Valley Road Cleveland, OH 44131 Phone: (216) 524-4990 Web: www.csagroup.org

#### СТА

Consumer Technology Association 1919 South Eads Street Arlington, VA 22202 Phone: (703) 907-7697 Web: www.cta.tech

DMSC, Inc. Dimensional Metrology Standards Consortium, Inc. 1350 SW Alsbury Blvd #514 Burleson, TX 76028-9219 Phone: (817) 461-1092

Web: www.dmis.org

# HI

Hydraulic Institute 6 Campus Drive Parsippany, NJ 07054

Phone: (973) 267-9700 Web: www.pumps.org

# ICE

Institute for Credentialing Excellence 2025 M Street NW, Suite 800 Washington, DC 20036

Phone: (202) 367-1165

Web: www.credentialingexcellence. org

### IEEE

Institute of Electrical and Electronics Engineers 445 Hoes Lane

Piscataway, NJ 08854 Phone: (732) 562-3854 Web: www.ieee.org

# NSF

NSF International 789 N. Dixboro Road Ann Arbor, MI 48105-9723 Phone: (734) 418-6660 Web: www.nsf.org

#### PLASTICS

Plastics Industry Association 1425 K Street NW, Suite 500 Washington, DC 20005 Phone: (202) 974-5217

Web: www.plasticsindustry.org

#### RESNA

Rehabilitation Engineering and Assistive Technology Society of North America

1560 Wilson Blvd. Suite 850 Arlington, VA 22209-1903 Phone: (703) 524-6686

Web: www.resna.org

#### TAPPI

Technical Association of the Pulp and Paper Industry

15 Technology Parkway South Suite 115 Peachtree Corners, GA 30092 Phone: (770) 209-7249

Web: www.tappi.org

TIA Telecommunications Industry Association 1320 North Courthouse Road Suite 200 Arlington, VA 22201 Phone: (703) 907-7706

Web: www.tiaonline.org

#### UAMA (ASC B7)

Unified Abrasives Manufacturers' Association 30200 Detroit Road Cleveland, OH 44145-1967 Phone: (440) 899-0010

Web: www.uama.org

#### UAMA (ASC B74)

Unified Abrasives Manufacturers' Association

30200 Detroit Road Cleveland, OH 44145-1967 Phone: (440) 899-0010 Web: www.uama.org

#### UL

Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062 Phone: (847) 664-3198 Web: www.ul.com

#### VITA

VMEbus International Trade Association (VITA) 929 W. Portobello Avenue Mesa, AZ 85210 Phone: (602) 281-4497 Web: www.vita.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 ISO 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**

# AGRICULTURAL FOOD PRODUCTS (TC 34)

ISO/DIS 20588, Animal feeding stuffs - Terminology - 10/29/2018, \$67.00

# AIRCRAFT AND SPACE VEHICLES (TC 20)

- ISO/DIS 22137, Space systems Program management Test reviews - 10/29/2018, \$77.00
- ISO/DIS 26872, Space systems Disposal of satellites operating at geosynchronous altitude 10/26/2018, \$146.00
- ISO/DIS 14620-2, Space systems Safety requirements Part 2: Launch site operations - 10/29/2018, \$67.00

# FERTILIZERS AND SOIL CONDITIONERS (TC 134)

ISO/DIS 14820-3, Fertilizers and liming materials - Sampling and sample preparation - Part 3: Sampling of static - 10/25/2018, \$58.00

# GAS CYLINDERS (TC 58)

ISO 10462/DAmd1, Gas cylinders - Acetylene cylinders - Periodic inspection and maintenance - Amendment 1 - 10/26/2018, \$29.00

# **GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)**

- ISO/DIS 19162, Geographic information Well-known text representation of coordinate reference systems - 12/27/2018, \$175.00
- ISO/DIS 19150-4, Geographic information Ontology Part 4: Service ontology 10/28/2018, \$125.00

# **MICROBEAM ANALYSIS (TC 202)**

ISO/DIS 21466, Microbeam analysis - Scanning electron microscopy -Method for evaluating critical dimensions by CD-SEM - 12/24/2018, \$102.00

# PETROLEUM PRODUCTS AND LUBRICANTS (TC 28)

ISO/DIS 20846, Petroleum products - Determination of sulfur content of automotive fuels - Ultraviolet fluorescence method - 10/29/2018, \$53.00

- ISO/DIS 20884, Petroleum products Determination of sulfur content of automotive fuels - Wavelength-dispersive X-ray fluorescence spectrometry - 10/29/2018, \$46.00
- ISO/DIS 21493, Petroleum products Determination of turbidity point and aniline point equivalent - 12/27/2018, \$58.00
- ISO/DIS 4259-3, Petroleum and related products Precision of measurement methods and results - Part 3: Monitoring and verification of published precision data in relation to methods of test - 12/27/2018, \$53.00

# PLASTICS (TC 61)

ISO/DIS 20028-1, Plastics - Thermoplastic polyester (TP) moulding and extrusion materials - Part 1: Designation system and basis for specifications - 12/20/2018, \$58.00

# **ROAD VEHICLES (TC 22)**

ISO/DIS 19072-1, Road vehicles - Connection interface for pyrotechnic devices, two-way and three-way connections - Part 1: Pocket interface definition - 10/25/2018, \$46.00

# SAFETY OF MACHINERY (TC 199)

ISO/DIS 21260, Safety of machinery - Mechanical safety data for physical contacts between moving machinery or moving parts of machinery and persons - 10/28/2018, \$107.00

# SHIPS AND MARINE TECHNOLOGY (TC 8)

ISO/DIS 22152, Ships and marine technology - Performance requirements for low bio-persistence mineral wool products -Alkaline earth silicate wool - 10/25/2018, \$33.00

### SMALL CRAFT (TC 188)

ISO/DIS 11105, Small craft - Ventilation of petrol engine and/or petrol tank compartments - 10/25/2018, \$40.00

### SMALL TOOLS (TC 29)

ISO 1711-1/DAmd1, Assembly tools for screws and nuts - Technical specifications - Part 1: Hand-operated wrenches and sockets - Amendment 1 - 10/28/2018, \$29.00



ISO 1711-2/DAmd1, Assembly tools for screws and nuts - Technical specifications - Part 2: Machine-operated sockets (impact) - Amendment 1 - 10/28/2018, \$29.00

### STEEL (TC 17)

- ISO/DIS 4992-1, Steel castings Ultrasonic testing Part 1: Steel castings for general purposes 12/24/2018, \$93.00
- ISO/DIS 4992-2, Steel castings Ultrasonic testing Part 2: Steel castings for highly stressed components 12/24/2018, \$93.00

### SUSTAINABLE DEVELOPMENT IN COMMUNITIES (TC 268)

ISO/DIS 37123, Sustainable cities and communities - Indicators for resilient cities - 12/23/2018, \$155.00

# **TEXTILES (TC 38)**

ISO/DIS 3175-6, Textiles - Professional care, drycleaning and wetcleaning of fabrics and garments - Part 6: Procedure for testing performance when cleaning and finishing using decamethylpentacyclosiloxane - 12/27/2018, \$46.00

