

CHAPTER 11

NORMATIVE REFERENCES

Section numbers indicate where the reference occurs in this document.

AARST

American Association of Radon Scientists and Technologists
527 N. Justice Street
Hendersonville, NC 28739

ANSI/AARST RMS-LB-2018: Radon Mitigation Standards for Schools and Large Buildings

1001.3.9 (10.3.9), 1001.9.4.4 (10.9.4.4)

ANSI/AARST MALB-2014: Protocols for Measuring Radon and Radon Decay Products in School and Large Buildings

1001.3.9 (10.3.9), 1001.9.4.4 (10.9.4.4)

AHAM

Association of Home Appliance Manufacturers
1111 19th Street NW, Suite 402
Washington, DC, 20036

ANSI/AHAM RAC-1—2015: Room Air Conditioners

Appendix B

AHRI

Air-Conditioning, Heating, and Refrigeration Institute
2111 Wilson Blvd, Suite 500
Arlington, VA 22201

ANSI/AHRI 210/240—2017: Performance Rating of Unitary Air-Conditioning and Air-Source Heat Pump Equipment

Appendix B

ANSI/AHRI 310/380—2017: Standard for Packaged Terminal Air-Conditioners and Heat Pumps (CSA-C744-17)

Appendix B

AHRI 340/360—2019: Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment

Appendix B

ANSI/AHRI 365—2009: Performance Rating of Commercial and Industrial Unitary Air-Conditioning Condensing Units

Appendix B

ANSI/AHRI 460—2005: Performance Rating of Remote Mechanical-Draft Air-Cooled Refrigerant Condensers

Appendix B

ANSI/AHRI 1230—2014 (with Addendum 1): Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment

Appendix B

AMCA

Air Movement and Control Association International, Inc.
30 West University Drive
Arlington Heights, IL 60004-1893

AMCA 208—18: Calculation of the Fan Energy Index

701.4.3.6.2 (7.4.3.6.2)

ANSI/AMCA 220—19: Laboratory Methods of Testing Air Curtain Units for Aerodynamic Performance Rating

701.4.2.5 (7.4.2.5)

NORMATIVE REFERENCES

ANSI

American National Standards Institute
25 West 43rd Street
New York, NY 20036

ANSI C78.377—2017: American National Standard for Electric Lamps—Specifications for the Chromaticity of Solid State Lighting (SSL) Products

801.3.5.3 (8.3.5.3)

ANSI Z21.10.3—2017: Gas Water Heaters, Volume III, Storage Water Heaters with Input Ratings above 75,000 Btu/h, Circulating and Instantaneous

Appendix B

ANSI Z21.11.2—2016: Gas-fired Room Heaters, Volume II, Unvented Room Heaters

801.3.1.5 (8.3.1.5)

ANSI Z21.47—2016: Gas-Fired Central Furnaces

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ANSI Z83.4—2017/CSA 3.7—2017: Non-recirculating Direct Gas-fired Industrial Air Heaters

801.3.1.5 (8.3.1.5)

ANSI Z83.8—2016: Gas Unit Heaters, Gas Packaged Heaters, Gas Utility Heaters, and Gas-Fired Duct Furnaces

Appendix B

ANSI Z83.19—2009/CSA 2.35—2009: Gas-fired High-intensity Infrared Heaters

801.3.1.5 (8.3.1.5)

APA

The Engineered Wood Association
7011 S. 19th Street
Tacoma, WA 98466-5333

ANSI A190.1—2017: Standard for Wood Products-Structural Glued Laminated Timber

801.4.2.4 (8.4.2.4)

ANSI/APA PRG 320—2019: Standard for Performance-Rated Cross-Laminated Timber

801.4.2.4 (8.4.2.4)

ASA

Acoustical Society of America
1305 Walt Whitman Road
Suite 300
Melville, NY 11747-4300

ANSI/ASA S1.13—2005 (R2010): Measurement of Sound Pressure Levels in Air

1001.5 (10.5)

ANSI/ASA S1.4—2014: Sound Level Meters

1001.5 (10.5)

ANSI/ASA S12.60—2009/Part 2 (R2014): Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 2: Relocatable Classroom Factors

801.3.3 (8.3.3), 801.3.3.4 (8.3.3.4)

ANSI/ASA S12.60—2010/Part 1 (R2015): Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools, Part 1: Permanent Schools

801.3.3 (8.3.3)

ANSI/ASA 12.72—2015: Measuring the Ambient Noise Level in a Room

1001.5 (10.5)

ASABE

American Society of Agricultural and Biological Engineers
2950 Niles Road
Saint Joseph, MI 49085

ASABE/ICC 802—2020: Landscape Irrigation Sprinkler and Emitter Standard

601.3.1.2.1 (6.3.1.2.1)

ASHE

American Society for Healthcare Engineering of the American Hospital Association
155 N. Wacker Drive, Suite 400
Chicago, IL 60606

2018 FGI Guidelines: Hospitals and Outpatient Facilities: Guidelines for Design and Construction of Hospitals

801.3.3 (8.3.3)

2018 FGI Guidelines: Hospitals and Outpatient Facilities: Guidelines for Design and Construction of Outpatient Facilities

801.3.3 (8.3.3)

2018 FGI Guidelines: Residential Health, Care and Support Facilities: Guidelines for Design and Construction of Residential Health, Care, and Support Facilities

801.3.3 (8.3.3)

ASHRAE

ASHRAE
180 Technology Parkway NW
Peachtree Corners, GA 30092

ANSI/ASHRAE Standard 52.2—2017: Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

801.3.1.3 (8.3.1.3)

ANSI/ASHRAE Standard 55—2017 (with Addenda a and b): Thermal Environmental Conditions for Human Occupancy

801.3.2 (8.3.2), 1001.9.7 (10.9.7)

ANSI/ASHRAE Standard 62.1—2019: Ventilation for Acceptable Indoor Air Quality

301.2 (3.2), 701.4.3.2 (7.4.3.2), 701.4.3.8 (7.4.3.8), 801.3 (8.3), 1001.4.2 (10.4.2), 1001.3.2.4 (10.3.2.4)

ANSI/ASHRAE Standard 62.2—2019: Ventilation and Acceptable Indoor Air Quality in Residential Buildings

801.3.1 (8.3.1), 801.3.1.1 (8.3.1.1), 801.3.1.5 (8.3.1.5)

ANSI/ASHRAE/IES Standard 90.1—2019: Energy Standard for Buildings Except Low-Rise Residential Buildings

301.1 (3.1), 301.2 (3.2), 501.3.6 (5.3.6), 701.3.1 (7.3.1), 701.4.1 (7.4.1), 701.4.2 (7.4.2), 701.4.3 (7.4.3), 701.4.4 (7.4.4), 701.4.5 (7.4.5), 701.4.6 (7.4.6), 701.4.7 (7.4.7), 701.4.8 (7.4.8), 801.3.1.10 (8.3.1.10), 1001.6 (10.6), Appendix A, Appendix B, Appendix C

ANSI/ASHRAE Standard 111—2008 (RA 2017): Measurement, Testing, Adjusting, and Balancing of Building HVAC Systems

801.3.1.2.2 (8.3.1.2.2), 1001.9.4 (10.9.4), 1001.9.6 (10.9.6)

ANSI/ASHRAE Standard 146—2011: Method of Testing and Rating Pool Heaters

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ANSI/ASHRAE Standard 154—2016: Ventilation for Commercial Cooking Operations

701.4.3.8.1 (7.4.3.8.1)

ANSI/ASHRAE Standard 160—2016: Criteria for Moisture-Control Design Analysis in Buildings

801.3.6 (8.3.6)

ANSI/ASHRAE Standard 169—2013: Climatic Data for Building Design Standards

701.3.1.1 (7.3.1.1)

ANSI/ASHRAE/ASHE Standard 170—2017: Ventilation of Health Care Facilities

801.3.1 (8.3.1)

ANSI/ASHRAE/ACCA Standard 180—2018: Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems

301.2 (3.2), 1001.9.10 (10.9.10)

ANSI/ASHRAE/ASHE Standard 189.3—2017: Design, Construction, and Operation of Sustainable High-Performance Health Care Facilities

401.1 (4.1)

ANSI/ASHRAE/IES Standard 202—2018: Commissioning Process for Buildings and Systems

1001.3.2 (10.3.2), 1001.3.2.5 (10.3.2.5)

ANSI/ASHRAE Standard 209—2018: Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings

701.5.4 (7.5.4)

ASME

American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

- ASME A112.18.1—2020/CSA B125.1—20: Plumbing Supply Fittings**
601.3.2.1 (6.3.2.1)
- ASME A112.19.2—2020/CSA B45.1—20: Ceramic Plumbing Fixtures**
601.3.2.1 (6.3.2.1)
- ASME A112.19.14—2013 (R2018): Six-Liter Water Closets Equipped with a Dual Flushing Device**
601.3.2.1 (6.3.2.1)
- ASME A112.19.19—2021: Vitreous China Nonwater Urinals**
601.3.2.1 (6.3.2.1)

ASTM

ASTM International
100 Barr Harbor Dr.
West Conshohocken, PA 19428-2959

- C33/C33M—18: Standard Specification for Concrete Aggregates**
801.3.4.1.2 (8.3.4.1.2)
- C518-15: Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus**
Appendix A
- C919—19: Standard Practice for Use of Sealants in Acoustical Applications.**
801.3.3.1.1 (8.3.3.1.1), 801.3.3.2.3.3 (8.3.3.2.3.3), 801.3.3.3.2 (8.3.3.3.2)
- C920—18: Standard Specification for Elastomeric Joint Sealants**
801.3.4.1.1 (8.3.4.1.1)
- C1371—15: Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers**
501.3.5.4 (5.3.5.4)
- C1549—16: Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer**
501.3.5.4 (5.3.5.4)
- D1003—13: Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics**
301.2 (3.2), 801.4 (8.4), 801.4.1.1.3 (8.4.1.1.3), 801.4.1.3 (8.4.1.3)
- D1785—15e1: Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120**
801.3.4.1.3 (8.3.4.1.3)
- D2559—12a (2018): Standard Specification for Adhesives for Bonded Structural Wood Products for Use Under Exterior Exposure Conditions**
801.4.2.4 (8.4.2.4)
- D5197—16: Standard Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology)**
801.4.2 (8.4.2), 1001.7 (10.7)
- D5456—18: Standard Specification for Evaluation of Structural Composite Lumber Products**
801.4.2.4 (8.4.2.4)
- D5055—16: Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists**
801.4.2.4 (8.4.2.4)
- E90—09 (2016): Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements**
801.3.3.1.1 (8.3.3.1.1)
- E336—17a: Standard Test Method for Measurement of Airborne Sound Attenuation Between Rooms in Buildings**
801.3.3.1.1 (8.3.3.1.1), 1001.5.2 (10.5.2)
- E408—13 (2019): Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques**
501.3.5.4 (5.3.5.4)
- E492—09 (2016) e1: Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine**
801.3.3.1.1 (8.3.3.1.1)