# **THERMAL INSULATION (TC 163)**

ISO/DIS 21105-1, Performance of buildings - Building enclosure thermal performance verification and commissioning - Part 1: General requirements - 10/28/2018, \$88.00

# **TOBACCO AND TOBACCO PRODUCTS (TC 126)**

ISO/DIS 20193, Analysis of tobacco and tobacco products -Determination of the width of the strands of cut tobacco -10/28/2018, \$46.00

# **TRADITIONAL CHINESE MEDICINE (TC 249)**

ISO/DIS 22584, Traditional Chinese medicine - Angelica sinensis root - 12/27/2018, \$67.00

# TYRES, RIMS AND VALVES (TC 31)

- ISO/DIS 21634, Rubber flaps for automotive vehicles Technical requirements and test methods 12/24/2018, \$40.00
- ISO/DIS 10499-1, Industrial tyres and rims Rubber solid tyres (metric series) for pneumatic tyre rims Part 1: Designation, dimensions and marking 10/26/2018, \$33.00

# VACUUM TECHNOLOGY (TC 112)

ISO/DIS 3529-2, Vacuum technology - Vocabulary - Part 2: Vacuum pumps and related terms - 12/24/2018, \$58.00

# **ISO/IEC JTC 1, Information Technology**

- ISO/IEC DIS 19516, Information technology Object management group - Interface definition language (IDL) 4.2 - 12/23/2018, \$175.00
- ISO/IEC DIS 10918-7, Information technology Digital compression and coding of continuous-tone still images - Part 7: Reference software - 10/29/2018, \$71.00
- ISO/IEC DIS 15909-1, Systems and software engineering High-level Petri nets - Part 1: Concepts, definitions and graphical notation -10/28/2018, \$102.00
- ISO/IEC DIS 19566-5, Information technologies JPEG Systems Part 5: JPEG Universal Metadata Box Format (JUMBF) - 10/28/2018, \$77.00
- ISO/IEC DIS 19566-6, Information technologies JPEG systems Part 6: JPEG 360 10/26/2018, \$88.00

- ISO/IEC DIS 19785-2, Information technology Common biometric exchange formats framework Part 2: Procedures for the operation of the biometric registration authority 10/25/2018, \$62.00
- ISO/IEC DIS 19785-3, Information technology Common Biometric Exchange Formats Framework - Part 3: Patron format specifications - 10/25/2018, \$175.00
- ISO/IEC DIS 23736-1, Information technology Digital publishing -EPUB 3.0.1 - Part 1: Overview - 12/23/2018, \$71.00
- ISO/IEC DIS 23736-2, Information technology Digital publishing -EPUB 3.0.1 - Part 2: Publications - 12/23/2018, \$146.00
- ISO/IEC DIS 23736-3, Information technology Digital publishing -EPUB 3.0.1 - Part 3: Content documents - 12/23/2018, \$125.00
- ISO/IEC DIS 23736-4, Information technology Digital publishing -EPUB 3.0.1 - Part 4: Open container format - 12/23/2018, \$98.00
- ISO/IEC DIS 23736-5, Information technology Digital publishing -EPUB 3.0.1 - Part 5: Media overlay - 12/23/2018, \$102.00
- ISO/IEC DIS 23736-6, Information technology Digital publishing -EPUB 3.0.1 - Part 6: Canonical fragment identifier - 12/23/2018, \$77.00
- ISO/IEC DIS 30106-4, Information technology Object oriented BioAPI - Part 4: C++ implementation - 10/25/2018, \$125.00

# **IEC Standards**

- 9/2448/CDV, IEC 60077-4 ED2: Railway applications Electric equipment for rolling stock - Part 4: Electrotechnical components -Rules for AC circuit-breakers, /2018/12/2
- 9/2449/CDV, IEC 60077-5 ED2: Railway applications Electric equipment for rolling stock - Part 5: Electrotechnical components -Rules for HV fuses, /2018/12/2
- 9/2447/CDV, IEC 60077-3 ED2: Railway applications Electric equipment for rolling stock - Part 3: Electrotechnical components -Rules for DC circuit-breakers, /2018/12/2
- 40/2640/FDIS, IEC 60384-22 ED3: Fixed capacitors for use in electronic equipment Part 22: Sectional specification Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2, /2018/11/1
- 40/2639/FDIS, IEC 60384-21 ED3: Fixed capacitors for use in electronic equipment - Part 21: Sectional specification - Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1, /2018/11/1
- 44/842/DTR, IEC TR 63074 ED1: Security aspects related to functional safety of safety-related control systems, /2018/11/3
- 51/1248/CD, IEC 62025-2 ED2: High frequency inductive components - Non-electrical characteristics and measuring methods - Part 2: Test methods for non-electrical characteristics, /2018/12/2
- 57/2035/CDV, IEC 61850-7-1/AMD1 ED2: Amendment 1 -Communication networks and systems for power utility automation -Part 7-1: Basic communication structure - Principles and models, /2018/12/2
- 57/2033/CDV, IEC 62351-6 ED1: Power systems management and associated information exchange Data and communications security Part 6: Security for IEC 61850, /2018/12/2
- 65E/620/CDV, IEC 62769-101-1 ED2: Field Device Integration (FDI) -Part 101-1: Profiles - Foundation Fieldbus H1, /2018/12/2
- 65E/623/CDV, IEC 62769-103-4 ED2: Field Device Integration (FDI) -Part 103-4: Profiles - PROFINET, /2018/12/2
- 65E/621/CDV, IEC 62769-101-2 ED2: Field Device Integration (FDI) -Part 101-2: Profiles - Foundation Fieldbus HSE, /2018/12/2

- 65E/622/CDV, IEC 62769-103-1 ED2: Field Device Integration (FDI) -Part 103-1: Profiles - PROFIBUS, /2018/12/2
- 65E/624/CDV, IEC 62769-109-1 ED2: Field Devices Integration (FDI) Part 109-1: Profiles HART® and WirelessHART®, /2018/12/2
- 81/603/FDIS, IEC 62305-3 ED3: Protection against lightning Part 3: Physical damage to structures and life hazard, /2018/11/1
- 86B/4147/FDIS, IEC 61300-2-4 ED2: Fibre optic interconnecting devices and passive components Basic test and measurement procedures Part 2-4: Tests Fibre or cable retention, /2018/11/1
- 87/699(F)/CDV, IEC 61828 ED2: Ultrasonics Focusing transducers -Definitions and measurement methods for the transmitted fields, 2018/12/7
- 91/1534/CD, IEC 61760-1 ED3: Surface mounting technology Part 1: Standard method for the specification of surface mounting components (SMDs), /2018/12/2
- CIS/D/449/FDIS, CISPR 12 ED7: Vehicles, boats and devices with internal combustion engines or traction batteries - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers, /2018/11/1
- JTC1-SC41/66/CD, ISO/IEC 21823-3 ED1: Internet of Things (IoT) -Interoperability for IoT Systems - Part 3: Semantic interoperability, /2018/11/3

# **Newly Published ISO & IEC Standards**



Listed here are new and revised standards recently approved and promulgated by ISO - the International Organization for Standardization – and IEC – the International Electrotechnical Commission. 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).

# **ISO Standards**

# ACOUSTICS (TC 43)

<u>ISO 4869-1:2018</u>, Acoustics - Hearing protectors - Part 1: Subjective method for the measurement of sound attenuation, \$103.00

ISO 4869-2:2018, Acoustics - Hearing protectors - Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn, \$103.00

### AIR QUALITY (TC 146)

<u>ISO 16000-36:2018</u>, Indoor air - Part 36: Standard method for assessing the reduction rate of culturable airborne bacteria by air purifiers using a test chamber, \$103.00

# FIRE SAFETY (TC 92)

<u>ISO 21843:2018</u>, Determination of the resistance to hydrocarbon pool fires of fire protection materials and systems for pressure vessels, \$185.00

# FLUID POWER SYSTEMS (TC 131)

<u>ISO 6099:2018</u>, Fluid power systems and components - Cylinders -Identification code for mounting dimensions and mounting types, \$209.00

# INDUSTRIAL AUTOMATION SYSTEMS AND INTEGRATION (TC 184)

ISO 10303-57:2018, Industrial automation systems and integration -Product data representation and exchange - Part 57: Integrated generic resource: Persistent identification of elements in procedural shape modelling, \$185.00

ISO 10303-62:2018. Industrial automation systems and integration -Product data representation and exchange - Part 62: Integrated generic resource: Equivalence validation of product data, \$103.00

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

<u>ISO 15590-1:2018</u>, Petroleum and natural gas industries - Induction bends, fittings and flanges for pipeline transportation systems - Part 1: Induction bends, \$162.00

ISO 18796-1:2018. Petroleum, petrochemicals and natural gas industries - Internal coating and lining of carbon steel process vessels - Part 1: Technical requirements, \$138.00

<u>ISO 21809-1:2018</u>, Petroleum and natural gas industries - External coatings for buried or submerged pipelines used in pipeline transportation systems - Part 1: Polyolefin coatings (3-layer PE and 3-layer PP), \$209.00

### **OPTICS AND OPTICAL INSTRUMENTS (TC 172)**

<u>ISO 9211-6:2018</u>, Optics and photonics - Optical coatings - Part 6: Minimum requirements for reflecting coatings, \$45.00

# PAINTS AND VARNISHES (TC 35)

<u>ISO 4623-1:2018</u>, Paints and varnishes - Determination of resistance to filiform corrosion - Part 1: Steel substrates, \$68.00

# PERSONAL SAFETY - PROTECTIVE CLOTHING AND EQUIPMENT (TC 94)

ISO 16900-5/Amd1:2018, Respiratory protective devices - Methods of test and test equipment - Part 5: Breathing machine, metabolic simulator, RPD headforms and torso, tools and verification tools -Amendment 1: RPD head forms front and side view, \$19.00

ISO 11393-2:2018, Protective clothing for users of hand-held chainsaws - Part 2: Performance requirements and test methods for leg protectors, \$138.00

ISO 11393-4:2018, Protective clothing for users of hand-held chainsaws - Part 4: Performance requirements and test methods for protective gloves, \$138.00

<u>ISO 11393-5:2018.</u> Protective clothing for users of hand-held chainsaws - Part 5: Performance requirements and test methods for protective gaiters, \$68.00

ISO 11393-6:2018, Protective clothing for users of hand-held chainsaws - Part 6: Performance requirements and test methods for upper body protectors, \$138.00

# PLASTICS (TC 61)

<u>ISO 21257:2018</u>, Plastics - Polymer polyols for use in the production of polyurethane - Determination of the residual acrylonitrile and styrene monomer content by gas chromatography, \$103.00

### **ROAD VEHICLES (TC 22)**

ISO 21308-6:2018. Road vehicles - Product data exchange between chassis and bodywork manufacturers (BEP) - Part 6: Coding of hook loader bodywork, \$162.00

<u>ISO 21308-7:2018</u>, Road vehicles - Product data exchange between chassis and bodywork manufacturers (BEP) - Part 7: Coding of skip loader bodywork, \$162.00

### **ROLLING BEARINGS (TC 4)**

ISO 19843:2018. Rolling bearings - Ceramic bearing balls -Determination of strength by notched ball test, \$162.00

# **RUBBER AND RUBBER PRODUCTS (TC 45)**

ISO 2782-2:2018, Rubber, vulcanized or thermoplastic - Determination of permeability to gases - Part 2: Equal-pressure method, \$68.00

ISO 24698-2:2018, Rubber, raw - Determination of bound acrylonitrile content in acrylonitrile-butadiene rubber (NBR) - Part 2: Kjeldahl method, \$68.00

### SECURITY (TC 292)

<u>ISO 22326:2018</u>, Security and resilience - Emergency management - Guidelines for monitoring facilities with identified hazards, \$68.00

#### SHIPS AND MARINE TECHNOLOGY (TC 8)

- ISO 19847:2018, Ships and marine technology Shipboard data servers to share field data at sea, \$209.00
- ISO 19848:2018, Ships and marine technology Standard data for shipboard machinery and equipment, \$209.00

#### SMALL TOOLS (TC 29)

<u>ISO 20928:2018</u>, Tools for pressing - Spring plungers with helicoidal compression steel spring or gas spring, \$68.00

# **TOBACCO AND TOBACCO PRODUCTS (TC 126)**

- <u>ISO 7210:2018</u>, Routine analytical cigarette-smoking machine -Additional test methods for machine verification, \$68.00
- ISO 20778:2018. Cigarettes Routine analytical cigarette smoking machine Definitions and standard conditions with an intense smoking regime, \$138.00
- <u>ISO 20779:2018</u>, Cigarettes Generation and collection of total particulate matter using a routine analytical smoking machine with an intense smoking regime, \$103.00

# WATER QUALITY (TC 147)

- <u>ISO 8199:2018.</u> Water quality General requirements and guidance for microbiological examinations by culture, \$209.00
- ISO 20236:2018, Water quality Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TNb) and dissolved bound nitrogen (DNb) after high temperature catalytic oxidative combustion, \$103.00

# WELDING AND ALLIED PROCESSES (TC 44)

<u>ISO 17279-1:2018</u>, Welding - Micro joining of 2nd generation high temperature superconductors - Part 1: General requirements for the procedure, \$185.00

# **ISO Technical Reports**

# INDUSTRIAL AUTOMATION SYSTEMS AND INTEGRATION (TC 184)

<u>ISO/TR 22400-10:2018</u>, Automation systems and integration - Key performance indicators (KPIs) for manufacturing operations management - Part 10: Operational sequence description of data acquisition, \$162.00

# ISO/IEC JTC 1, Information Technology

ISO/IEC 27050-2:2018. Information technology - Electronic discovery -Part 2: Guidance for governance and management of electronic discovery, \$68.00