ASTM—continued

- E779—10 (2018): Standard Test Method for Determining Air Leakage Rate by Fan Pressurization**
1001.6 (10.6)
- E972—96 (2013): Standard Test Method for Solar Photometric Transmittance of Sheet Materials Using Sunlight**
301.2 (3.2)
- E1007—16: Test Method for Field Measurement of Tapping Machine Impact Sound Transmission through Floor-Ceiling Assemblies and Associated Support Structures**
801.3.3.1.1 (8.3.3.1.1)
- E1643—18a: Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs**
801.3.4.1.1 (8.3.4.1.1)
- E1745—17: Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs**
801.3.4.1.1 (8.3.4.1.1)
- E1827—11 (2017): Standard Test Methods for Determining Airtightness of Building Using an Orifice Blower Door**
1001.6 (10.6)
- E1903—11: Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process**
301.2 (3.2)
- E1918—16: Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-sloped Surfaces in the Field**
501.3.5.4 (5.3.5.4)
- E1980—11: Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-sloped Opaque Surfaces**
501.3.5.4 (5.3.5.4)
- E2399/E2399M—19: Standard Test Method for Maximum Media Density for Dead Load Analysis of Vegetative (Green) Roof Systems**
501.3.5.5 (5.3.5.5)
- E2843—17: Standard Specification for Demonstrating that a Building is in Walkable Proximity to Neighborhood Assets**
501.3.1.1 (5.3.1.1)
- E2844—15e1: Standard Specification for Demonstrating That a Building’s Location Provides Access to Public Transit**
501.3.1.1 (5.3.1.1)
- E2921—16: Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes and Rating Systems**
901.5.1 (9.5.1)

BIFMA

Business and Institutional Furniture Manufacturer’s Association
678 Front Avenue NW, Suite 150
Grand Rapids, MI 49504-5368

ANSI/BIFMA e3—2019: Furniture Sustainability Standard

801.4.2.5 (8.4.2.5), 901.4.1.4.3 (9.4.1.4.3)

ANSI/BIFMA M7.1—2011 (R2016): Standard Test Method For Determining VOC Emissions From Office Furniture Systems, Components and Seating

801.4.2.5 (8.4.2.5), 801.5.2 (8.5.2)

ANSI/BIFMA X7.1—2011 (R2016): Standard for Formaldehyde and TVOC Emissions of Low-Emitting Office Furniture Seating

801.4.2.5 (8.4.2.5)

BSI

BSI Customer Service
389 Chiswick High Road
London, W4 4AL, UK

BS EN 636:2012+A1:2015: Plywood—Specifications

801.4.2.4 (8.4.2.4)

NORMATIVE REFERENCES

CARB

California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

CARB SCM for Architectural Coatings 2019: California Air Resources Board (ARB) Suggested Control Measure for Architectural Coatings

801.4.2.2 (8.4.2.2)

California Code of Regulations, Title 17, Sections 93120-93120.12: Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

801.4.2.4 (8.4.2.4)

CDPH

California Department of Public Health
Indoor Air Quality Section
850 Marina Bay Parkway
Richmond, CA 94804

CDPH/EHLB/Standard Method V1.2 (2017): Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers—Version 1.2

801.4.2 (8.4.2), 801.5.2 (8.5.2), Table 1001.7.2 (Table 10.7.2), Appendix D

CEC

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

2019 Title 24 Part 6, JA 10: Reference Appendices for the 2019 Building Energy Efficiency Standards. Joint Appendix JA10, Test Method for Measuring Flicker of Lighting Systems and Reporting Requirements

801.3.5.4 (8.3.5.4)

CEN

European Committee for Standardization
Avenue Marnix 17—B-1000
Brussels, Belgium

EN14500:2008: Blinds and shutters—Thermal and visual comfort—Test and calculation methods

801.3.8 (8.3.8)

CGSB

Canadian General Standards Board
Place du Portage III, 6B1
11 Laurier Street
Gatineau, Quebec K1A 1G6, Canada

CAN/CGSB 149.2019: Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method

1001.6 (10.6)

CAN/CGSB 149.15-96: Determination of the Overall Envelope Airtightness of Buildings by the Fan Pressurization Method Using the Building's Air Handling Systems

1001.6 (10.6)

CITES

Convention on International Trade in Endangered Species of Wild Fauna and Flora
International Environment House
11 Chemin des Anémones
CH-1219 Châtelaine, Geneva, Switzerland

CITES-1973, amended 1979 and 1983: Convention on International Trade in Endangered Species of Wild Fauna and Flora

901.3.2 (9.3.2)

CPA

Composite Panel Association
19465 Deerfield Avenue, Suite 306
Leesburg, VA 20176

ANSI A208.1—2016: Particleboard
801.4.2.4 (8.4.2.4)

ANSI A208.2—2016: Medium Density Fiberboard (MDF) for Interior Applications
801.4.2.4 (8.4.2.4)

CRRC

Cooling Roof Rating Council
449 15th Street, Suite 400
Oakland, CA 94612

ANSI/CRRC S100—2020: Standard Test Methods for Determining Radiative Properties of Materials
501.3.5.4 (5.3.5.4)

CSA

Canadian Standards Association
178 Rexdale Blvd.
Toronto, ON, M9W 1R3, Canada

CAN/CSA 439—18: Standard Laboratory Methods of Test for Rating the Performance of Heat/Energy-Recovery Ventilators
701.4.3.6.3 (7.4.3.6.3)

CSA O121—17: Douglas Fir Plywood
801.4.2.4 (8.4.2.4)

CSA O151—17: Canadian Softwood Plywood
801.4.2.4 (8.4.2.4)

CSA O153—13 (R2017): Poplar Plywood
801.4.2.4 (8.4.2.4)

CSA O325—16: Construction Sheathing
801.4.2.4 (8.4.2.4)

CTI

Cooling Technology Institute
PO Box 681807
Houston, TX 77268

CTI ATC-105 (19): Acceptance Test Code for Water Cooling Towers
Appendix B

CTI ATC-105S (11): Acceptance Test Code for Closed-Circuit Cooling Towers
Appendix B

CTI ATC-106 (11): Acceptance Test Code for Mechanical Draft Evaporative Vapor Condensers
Appendix B

CTI STD-201RS (19): Standard for the Certification of Water Cooling Tower Thermal Performance
Appendix B

DHA

Decorative Hardwoods Association
42777 Trade West Dr.
Sterling, VA 20166

ANSI/HPVA HP-1—2016: American National Standard for Hardwood and Decorative Plywood
801.4.2.4 (8.4.2.4)

Green-e

Green-e
c/o Center for Resource Solutions
1012 Torney Ave., Second Floor
San Francisco, CA 94129

Version 1.0, July 7, 2017: Green-e Framework for Renewable Energy Certification
1001.9.8 (10.9.8)

Version 2.8, April 1, 2016: Green-e Energy National Standard for Renewable Electricity Products
701.4.1.1 (7.4.1.1)

GS

Green Seal
1001 Connecticut Avenue, NW, Suite 827
Washington, DC 20036-5525

GS-36, 2.1, July 12, 2013: Standard for Adhesives for Commercial Use
801.4.2.1.2 (8.4.2.1.2)

GS-42, July 7, 2015: Standard for Commercial and Institutional Cleaning Services
1001.9.5 (10.9.5)

IA

Irrigation Association
8280 Willow Oaks Corporate Drive, Suite 400
Fairfax, VA 22031

Smart Water Application Technologies (SWAT) Climatologically Based Controllers, 8th Testing Protocol—September 2008: Smart Water Application Technologies (SWAT), Turf and Landscape Irrigation System Smart Controllers, Climatologically Based Controllers
301.2 (3.2), 601.3.1.2.2 (6.3.1.2.2)

IAPMO

International Association of Plumbing and Mechanical Officials
5001 East Philadelphia Street
Ontario, CA 91761

Z124.9—2004: Plastic Urinal Fixtures
601.3.2.1 (6.3.2.1)

ICC

International Code Council
500 New Jersey Ave NW # 300
Washington, DC 20001

2021 IBC: International Building Code®
101.3, 102.4, 102.6, 107.1

2021 IEBC: International Existing Building Code®
102.4, 102.6

2021 IECC: International Energy Conservation Code®
101.5.2, 102.4

2021 IFC: International Fire Code®
102.4, 102.6, 501.3.5.5 (5.3.5.5)

2021 IFGC: International Fuel Gas Code®
102.4

2021 IMC: International Mechanical Code®
102.4

2021 IPC: International Plumbing Code®
102.4, 601.3.5.3 (6.3.5.3)

2021 IPMC: International Property Maintenance Code®
102.4, 102.6

ICC—continued

2021 IRC: International Residential Code®
102.4

2021 ICC PC: International Code Council Performance Code for Buildings and Facilities®
102.4

IEC

International Electrotechnical Commission
IEC Regional Centre for North America (IEC-ReCNA)
446 Main Street, 16th Floor
Worcester, MA 01608

IEC EN 60034-30: Rotating Electrical Machines—Part 30-1: Efficiency Classes of Line Operated AC Motors (IE code)
701.4.7.6 (7.4.7.6)

IES

Illuminating Engineering Society
120 Wall Street, Floor 17
New York, NY 10005-4001

IDA/IES Model Lighting Ordinance: Model Lighting Ordinance (MLO)
501.3.6 (5.3.6)

LM-83—12: Approved Method: IES Spatial Daylight Autonomy (sDA) and Annual Sunlight Exposure (ASE)
301.2 (3.2), 801.5.1 (8.5.1)

TM-15—2011 including addendum “a”: Luminaire Classification System for Outdoor Luminaires
501.3.6.2 (5.3.6.2)

TM-30—2018: IES Method for Evaluating Light Source Color Rendition
801.3.5.3 (8.3.5.3)

ISO

International Organization for Standardization
ISO Central Secretariat
Chemin de Blandonnet 8
CP 401 - 1214 Vernier, Geneva, Switzerland

ISO-9972:2015: Thermal Performance of Buildings—Determination of Air Permeability of Buildings—Fan Pressurization Method
1001.6 (10.6)

ISO-13256-1:2017: Water-Source Heat Pumps—Testing and Rating for Performance—Part 1: Water-to-Air and Brine-to-Air Heat Pumps
Appendix B

ISO-13256-2:2017: Water-Source Heat Pumps—Testing and Rating for Performance—Part 2: Water-to-Water and Brine-to-Water Heat Pumps
Appendix B

ISO 14025:2006: Environmental Labels and Declarations—Type III Environmental Declarations—Principles and Procedures
901.4.1.4 (9.4.1.4)

ISO 14040:2006: Environmental Management—Life Cycle Assessment—Principles and Framework
901.4.1.4 (9.4.1.4)