# **IEC Standards**

### SAFETY OF ELECTRONIC EQUIPMENT WITHIN THE FIELD OF AUDIO/VIDEO, INFORMATION TECHNOLOGY AND COMMUNICATION TECHNOLOGY (TC 108)

- IEC 62368-1 Ed. 3.0 b:2018. Audio/video, information and communication technology equipment - Part 1: Safety requirements, \$410.00
- <u>S+ IEC 62368-1 Ed. 3.0 en:2018 (Redline version)</u>, Audio/video, information and communication technology equipment - Part 1: Safety requirements, \$534.00

# SAFETY OF MEASURING, CONTROL, AND LABORATORY EQUIPMENT (TC 66)

IEC 61010-2-051 Ed. 4.0 b:2018, Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2 -051: Particular requirements for laboratory equipment for mixing and stirring, \$47.00

IEC 61010-2-101 Ed. 3.0 b:2018, Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2 -101: Particular requirements for in vitro diagnostic (IVD) medical equipment, \$117.00

# S+ IEC 61010-2-051 Ed. 4.0 en:2018 (Redline version), Safety

requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring, \$61.00

#### S+ IEC 61010-2-101 Ed. 3.0 en:2018 (Redline version), Safety

requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment, \$152.00

# **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 <u>http://www.nist.gov/notifyus/</u>.

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-regulatoryprograms/usa-wto-tbt-inquiry-point

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

# **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.

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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 fiberoptic 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

# Reaccreditation

Illuminating Engineering Society (IES)

# Comment Deadline: November 12, 2018

The Illuminating Engineering Society (IES), an ANSI member and Accredited Standards Developer, has submitted revisions to its currently accredited operating procedures for documenting consensus on IES-sponsored American National Standards, under which it was last reaccredited in 2017. 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: Ms. Pat McGillicuddy, Manager of Standards Development, Illuminating Engineering Society, 120 Wall Street, 17th Floor, New York, NY 10005; phone: 212.248.5000, ext. 7002; e-mail: pmcgillicuddy@ies.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 IES by November 12, 2018, with a copy to the ExSC Recording Secretary in ANSI's New York Office (jthompso@ANSI.org).

# International Organization for Standardization

# ISO Proposal for a New Field of ISO Technical Activity

# Sharing Economy

# Comment Deadline: October 19, 2018

JISC, the ISO member body for Japan, has submitted to ISO a proposal for a new field of ISO technical activity on Sharing Economy, with the following scope statement:

Standardization in the field of sharing economy.

Excluded: Technical aspects of information security or risk management guidelines already covered by ISO/IEC JTC 1/SC27 and ISO/TC 262, respectively.

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, October 19.

# **Information Concerning**

# ANSI Accreditation Program for Greenhouse Gas Validation/Verification Bodies

# Reaccreditation

# Ruby Canyon Engineering, Inc.

# **Comment Deadline: November 12, 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

Ruby Canyon Engineering, Inc. Michael Cote 743 Horizon Court, Suite 385 Grand Junction, CO 85106, USA Phone: 970-241-9298 Email: mcote@rubycanyoneng.com

On October 5, 2018, ANSI's Greenhouse Gas Validation/Verification Body Accreditation Committee approved reaccreditation for Ruby Canyon Engineering, Inc. for the following:

# Scopes:

Verification of assertions related to GHG emissions and removals at the organizational level

- 01. General
- 02. Manufacturing
- 03. Power generation
- 04. Electric Power Transactions
- 05. Mining and mineral production
- 06. Metals Production
- 07. Chemical Production
- 08. Oil and gas extraction, production and refining including petrochemicals
- 09. Waste
- 10. Agriculture, Forestry and Other Land Use (AFOLU)

Validation of assertions related to GHG emissions reductions and removals at the project level

01. GHG emission reductions from fuel combustion

02. GHG emission reductions from industrial processes (non-combustion, chemical reaction, fugitive and other)

- 05. Livestock
- 06. Waste Handling and Disposal

Verification of assertions related to GHG emissions reductions and removals at the project level

01. GHG emission reductions from fuel combustion

02. GHG emission reductions from industrial processes (non-combustion, chemical reaction, fugitive and other)

- 03. Land Use and Forestry
- 05. Livestock
- 06. Waste Handling and Disposal

Please send your comments by November 12, 2018 to Ann Howard, Director, Environmental Accreditation Programs, American National Standards Institute, 1899 L Street, NW, 11th Floor, Washington, DC 20036, Fax: 202-293-9287 or e-mail: <a href="mailto:ahoward@ansi.org">ahoward@ansi.org</a>.

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# 7.10 Marking

Subs manufactured in conformance with this part of ISO 10424 shall be marked with the following information:

- a) the manufacturer's name or identification mark;
- b) "ISO 10424-1";
- c) the inside diameter;
- d) the size and style of the connection at each end.

For subs of type A, B and C, the marking shall be die-stamped on a marking recess located on the outside diameter of the sub. The marking identifying the size and style of the connection shall be placed on that end of the recess closest to the connection to which it applies. The marking recess location is shown in Figure 5.

EXAMPLE 1 A sub with 4 1/2 Reg LH box connection on each end and with a 57,2 mm (2 1/4 in) inside diameter, manufactured by A B Company, shall be marked in the recess as follows:

A B Co. (or mark)		ISO 10424-1
4 1/2 REG LH	57,2 (2 1/4)	4 1/2 REG LH

EXAMPLE 2 A sub with NC 31 pin connection on one end and NC 46 box connection on the other end and with a 50,8 mm (2 in) inside diameter, manufactured by A B Company, shall be marked in the recess as follows:

A B Co (or mark)		ISO 10424-1
NC 31	50,8 (2)	NC 46

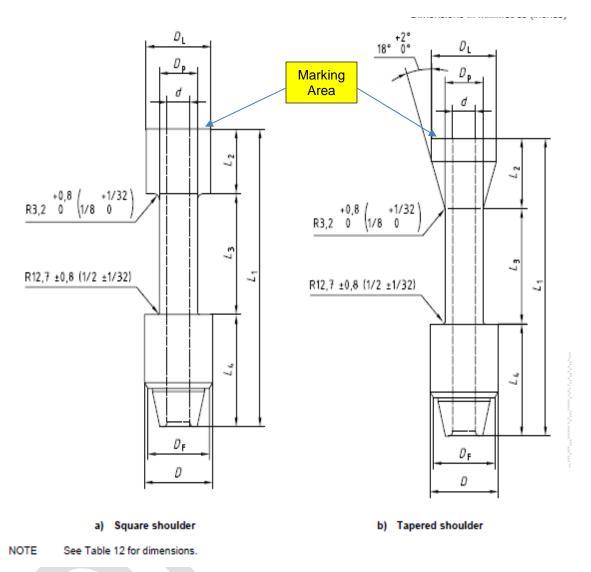
For subs of type D, the marking shall be on the top surface. The type D sub shall also be marked with the size of the recess diameter in characters at least 9.5 mm ( $^{3}/_{8}$  in.) high.