ISO 14044:2006: Environmental Management—Life Cycle Assessment— Requirements and Guidelines
901.5.1 (9.5.1), 901.5.1.2 (9.5.1.2)

ISO-16890:2016: Air Filters for General Ventilation
801.3.1.3 (8.3.1.3)

ISO 21930:2017: Sustainability in Building and Civil Engineering Works—Core Rules for Environmental Product Declarations of Construction Products and Services
901.4.1.4 (9.4.1.4)

ISO/IEC-17025:2007: General Requirements for the Competence of Testing and Calibration Laboratories
801.4.2 (8.4.2)

NORMATIVE REFERENCES

ISO—continued

- ISO/IEC 17065:2012: Conformity Assessment—Requirements for Bodies Certifying Products, Processes, and Services**
801.4.2 (8.4.2)
- ISO/IEC Guide 59:2019: ISO and IEC Recommended Practices for Standardization by National Bodies**
901.4.1.3.1 (9.4.1.3.1)

LIHI

Low Impact Hydropower Institute
329 Massachusetts Avenue, Suite 6
Lexington, MA 02420

- Version 2.03, December 20, 2018: Low Impact Hydropower Certification Handbook**
701.4.3.1 (7.4.3.1)

NEMA

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, VA 22209

- ANSI/NEMA MG 1—2016 (with 2018 supplements): Motors and Generators**
701.4.3.1 (7.4.3.1)
- NEMA 77—2017: Standard for Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria**
801.3.5.4 (8.3.5.4)
- NEMA DC 3, Annex A—2013: Energy-Efficiency Requirements for Programmable Thermostats**
701.4.7.4 (7.4.7.4)
- NEMA SSL7A—2015: Phase-Cut Dimming for Solid State Lighting—Basic Compatibility**
801.3.5.1 (8.3.5.1)

NFPA

National Fire Protection Association
1 Battery March Park
Quincy, MA 02169-7471

- NFPA 70—2020: National Electrical Code**
501.3.6.3 (5.3.6.3)

NFRC

National Fenestration Rating Council
6305 Ivy Lane, Suite 140
Greenbelt, MD 20770-6323

- ANSI/NFRC 200—2020: Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence**
301.2 (3.2)

NIST

National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899

- PS 1—19: Voluntary Product Standard—Structural Plywood**
801.4.2.4 (8.4.2.4)
- PS 2—18: Voluntary Product Standard—Performance Standard for Wood-Based Structural-Use Panels**
801.4.2.4 (8.4.2.4)
- PS 20—15: American Softwood Lumber Standard**
801.4.2.4 (8.4.2.4)

NSC

Natural Stone Council
P.O. Box 539
Hollis, NH 03049

- NSC 373—2013: Sustainable Production of Natural Dimension Stone**
901.4.1.4 (9.4.1.4)

NSF

NSF International
789 Dixboro Road
Ann Arbor, MI 48105

- NSF/ANSI 44—2018: Residential Cation Exchange Water Softeners**
601.3.5 (6.3.5)
- NSF/ANSI 58—2017: Reverse Osmosis Drinking Water Treatment Systems**
601.3.6 (6.3.6)
- NSF/ANSI 140—2019: Sustainability Assessment for Carpet**
901.4.1.4.3 (9.4.1.4.3)
- NSF/ANSI 332—2015: Sustainability Assessment for Resilient Floor Coverings**
901.4.1.4.3 (9.4.1.4.3)
- NSF/ANSI 336—2018: Sustainability Assessment for Commercial Furnishings Fabric**
901.4.1.4.3 (9.4.1.4.3)
- NSF/ANSI 342—2019: Sustainability Assessment for Wallcovering Products**
901.4.1.4.3 (9.4.1.4.3)
- NSF/ANSI 347—2018: Sustainability Assessment for Single Ply Roofing Membranes**
901.4.1.4.3 (9.4.1.4.3)
- NSF/ANSI 350—2018: On-Site Residential and Commercial Water Reuse Systems**
601.3.7 (6.3.7)

NZS

Standards New Zealand
Ministry of Business, Innovation & Employment
15 Stout Street, Wellington 6011

- AS/NZS 2269.0:2012: Australian/New Zealand Standard: Plywood—Structural**
801.4.2.4 (8.4.2.4)

SCAQMD

South Coast Air Quality Management District
California Air Resources Board
1001 “I” Street; P.O. Box 2815
Sacramento, CA 95812

- SCAQMD Rule 1113r, Amended February 5, 2016: Architectural Coatings**
801.4.2.2 (8.4.2.2)
- SCAQMD Rule 1168, Amended October 6, 2017: Adhesive and Sealant Applications**
801.4.2.1 (8.4.2.1)

TCNA

Tile Council of North America
100 Clemson Research Boulevard
Anderson, SC 29625

- ANSI A138.1—2011: Standard Specifications for Sustainable Ceramic Tiles, Glass Tiles, and Tile Installation Materials**
901.4.1.4.3 (9.4.1.4.3)

UL

Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062

- UL 100—2016: Standard for Sustainability for Gypsum Boards and Panels**
901.4.1.4.3 (9.4.1.4.3)
- UL 102—2012: Standard for Sustainability for Door Leafs**
901.4.1.4.3 (9.4.1.4.3)
- UL 727—2018: Standard for Oil-Fired Central Furnaces**
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NORMATIVE REFERENCES

UL—continued

UL 731—2018: Standard for Oil-Fired Unit Heaters

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UL 2854 (First edition, January 25, 2018): Standard for Sustainability for Renewable Low-Impact Electricity Products

701.4.1.3 (7.4.1.3)

UL 2998 (2019): Environmental Claim Validation Procedure (ECVP) for Zero Ozone Emissions from Air Cleaners

801.3.1.3 (8.3.1.3)

US Congress

United States Congress
Washington, DC 20515

EPAct 2005 HR6 Public Law 109-58: The Energy Policy Act (EPAct) of 2005

701.4.7.3 (7.4.7.3)

EISA 2007 HR6 Public Law 110-140: The Energy Independence and Security Act of 2007

701.4.7 (7.4.7)

USDA

United States Department of Agriculture
BioPreferred Program
1400 Independence Avenue, SW
Washington, DC 20250

7 CFR Part 3201: Guidelines for Designating Biobased Products for Federal Procurement

901.4.1.3 (9.4.1.3)

7 CFR Part 3202: Voluntary Labeling Program for Biobased Products

901.4.1.3 (9.4.1.3)

USDOE

United States Department of Energy
Energy Information Administration
Washington, DC 20585

10 CFR Part 430, App N: Uniform Test Method for Measuring the Energy Consumption of Furnaces

Appendix B

USEPA

United States Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Code of Federal Regulations, Title 40 Part 50 (40 CFR 50), as amended July 1, 2004: National Primary and Secondary Ambient Air Quality Standards

801.3.1.3 (8.3.1.3)

Code of Federal Regulations, Title 40 Part 770 (40 CFR 770), published December 12, 2016: Formaldehyde Standards for Composite Wood Products

801.4.2.4 (8.4.2.4)

EPA 420-F-07-063, November 2007: Green Vehicle Guide: Consider a SmartWay Vehicle Program—Requirements for Certified Passenger Vehicles

501.3.7 (5.3.7)

EPA 625/R-96/0106, January 1999: Compendium of Methods for the Determination of Toxic Organic Pollutants in Ambient Air, Sections TO-1, TO-11, TO-17

1001.7 (10.7)

February 16, 2012: NPDES General Permit for Stormwater Discharges From Construction Activities

1001.4.1 (10.4.1)

USEPA Method TO-17 (1999): Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes

801.4.2 (8.4.2)

Version 1.0, August 14, 2009: WaterSense Specification for Flushing Urinals

601.3.2.1 (6.3.2.1)

USEPA—continued

- Version 1.0, October 1, 2007: WaterSense High-Efficiency Lavatory Faucet Specification**
601.3.2.1 (6.3.2.1)
- Version 1.0, November 3, 2011: WaterSense Specification for Weather-Based Irrigation Controllers**
601.3.1.2 (6.3.1.2)
- Version 1.0, December 23, 2016: ENERGY STAR Program Requirements for Connected Thermostat Products**
701.4.7.4 (7.4.7.4)
- Version 1.1, July 26, 2018: WaterSense Specification for Showerheads**
601.3.2.1 (6.3.2.1)
- Version 1.2, August 1, 2003: ENERGY STAR Program Requirements for Commercial Steam Cookers**
701.4.7 (7.4.7)
- Version 1.2, January 1, 2011: ENERGY STAR Program Requirements for Commercial Griddles**
701.4.7 (7.4.7)
- Version 1.2, June 2, 2014: WaterSense Tank-Type Toilet Specification**
601.3.2.1 (6.3.2.1)
- Version 2.0, February 1, 2013: ENERGY STAR Program Requirements for Commercial Dishwashers**
601.3.2.5 (6.3.2.5), 701.4.7 (7.4.7)
- Version 2.0, February 2, 2014: ENERGY STAR Program Requirements for Water Coolers**
701.4.7 (7.4.7)
- Version 2.0, January 1, 2019: ENERGY STAR Program Requirements for Uninterruptible Power Supplies**
701.4.7 (7.4.7)
- Version 2.0, July 7, 2020: ENERGY STAR Program Requirements for Room Air Cleaners**
701.4.7 (7.4.7)
- Version 2.0, October 1, 2011: ENERGY STAR Program Requirements for Hot Food Holding Cabinets**
701.4.7 (7.4.7)
- Version 2.1 June 20, 2017: ENERGY STAR Program Requirements for Lamps (Light Bulbs)**
701.4.7 (7.4.7)
- Version 2.2, August 15, 2019: ENERGY STAR Program Requirements for Luminaires**
701.4.7.3 (7.4.7.3)
- Version 2.2, October 7, 2015: ENERGY STAR Program Requirements for Commercial Ovens**
701.4.7 (7.4.7)
- Version 3.0, January 2, 2018: ENERGY STAR Program Requirements for Commercial Ice Makers**
601.3.2.5 (6.3.2.5), 701.4.7 (7.4.7)
- Version 3.0, May 1, 2013: ENERGY STAR Program Requirements for Audio and Video**
701.4.7 (7.4.7)
- Version 3.0, October 1, 2014: ENERGY STAR Program Requirements for Boilers**
701.4.7 (7.4.7)
- Version 3.0, October 1, 2014: ENERGY STAR Program Requirements for Telephony**
701.4.7 (7.4.7)
- Version 3.0, October 1, 2016: ENERGY STAR Program Requirements for Commercial Fryers**
701.4.7 (7.4.7)
- Version 3.0, October 11, 2019: ENERGY STAR Program Requirements for Imaging Equipment**
701.4.7 (7.4.7)
- Version 3.2, April 16, 2015: ENERGY STAR Program Requirements for Geothermal Heat Pumps**
701.4.7 (7.4.7)
- Version 3.2, April 16, 2015: ENERGY STAR Program Requirements for Residential Water Heaters**
701.4.7 (7.4.7)
- Version 4.0, April 29, 2020: ENERGY STAR Program Requirements for Refrigerated Beverage Vending Machines**
701.4.7 (7.4.7)
- Version 4.0, June 15, 2018: ENERGY STAR Program Requirements for Residential Ceiling Fans**
701.4.7 (7.4.7)
- Version 4.0, March 27, 2017: ENERGY STAR Program Requirements for Commercial Refrigerators and Freezers**
701.4.7 (7.4.7)