EXAMPLE 3 A lift sub with NC 38 pin connection, a 3 1/2 inch elevator recess and with a 50,8 mm (2 in) inside diameter, manufactured by A B Company, shall be marked on the top face as follows:

A B Co (or mark)	ISO 10424-1
NC 38	50,8 (2)
	3 1/2

### Standards Action - October 12, 2018 - Page 31 of 44 pages

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#### Standards Action - October 12, 2018 - Page 32 of 44 pages

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Elevator recess diameter	Diameter of lift shoulder (tapered or	Overall length	Top length	Elevator recess length	Bottom length	Largest elevator <sup>a</sup>
Dp	square) D <sub>L</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	$L_4$	(from Table 7 in API 8C
± 0,8	+3,2 0	+76 -25	± 3	Ref.	± 12	5 <sup>th</sup> Edition)
60,3	88,9	915	102	457	356	2 7/8
73,0	114.3	915	102	457	356	3 1/2 or 4IU
88,9	127,0	915	102	457	356	4 1/2
101,6	152,4	915	102	457	356	5 1/2
114,3	158,8	915	102	457	356	5 1/2
127,0	165,1	915	102	457	356	5 1/2
139,7	184,2	915	102	457	356	6 5/8
168,3	203,2	915	102	457	356	6 5/8

# Table 12 — Dimensions for lift-sub upper lift diameters

Dimensions in millimetres

<sup>a</sup> For the lift sub and elevator best fit, it is recommended to use the appropriate elevator size for the lift sub  $D_p$  value in accordance with Table 7 in API 8C (5<sup>th</sup> Edition).

Elevator recess diameter	Diameter of lift shoulder (tapered or square)	Overall length	Top length	Elevator recess length	Bottom length	Largest elevator <sup>a</sup>
D <sub>P</sub>	DL	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	(from Table
± 1/32	+1/8	+3 -1	± 1/8	Ref.	± 1/2	7 in API 8C 5 <sup>th</sup> Edition)
2 3/8	3 1/2	36	4	18	14	2 7/8
2 7/8	4 1/2	36	4	18	14	3 1/2 or 4IU
3 1/2	5	36	4	18	14	4 1/2
4	6	36	4	18	14	5 1/2
4 1/2	6 1/4	36	4	18	14	5 1/2
5	6 1/2	36	4	18	14	5 1/2
5 1/2	7 1/4	36	4	18	14	6 5/8
6 5/8	8	36	4	18	14	6 5/8

Dimensions in inches

<sup>a</sup> For the lift sub and elevator best fit, it is recommended to use the appropriate elevator size for the lift sub  $D_{\rm p}$  value in accordance with Table 7 in API 8C (5<sup>th</sup> Edition).

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BSR/ASHRAE Addendum i to ANSI/ASHRAE Standard 62.1-2016

# **Public Review Draft**

# **Proposed Addendum i to**

# Standard 62.1-2016, Ventilation for

# **Acceptable Indoor Air Quality**

# Second Public Review (August 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 <u>www.ashrae.org/standards-research--technology/public-review-drafts</u> 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 <u>www.ashrae.org/bookstore</u> 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, <u>www.ashrae.org</u>.

The appearance of any technical data or editorial material in this public review document does not constitute endorsement, warranty, or guaranty by ASHARE of any product, service, process, procedure, or design, and ASHRAE expressly disclaims such.

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

BSR/ASHRAE Addendum i to ANSI/ASHRAE Standard 62.1-2016, Ventilation and Acceptable Indoor Air Quality Second Public Review Draft

(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 current scope of Standard 62.1 contains informative text and is also unclear in the current Section 2.3 regarding when or where additional ventilation requirements apply. This proposed addendum removes informative text that is not scope definition and clarifies when the standard does not provide ventilation rates. A companion Addendum h adds informative text to Informative Appendix G – Application.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by <u>underlining</u> (for additions) and <del>strikethrough</del> (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 i to 62.1-2016

# Revise Section 2 as shown below.

# 2. SCOPE

- **2.1** This standard applies to spaces intended for human occupancy within buildings except those within dwelling units in residential occupancies in which occupants are nontransient.
- **2.2** This standard defines requirements for ventilation and air-cleaning-system design, installation, commissioning, and operation and maintenance.
- **2.3** Additional requirements for laboratory, industrial, health care, and other spaces may be dictated by workplace and other standards, as well as by the processes occurring within the space.
- **2.4** Although the standard may be applied to both new and existing buildings, the provisions of this standard are not intended to be applied retroactively when the standard is used as a mandatory regulation or code.
- 2.8<u>3</u> This standard contains requirements In addition to ventilation, this standard contains requirements related to certain <u>contaminants and contaminant</u> sources, including outdoor air, construction processes, moisture, and biological growth.
- 2.54 This standard does not prescribe specific ventilation rate requirements for:
  - <u>Spaces</u> that contain smoking or that do not meet the requirements in the standard for separation from spaces that contain smoking
  - Patient care areas not listed in this standard
  - Laboratories with hazardous materials
- **2.6** Ventilation requirements of this standard are based on chemical, physical, and biological contaminants that can affect air quality.
- 2.7 Consideration or control of thermal comfort is not included.

BSR/ASHRAE Addendum i to ANSI/ASHRAE Standard 62.1-2016, Ventilation and Acceptable Indoor Air Quality Second Public Review Draft

- **2.9** Acceptable indoor air quality may not be achieved in all buildings meeting the requirements of this standard for one or more of the following reasons:
- a. Because of the diversity of sources and contaminants in indoor air
- b. Because of the many other factors that may affect occupant perception and acceptance of indoor air quality, such as air temperature, humidity, noise, lighting, and psychological stress
- c. Because of the range of susceptibility in the population
- d. Because outdoor air brought into the building may be unacceptable or may not be adequately cleaned

# Add the following new definitions to Section 3. The remainder of Section 3 is unchanged.

# **3. DEFINITIONS**

*hazardous materials:* Any biological, chemical, radiological or physical item or agent that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Hazardous chemicals are any chemicals that are classified as a health hazard or simple asphyxiant in accordance with the Hazard Communication Standard (§1910.1200) and any other particularly hazardous substances including select carcinogens, reproductive toxins and substances which have a high degree of acute toxicity. Hazardous biological agents are any pathogenic, allergenic, or toxigenic microorganisms including BSL2-4 agents as defined in the NIH BMBL

*patient care area:* an area used primarily for the provision of clinical care to patients. Such care includes monitoring, evaluation, and treatment services.