NORMATIVE REFERENCES

USEPA—continued

- Version 4.1, February 1, 2013: ENERGY STAR Program Requirements for Furnaces**
701.4.7 (7.4.7)
- Version 4.1, February 21, 2018: ENERGY STAR Specifications for Residential Ventilating Fans Eligibility Criteria**
701.4.3.6.3 (7.4.3.6.3)
- Version 4.1, October 1, 2015: ENERGY STAR Program Requirements for Residential Ventilating Fans**
701.4.7 (7.4.7)
- Version 4.1, October 26, 2015: ENERGY STAR Program Requirements and Criteria for Room Air Conditioners**
701.4.7 (7.4.7)
- Version 5.0, October 31, 2019: ENERGY STAR Program Requirements for Dehumidifiers**
701.4.7 (7.4.7)
- Version 5.0, September 15, 2014: ENERGY STAR Program Requirements for Refrigerators and Freezers**
701.4.7 (7.4.7)
- Version 5.0, September, 15, 2015: ENERGY STAR Program Requirements for ASHPs and Central Air Conditioners**
701.4.7 (7.4.7)
- Version 5.1, January 1, 2018: ENERGY STAR Program Requirements for Set-Top Boxes**
701.4.7 (7.4.7)
- Version 6.0, January 1, 2016: ENERGY STAR Program Requirements Product Specification for Residential Dishwashers**
601.3.2.2 (6.3.2.2), 701.4.7 (7.4.7)
- Version 7.1, November 16, 2018: ENERGY STAR Program Requirements for Computers**
701.4.7 (7.4.7)
- Version 8.0, February 5, 2018: ENERGY STAR Program Requirements for Clothes Washers**
601.3.2.2 (6.3.2.2), 701.4.7 (7.4.7)
- Version 8.0, January 28, 2020: ENERGY STAR Program Requirements for Displays**
701.4.7 (7.4.7)
- Version 8.0, March 1, 2019: ENERGY STAR Program Requirements for Televisions**
701.4.7 (7.4.7)

WTO

World Trade Organization
Centre William Rappard
Rue de Lausanne 154
CH-1211 Geneva 21, Switzerland

- WTO TBT—1994: WTO Technical Barriers to Trade (TBT) Agreement Annex 3 Code of Good Practice for the Preparation, Adoption and Application of Standards**
901.4.1.3.1 (9.4.1.3.1)

INFORMATIVE APPENDIX G

INFORMATIVE REFERENCES

(This appendix is not part of this code. It is merely informative and does not contain requirements necessary for conformance to the code. It has not been processed according to the ANSI requirements for a code 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.)

This appendix contains informative references for the convenience of users of this code and to acknowledge source documents when appropriate. Section numbers indicate where the reference occurs in this document.

AIA

American Institute of Architects
1735 New York Avenue NW
Washington, DC 20006

AIA National/AIA California Council: Integrated Project Delivery: A Guide, v. 1—2007
Appendix F

AISC

American Institute of Steel Construction
130 East Randolph, Suite 2000
Chicago, Illinois 60601

Brochure: Steel Takes LEED® with Recycled Content
901.4.1.1 (9.4.1.1)

ASHRAE

ASHRAE
180 Technology Parkway NW
Peachtree Corners, GA 30092

ASHRAE Guideline 0—2013: The Commissioning Process
1001.3.2 (10.3.2)

ASHRAE Guideline 1.1—2007 : HVAC&R Technical Requirements for the Commissioning Process
1001.3.2 (10.3.2)

ASHRAE Guideline 4—2008 (RA 2013): Preparation of Operating and Maintenance Documentation for Building Systems
1001.3.2 (10.3.2)

ASHRAE Handbook, 2021: Fundamentals
Appendix C

ASHRAE Handbook, 2020: HVAC Applications
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APBP

Association of Pedestrian and Bicycle Professionals
PO Box 93
Cedarburg, WI 53012

Bicycle Parking Guidelines, 2nd Edition, 2010
501.3.7.2 (5.3.7.2)

ASTM

ASTM International
100 Barr Harbor Dr.
West Conshohocken, PA 19428-2959

ASTM C755—20: Standard Practice for Selection of Water Vapor Retarders for Thermal Insulation, Appendix X1 Problem Analysis
801.3.6 (8.3.6)

ASTM E1331—15 (2019): Standard Test Method for Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry
801.4.1 (8.4.1)

ASTM E1477—98a (2017)e1: Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers
801.4.1 (8.4.1)

ASTM E2813—12e1: Standard Practice for Building Enclosure Commissioning
1001.3.1.3.5 (10.3.1.3.5)

BSI

British Standards Institute
389 Chiswick High Road
London, W4 4AL, United Kingdom

BS 8493:2008+A1:2010: Light reflectance value (LRV) of a surface. Method of test.
801.4.1 (8.4.1)