Amendment	D17.1-E3-AMD2			
Proposal:				
Ballot	D17.1-E3-AMD2-BT			
Date	September 28, 2018			
То	AWS Technical Activities Committee			
From	Mario Diaz, Secretary to the D17 Committee on Welding for Aircraft and			
	Aerospace			
Message:	An amendment is hereby proposed to modify the AWS D17.1/D17.1M:2017-			
	AMD1, Specification for Fusion Welding for Aerospace Applications, as several			
	errors have been identified. These errors were included in the D17.1-E3-DS2-BT			
	ballot issued to TAC and the D17.1-E3-DS1-BT/BM ballots passed at			
	subcommittee and main committee in May 2016; hence, they were approved in			
	error and we are processing this as an amendment rather than an errata.			
	5.3.3.1 and 5.4.3, Table 5.5 and its relevant clauses as well as Table 7.1 have been			
	revised. Items on the next edition's Revision Log or editorial changes will not be			
	considered in this amendment.			
	Revisions are noted with track changes.			
Affected Clauses:	5.3.3.1, 5.4.3, Table 5.5, 5.4.4.1, 5.4.5.1, Table 7.1			

D17.1/D17.1M:2017-AMD1	D17.1/D17.1M:2017-AMD2
Current Code	Proposed Revision
5.3.3.1 Welder Qualification Variables. The	5.3.3.1 Welder Qualification Variables. The
qualification variables for performance qualification	qualification variables for performance qualification
are as follows:	are as follows:
(1) welding process (see 5.4.1)	(1) welding process (see 5.4.1)
(2) base metal composition group (see 5.4.2)	(2) base metal composition group (see 5.4.2)
(3) welding position (see 5.4.4)	(3) base metal thickness (see 5.4.3)
(4) base metal form, sheet or tube (see 5.4.5)	(3)(4) welding position (see 5.4.4)
(5) type of weld, groove or fillet	(4)(5) base metal form, sheet or tube (see 5.4.5)
(6) other welding conditions (see 5.4.6)	(5)(6) type of weld, groove or fillet
NOTE: Filler metal alloy type used for test welds shall	(6)(7) other welding conditions (see 5.4.6)
be the same as those used in production welding of the	NOTE: Filler metal alloy type used for test welds shall
base metal.	be the same as those used in production welding of the
	base metal.

D17.1/D17.1M:2017-AMD1	D17.1/D17.1M:2017-AMD2
Current Code	Proposed Revision
<b>5.4.3 Base Metal Thickness.</b> The qualification limits,	5.4.3 Base Metal Thickness. The qualification limits,
with regard to base metal thickness (sheet thickness or	with regard to base metal thickness (sheet thickness or
tube wall thickness), are given below for welders, tack	tube wall thickness), are given below for welders, tack
welders, and welding operators. These limits apply to	welders, and welding operators. These limits apply to
both groove welds and fillet welds.	both groove welds and fillet welds.

		weiners,	Luci		ciu		unu						b					
				Qualified Positions <sup>b</sup>														
			Sheet Tube															
	Test Weld			Gre	ove			Fillet			Groove <sup>d</sup>			Fillet <sup>c,d</sup>				
Form	Weld type	Position	F	Ħ	¥	θ	F	Ħ	¥	θ	F	Ħ	¥	θ	F	Ħ	¥	θ
		<del>1G</del>	Ж				X	X			Ж				X			
Sheet	Groove	<del>2G</del>	Ж	Х			X	X			Ж	Х			X			
Blicet	GIUUVE	<del>3G</del>	Х		Х		X	X	X	X	Х				X			
		4 <del>G</del>	Ж			Ж	X	X			Ж				X			
		<del>1F</del>					X	X							X	X		
Sheet	Fillet	<del>2F</del>					X	X							X			
Sheet	Fillet	<del>3F</del>					X	X	X	X					X			
		4 <del>F</del>					X	X							X	Х	Х	
		<del>1G</del>	Х				X	X			Х				X	Х		
Tube	Croova	<del>2G</del>	Х	Х			X	X			Х	Х			X	Х		
Tube	Groove	<del>5G</del>	Х	Х	Х	Ж	X		X	X	Х		Х		X		Х	X
		<del>6G</del>					X	X	X	X	X	X	X	X	X	X	X	X
		<del>1F</del>					X								X			
Tube	Fillet	<del>2F</del>					X	X							X	X		
Tube	rmet	4 <del>F</del>					X	X		X					X	X	X	
		<del>5F</del>					X	X	X	X					X	X	X	X

# Table 5.5 Welding Position and Base Metal Form Qualified by Test Weld for Qualification of Welders, Tack Welders, and Welding Operators<sup>a</sup>

	Table 5.5           Welder Qualification - Positions and Base Metal Forms Qualified by Sheet or Tube Tests								
Weld	er Qualif	ication - Posit	tions and Base		Qualified by Shoons Qualified <sup>b</sup>	eet or Tube Tests			
Q	ualificatio	on Test <sup>a</sup>	<u>S1</u>	heet	Tube				
<u>Base</u> <u>Metal</u> <u>Form</u>	<u>Weld</u> <u>Type</u>	<u>Test</u> <u>Position</u>	Groove	<u>Fillet</u>	Groove	<u>Fillet</u>			
Cheet	Groove	<u>1G</u> <u>2G</u> <u>3G</u> <u>4G</u>	<u>F</u> <u>F, H</u> <u>F, V</u> <u>F, O</u>	$\frac{F, H^{c}}{F, H, V^{c}}$ $\frac{F, H, V^{c}}{F, H, O^{c}}$	$\frac{\underline{F^{d}}}{\underline{F, H^{d}}}$ $\frac{\underline{F, V^{d}}}{\underline{F, O^{d}}}$	$\frac{\underline{F}, \underline{H}^{cd}}{\underline{F}, \underline{H}^{cd}}$ $\frac{\underline{F}, \underline{H}, \underline{V}^{cd}}{\underline{F}, \underline{H}, \underline{O}^{cd}}$			
<u>Sheet</u>	<u>Fillet</u>	<u>1F</u> <u>2F</u> <u>3F</u> 4F		<u>F</u> <u>F, H</u> <u>F, H, V</u> F, H, O		$\frac{\underline{F^{d}}}{\underline{F, H^{d}}}$ $\frac{\underline{F, H}, V^{d}}{F, H, O^{d}}$			
Tube	Groove	<u>1G</u> <u>2G</u> <u>5G</u> <u>6G</u>	<u>F</u> <u>F, H</u> <u>F, V, O</u> <u>All</u>		<u>F</u> <u>F, H</u> <u>F, V, O</u> <u>All</u>	F, H <sup>c</sup> F, H <sup>c</sup> All <sup>c</sup>			
Tube <u>Fill</u>	<u>Fillet</u>	1F           2F           4F           5F		<u>F</u> <u>F, H</u> <u>F, H, O</u> <u>All</u>		<u>F</u> <u>F, H</u> <u>F, H, O</u> <u>All</u>			

Note: In the previous edition of AWS D17.1/D17.1M:2010 the qualified positions were shown as 1G, 2G, 3G, and 4G rather than F, H, V, and O, respectively.

<sup>a</sup> Use of heat sinks is optional.

<sup>b</sup> Qualified positions for production welding are <del>as</del> defined in AWS A3.0<del>. F = Flat, H =</del> Horizontal, V = Vertical, O = Overhead. as Flat (F), Horizontal (H), Vertical (V), Overhead (O). All = Flat, Horizontal, Vertical and Overhead.

<sup>c</sup> Qualification for sheet or tube fillet welds in material 0.063 in [1.6 mm] in thickness (sheet of tube wall) or less requires a fillet weld test. A groove weld test cannot be used to qualify fillet welds 0.063 in [1.6 mm] or less in material thickness. A fillet weld test is required to qualify fillet welds in material thickness equal to or less than 0.063 in [1.6 mm].

<sup>d</sup> A sheet test weld qualifies for tube welds 1 in [25 mm] in O.D. or greater. For Qualified thickness and tube diameter range see clause 5.4.3.1 (3).

**5.4.4.1 Welders and Tack Welders**. The welding positions qualified by a given test weld position, to be found at the left of Table 5.5, are denoted by an "X" in the tTable 5.5. The welding position designations are identified and illustrated in Figures 5.1, 5.2, 5.3, and 5.4.

**5.4.5.1 Welders and Tack Welders.** The base metal forms and weld types qualified by a given test weld, to be found at the left of Table 5.5, are denoted by an "X" in the tT able 5.5. Operators Welders qualified to perform groove welds are also qualified to perform plug and slot welding in the qualified position.

Table 7.1 Acceptance Criteria (in [mm])							
Discontinuity	Class A	Class B	Class C				
Cracks	None	None	None				
Overlap (Cold Lap)	None	None	None				
Incomplete Fusion	None	None	None				
Incomplete Penetration <sup>a</sup>	None	None	None				
Porosity—Surface							
Individual size maximum	0.25 T or 0.030 [0.76], whichever is less	0.33 T or 0.060 [1. <u>5]</u> , whichever is less	0.50 T or 0.090 [2. <u>3],</u> whichever is less				
Spacing minimum	8 times the size of the larger adjacent imperfection <sup>b</sup>	4 times the size of the larger adjacent imperfection <sup>b</sup>	2 times the size of the larger adjacent imperfection <sup>b</sup>				
Accumulated length in any 3 in [75 mm] of weld maximum	1 T or 0.12 [3. <u>1</u> ], whichever is less	1.33 T or 0.24 [6. <u>1</u> ], whichever is less	2 T or 0.36 [9. <u>1</u> ], whicheve is less				
Porosity—Subsurface							
Individual size maximum	0.33 T or 0.060 [1. <u>5],</u> whichever is less	0.50 T or 0.090 [2. <u>3],</u> whichever is less	Not applicable				
Spacing minimum	4 times the size of the larger adjacent imperfection <sup>b</sup>	2 times the size of the larger adjacent imperfection <sup>b</sup>	Not applicable				
Accumulated length in any 3 in [75 mm] of weld maximum	1.33 T or 0.24 [6. <u>1</u> ], whichever is less	2 T or 0.36 [9. <u>1</u> ], whichever is less	Not applicable				
Inclusions							
Individual size maximum	0.33 T or 0.060 [1.5], whichever is less	0.50 T or 0.090 [2.3], whichever is less	Not applicable				
Spacing minimum	4 times the size of the larger adjacent imperfection <sup>b</sup>	2 times the size of the larger adjacent imperfection <sup>b</sup>	Not applicable				
Accumulated length in any 3 in [75mm] of weld—maximum	1.33 T or 0.24 [6. <u>1]</u> , whichever is less	2 T or 0.36 [9. <u>1</u> ], whichever is less	Not applicable				
Undercut							
For the full length of weld maximum depth	0.002 [0. <u>05]</u>	0.015 T or 0.002 [0. <u>05</u> ], whichever is greater	0.025 T or 0.002 [0. <u>05]</u> , whichever is greater				
Individual <u>d</u> efect, <u>m</u> aximum <u>d</u> epth	0.07 T or 0.030 [0.76], whichever is less	0.10 T or 0.050 [1. <u>3]</u> , whichever is less	0.20 T or 0.070 [1. <u>8],</u> whichever is less				
Accumulated length in any 3 in [75mm] of weld maximum	0.20 [5. <u>1]</u>	0.60 [ <u>15]</u>	1.00 [25]				
Face or Root Underfill (Groove V	Velds)						
For the full length of weld – maximum depth	0.005 [0. <u>13]</u>	0.015 T or 0.005 [0. <u>13]</u> whichever is greater	0.025 T or 0.005 [0. <u>13]</u> whichever is greater				
Individual defect – maximum depth	0.07 T or 0.030 [0.76] whichever is less	0.10 T or 0.050 [1. <u>3]</u> whichever is less	0.20 T or 0.070 [1. <u>8]</u> whichever is less				
Accumulated length in any 3 in [75 mm] of weld – maximum	0.20 [5.1]	0.60 [ <u>15]</u>	1.00 [ <u>25]</u>				
Craters							
Maximum depth	0.20 T or 0.03 [0.8] whichever is less	0.20 T or 0.05 [1.3] whichever is less	0.20 T or 0.05 [1.3] whichever is less				
Maximum length	1 T	1 T	2 T				
Arc Strikes / Gouge Marks	Unacceptable	Unacceptable	No stated requirement				

	Table 7.1 (Conti Acceptance Criteria		
Discontinuity	Class A	Class B	Class C
Maximum Weld Reinforcement –	machine welds		
Material to 0.375 [9. <u>5]</u> and under	1/3 T or 0.030 [0.76] whichever is greater	No stated requirement	No stated requirement
Material greater than 0.375 [9.5]	0.125 [3. <u>2]</u>	No stated requirement	No stated requirement
Melt-Through <u>Welds</u>	See Annex A	See Annex A	See Annex A
Maximum Weld Reinforcement—	manual welds		
Material up to 0.125 [3]	1 T	No stated requirement	No stated requirement
Material <u>over</u> 0.125 to 0.510 [ <u>3 to 13]</u>	1/3 T or 0.100 [2.5], whichever is greater	No stated requirement	No stated requirement
Material greater than 0.510 [13]	0.170 [4.3]	No stated requirement	No stated requirement
Mistmatch between Members after welding	Refer to Paragraph <u>7.4.2.1</u> & Figure 7.2. Includes A, B, & C Class of Welds		
Weld Profiles	Requirements of Figure 7.1	Requirements of Figure 7.1	Requirements of Figure 7.
Angular Peaking	Requirements of 7.3.2.2	Requirements of 7.3.2.2	Requirements of 7.3.2.2
Fillet Weld Size – when fillet weld	size is stated on the drawing		
Minimum size	As shown by the welding symbol	As shown by the welding symbol	As shown by the welding symbol
Fillet Weld Size – minimum size w	when fillet weld size is not stated o	n the drawing	
Minimum size – single side fillet	1.5 T	1.5 T	1.5 T
Minimum size – double side fillet	1 T	1 T	1 T
Fillet Weld Size – maximum			
Material up to 0.090 [2. <u>3]</u>	2 times the minimum fillet weld size	2 times the minimum fillet weld size	2 times the minimum fille weld size
Material 0.091 to 0.156 [2. <u>31</u> to 4.0]	1.5 times the minimum fillet weld size	1.5 times the minimum fillet weld size	1.5 times the minimum fillet weld size
Material 0.157 to 0.750 [ <u>4.01</u> to 19]	1.25 times the minimum fillet weld size	1.25 times the minimum fillet weld size	1.25 times the minimum fillet weld size
Material greater than 0.751 [19]	1.1 times the minimum fillet weld size	1.1 times the minimum fillet weld size	1.1 times the minimum fillet weld size
Discoloration <sup>c, <u>f</u></sup>			
Bright Silver	Acceptable	Accept <del>able</del>	Acceptable
Silver	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Light Straw	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Dark Straw	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Bronze	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Brown	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Violet	Reject <sup><u>fd</u></sup>	Accept <del>able<sup>d</sup></del>	Accept <del>able<sup>d</sup></del>
Blue	Reject <sup>ed</sup>	Reject <sup><u>f.e</u></sup>	Reject <sup>f,e</sup>
Green	Reject <sup>ed</sup>	Reject file	Reject <sup><u>f,he</u></sup>
Gray	Reject <sup>#</sup>	Reject #	Reject #
White	Reject <sup>g</sup>	Reject <sup>g</sup>	Reject <sup>g</sup>