BUSMethodology

BUS Methodology

Occupant Satisfaction Evaluation Survey: <https://busmethodology.org.uk/>
1001.3.2.1.5 (10.3.2.1.5)

CBE

Center for the Built Environment
University of California, 390 Wurster Hall #1839
Berkeley, CA 94720-1839

<https://cbe.berkeley.edu/research/occupant-survey-and-building-benchmarking/>: Indoor Environmental Quality (IEQ) Survey™
1001.9.7 (10.9.7)

CRI

Carpet and Rug Institute
730 College Drive
Dalton, Georgia 30720

Green Label Plus: (<https://carpet-rug.org/testing/green-label-plus>)
801.4.2.3 (8.4.2.3)

CSA

Canadian Standards Association
5060 Spectrum Way, Suite 100
Mississauga, Ontario, L4W 5N6, Canada

CSA S478—95 (R2007): Guideline on Durability for Buildings
901.4.1 (9.4.1), 1001.10 (10.10)

DGS

State of California, Department of General Services, Procurement Division
Ziggurat Building
707 Third Street
West Sacramento, CA 95605-2811

RFP DGS-56275: Section 5.7, “Indoor Air Quality Requirements for Open Office Panel Systems”
Appendix D

DHHS ATSDR

United States Department of Health and Human Services
 Agency for Toxic Substances and Disease Registry
 4770 Buford Hwy NE
 Atlanta, GA 30341

www.atsdr.cdc.gov/mrls: Minimal Risk Levels (MRLs)
 Table 1001.7.2 (10.7.2)

EPA

United States Environmental Protection Agency
 1200 Pennsylvania Ave NW
 Washington, DC 20460

Portfolio Manager
 1001.9.3.2 (10.9.3.2)

FSC

Forest Stewardship Council
 1155 30th Street NW, Suite 300
 Washington, DC 20007

901.4.1.3.1 (9.4.1.3.1)

GSA

United States General Services Administration
 1800 F Street, NW
 Washington, DC 20405

US GSA—2005: The Building Commissioning Guide
 1001.3.1 (10.3.1)

ICC

International Code Council
 500 New Jersey Ave NW, 6th Floor
 Washington, DC 20001

IBC—2021: International Building Code®
 106.1, 801.3.1.8 (8.3.1.8), I201.1 (I2.1)

IECC—2021: International Energy Conservation Code®
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IFC—2021: International Fire Code®
 601.3.2.6 (6.3.2.6)

IPC—2021: International Plumbing Code®
 601.3.1.2.1 (6.3.1.2.1)

ICC/ASHRAE 700—2015: National Green Building Standard
 J101.1.1, J101.1.2, J101.1.3, J101.1.4, J101.1.5

IES

Illuminating Engineering Society
 120 Wall Street, Floor 17
 New York, NY 10005-4001

IES MLO—11: Model Lighting Ordinance (MLO)
 501.3.6 (5.3.6)

IES HB—11: The Lighting Handbook: Reference and Application
 701.4.6 (7.4.6), 801.3.5 (8.3.5)

ITE

Institute of Transportation Engineers
 1099 14th Street NW, Suite 300 West
 Washington, DC 20005-3438

4th Edition, 2004: Parking Generation
 1001.11 (10.11)

MTS

Market Transformation to Sustainability
1511 Wisconsin Avenue, N.W.
Washington, D.C. 20007

MTS 2012:1: Integrative Process (IP)—ANSI Consensus National Standard Guide—Design and Construction of Sustainable Buildings and Communities

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NIBS

National Institute of Building Sciences
1090 Vermont Avenue, NW, Suite 700
Washington, DC 20005-4905

NIBS Guideline 3—2012: Building Enclosure Commissioning Process BECx

1001.6 (10.6)

NIST

National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899

BEES Online 2.0: Building Environmental and Economic Sustainability (BEES)

901.4.1.4.4 (9.4.1.4.4)

NREL

National Renewable Energy Laboratory
1617 Cole Blvd.
Golden, CO 80401-3393

NREL/TP-550-38617: Source Energy and Emissions Factors for Energy Use in Buildings

Table 701.5.2 (7.5.2)

RFCI

Resilient Floor Covering Institute
115 Broad Street, Suite 201
LaGrange, GA 30240

801.4.2.3 (8.4.2.3)

SFI

Sustainable Forestry Initiative, Inc.
1600 Wilson Blvd, Suite 810
Arlington, VA 22209

901.4.1.3.1 (9.4.1.3.1)

SMACNA

Sheet Metal and Air Conditioning Contractors National Association
4201 Lafayette Center Drive
Chantilly, VA 20151

ANSI/SMACNA 008—2008: IAQ Guidelines for Occupied Buildings under Construction, Second Edition

1001.4.2 (10.4.2)

SRI

Steel Recycling Institute
680 Andersen Drive
Pittsburgh, PA 15220

Brochure: Steel Takes LEED® with Recycled Content

901.4.1.1 (9.4.1.1)

UL

Underwriters Laboratory
2211 Newmarket Parkway, #110
Marietta, GA 30067

UL2762—2011: EcoLogo Sustainability for Adhesives
801.4.2.1.2 (8.4.2.1.2)

UL2818—2013: Greenguard Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishing
801.4.2 (8.4.2), 801.5.2 (8.5.2)

UL2821—2013: Greenguard Certification Program Method for Measuring and Evaluating Chemical Emissions from Building Materials, Finishes and Furnishings
801.4.2 (8.4.2), 801.5.2 (8.5.2)