Table 7.1 (Continued)         Acceptance Criteria (in [mm])						
Discontinuity	Class A	Class B	Class C			
Discoloration—Stainless Steel, Nicke	l, and Cobalt Alloys					
All oxidation colors, except for Black	Accept <del>able</del>	Accept <del>able</del>	Accept <del>able</del>			
Black discoloration or the presence of scale	Reject	Reject	Reject			
Discoloration—Steel						
All oxidation colors, except for Black	Accept <del>able</del>	Accept <del>able</del>	Accept <del>able</del>			
Black	Reject	Reject	Reject			

<sup>a</sup> For groove weld only.

<sup>b</sup> Discontinuity of size 0.005 in [0.13 mm] or less shall not be <u>considered when determining compliance to the spacing</u> requirements.

<sup>e</sup> Discoloration determined to be acceptable shall be removed prior to additional welding. eomes in various shades, tones, and hues.

<sup>d</sup> <u>This discoloration is acceptable on the base metal outside of 0.030" from the toe of the weld.</u><del>Discoloration must be removed prior to additional welding.</del>

<sup>e</sup> <u>This discoloration is acceptable on finished welds but must be removed prior to additional processing. On the weld and in the HAZ up to 0.030 in [0.76 mm] beyond the weld. This color is acceptable on base metal outside of 0.030 <u>in [0.76 mm]</u> from the toe of the weld.</u>

<sup>f</sup> Discoloration that is not acceptable per the table may be determined acceptable through testing. Test methods, acceptance criteria and approval requirements shall be as agreed upon by the engineering authority. Blue and Green discoloration is rejectable if additional welding is to be performed. Blue and green discoloration is acceptable on finish welds but must be removed prior to subsequent processing per 6.15.1.

<sup>e</sup> <u>Rejectable discoloration may be accepted if it can be proven that embrittlement has not occurred. This proof must be provided</u> through direct testing, such as microhardness. Test method and acceptance criteria used for acceptance must be approved by the <u>engineering authority.</u> BSR/UL 913. Standard for Safety for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations

1. Revisions to Clarify the Inclusion of the Use of Electronic Medium for Required Documentation based on the responses to comments received on Proposal dated August 24, 2018

# PROPOSAL

FromUL 1.7 Where a requirement of this standard conflicts with a requirement of the applicable requirements for unclassified (ordinary) locations, the requirements of this standard shall take itior perr precedence.

# **12** Documentation

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12.1 Intrinsically safe apparatus and associated apparatus shall be provided with documentation that includes all the instructional material required by this standard

12.2 This required instructional material may be provided by electronic media under the following conditions:

1) Where all required instructional material is provided by electronic media, there shall be

marking on the apparatus that contains the international symbol  $\angle !$  (Reference No. 0434B of ISO 7000), along with the location of the electronic documentation (e.g. URL, QRcode).

2) Where only some of the required instructional material is provided by electronic media and some is printed:

there shall be marking on the apparatus that contains the international symbol a. (Reference No. 0434B of ISO 7000), along with the location of the electronic documentation (e.g. URL, QRcode); and

the printed instructions provided with the apparatus shall clearly identify that additional information is available electronically, along with the location of this electronic documentation (e.g. URL, QRcode).

Exception: For small electrical apparatus where some or all of the instructional material is to be provided by electronic media, and where there is limited space for both the international symbol

(Reference No. 0434B of ISO 7000) and the location of the electronic documentation (e.g. URL, QRcode):

1) the international symbol  $\angle ! \$  (Reference No. 0434B of ISO 7000) shall be marked on the apparatus; and

<u>2)</u> printed instructions shall be provided with the apparatus that, as a minimum, indicates the location of the electronic documentation (e.g. URL, QRcode).

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# BSR/UL 2353, Standard for Safety for Single- and Multi-Layer Insulated Winding Wire

# 1. Revision to insulation thickness

6.11 For single and mulit-layer wires, one thickness measurement is to be made in each of the 4 quadrants of the circular sample, for each layer total insulation thickness as shown in Figure 6.1. The measurements shall be made at thinnest point for each layer in a given guadrant. For example, a reinforced insulation wire consisting of 3 layers should have three measurements made in each quadrant, one for the inner most layer, one for the middle layer and one for the outer layer. The diameter of the conductor and the overall conductor diameter (conductor and all layers of insulation) shall also be measured in the same fashion as the individual layers. The same logic applies for basic and supplementary insulation. The thickness of an enameled, bond coat or other noninsulating layer is not required to be measured.

6.14 The minimum wall thickness for the insulation layers should be determined as Table 6.1 Minimum wall thickness for insulation layers shown in Table 6.1:

	<del>18</del>	AWG: Q	uadrant (r	nm)	32 AWG: Quadrant (mm)				
Layers	4	<del>2</del>	3	4	1	2	3	4	
Inner <sup>a</sup>	<del>0.025</del>	<del>0.030</del>	<del>0.027</del>	<del>0.029</del>	<del>0.029</del>	<del>0.031</del>	<del>0.033</del>	<del>0.028</del>	
Middle <sup>b</sup>	<del>0.040</del>	<del>0.039</del>	<del>0.044</del>	<del>0.037</del>	<del>0.045</del>	<del>0.046</del>	<del>0.042</del>	<del>0.038</del>	
<del>Outer</del> <sup>c</sup>	<del>0.019</del>	0.020	0.018	<del>0.020</del>	<del>0.017</del>	<del>0.019</del>	0.020	<del>0.019</del>	

<sup>a</sup>For the inner layer, 0.028 mm would be the minimum wall thickness since each wire size measured at least 0.028 mm in at least one guadrant.

<sup>b</sup>For the middle laver, 0.038 mm would be the minimum wall thickness since each wire size measured at least 0.038 mm in at least one quadrant.

<sup>e</sup>For the outer layer, 0.018 mm would be the minimum wall thickness since each wire size measured at least 0.018 mm in at least one quadrant. UL COPYIEME