

## CHAPTER 56

# CODES AND STANDARDS

**T**HE Codes and Standards listed here represent practices, methods, or standards published by the organizations indicated. They are useful guides for the practicing engineer in determining test methods, ratings, performance requirements, and limits of HVAC&R equipment. Copies of the standards can be obtained from most of the organizations listed in the Publisher column, from Global Engineering Documents at [global.ihs.com](http://global.ihs.com), or from CSSINFO at [cssinfo.com](http://cssinfo.com). Addresses of the organizations are given at the end of the chapter. A comprehensive database with over 250,000 industry, government, and international standards is at [www.nssn.org](http://www.nssn.org).

### Selected Codes and Standards Published by Various Societies and Associations

Subject	Title	Publisher	Reference
<i>Air Conditioners</i>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Residential Equipment Selection, 2nd ed.	ACCA	ACCA Manual S
	Methods of Testing for Rating Ducted Air Terminal Units	ASHRAE	ANSI/ASHRAE 130-1996
	Ducted Air-Conditioners and Air-to-Air Heat Pumps—Testing and Rating for Performance	ISO	ISO 13253:1995
	Non-Ducted Air Conditioners and Heat Pumps—Testing and Rating for Performance	ISO	ISO 5151:1994
	Guidelines for Roof Mounted Outdoor Air-Conditioner Installations	SMACNA	SMACNA 1998
Central	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-M95
	Performance Standard for Split-System Central Air-Conditioners and Heat Pumps	CSA	CAN/CSA-C273.3-M91 (R2001)
	Performance Standard for Single Package Central Air-Conditioners and Heat Pumps	CSA	CAN/CSA-C656-M92 (R1998)
	Performance Standard for Rating Large Air Conditioners and Heat Pumps	CSA	CAN/CSA-C746-98
Gas Fired	Heating and Cooling Equipment (1995)	UL/CSA	ANSI/UL 1995-1998/C22.2 236-95
	Gas-Fired, Heat Activated Air Conditioning and Heat Pump Appliances	CSA	ANSI Z21.40.1-1996/CGA 2.91-M96
	Gas-Fired Work Activated Air Conditioning and Heat Pump Appliances (Internal Combustion)	CSA	ANSI Z21.40.2-1996/CGA 2.92-M96
	Performance Testing and Rating of Gas-Fired Air Conditioning and Heat Pump Appliances	CSA	ANSI Z21.40.4-1996/CGA 2.94-M96
Packaged Terminal	Packaged Terminal Air-Conditioners and Heat Pumps	ARI/CSA	ANSI/ARI 310/380-93/CSA C744-93 (R2000)
Room	Room Air Conditioners	AHAM	ANSI/AHAM RA C-1-1992
	Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners	ASHRAE	ANSI/ASHRAE 16-1983 (RA99)
	Method of Testing for Rating Room Air Conditioner and Packaged Terminal Air Conditioner Heating Capacity	ASHRAE	ANSI/ASHRAE 58-1986 (RA99)
	Method of Testing for Rating Fan-Coil Air Conditioners	ASHRAE	ANSI/ASHRAE 79-2002 (R91)
Unitary	Performance Standard for Room Air Conditioners	CSA	CAN/CSA-C368.1-M90 (R2001)
	Room Air Conditioners	CSA	C22.2 No. 117-1970 (R1998)
	Room Air Conditioners (1993)	UL	ANSI/UL 484
	Application of Sound Rating Levels - Outdoor Unitary Equipment	ARI	ARI 275-97
	Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment	ARI	ARI 340/360-2000
	Sound Rating of Outdoor Unitary Equipment	ARI	ARI 270-95
	Unitary Air-Conditioning and Air-Source Heat Pump Equipment	ARI	ANSI/ARI 210/240-94
	Method of Testing for Rating Computer and Data Processing Room Unitary Air Conditioners	ASHRAE	ANSI/ASHRAE 127-2001
	Method of Rating Unitary Spot Air Conditioners	ASHRAE	ASHRAE 128-2001
	Methods of Testing for Rating Heat-Operated Unitary Air-Conditioning and Heat Pump Equipment	ASHRAE	ANSI/ASHRAE 40-2002
	Methods of Testing for Rating Unitary Air-Conditioning and Heat Pump Equipment	ASHRAE	ANSI/ASHRAE 37-1988
	Methods of Testing for Rating Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps	ASHRAE	ANSI/ASHRAE 116-1995
Ships	Specification for Mechanically Refrigerated Shipboard Air Conditioner	ASTM	ASTM F1433-97
<i>Air Conditioning</i>	Comfort, Air Quality and Efficiency by Design	ACCA	ACCA Manual RS
	Commercial Applications Systems and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Heat Pump Systems: Principles and Applications, 2nd ed.	ACCA	ACCA Manual H
	Commercial Load Calculation, 4th ed.	ACCA	ACCA Manual N
	Residential Load Calculation, 8th ed.	ACCA	ACCA Manual J
	Environmental Systems Technology, 2nd ed.	NEBB	NEBB
	Installation of Air Conditioning and Ventilating Systems	NFPA	NFPA 90A-99
	Standard of Purity for Use in Mobile Air-Conditioning Systems	SAE	SAE J1991-1999

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
Aircraft	HVAC Systems Applications, 1st ed.	SMACNA	SMACNA 1987
	HVAC Systems—Duct Design, 3rd ed.	SMACNA	SMACNA 1990
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-95 (R1999)
	Air Conditioning of Aircraft Cargo	SAE	SAE AIR806B-1997
	Air Conditioning Systems for Subsonic Airplanes	SAE	SAE ARP85E-1991
	Aircraft Fuel Weight Penalty Due to Air Conditioning	SAE	SAE AIR1168/8-1989
	Aircraft Ground Air Conditioning Service Connection	SAE	SAE AS4262A-1997
	Air Cycle Air Conditioning Systems for Military Air Vehicles	SAE	SAE AS4073-2000
	Control of Excess Humidity in Avionics Cooling	SAE	SAE ARP987A-1997
	Engine Bleed Air Systems for Aircraft	SAE	SAE ARP1796-1987
Automotive	Guide for Qualification Testing of Aircraft Air Valves	SAE	SAE ARP986C-1997
	Environmental Control Systems Terminology	SAE	SAE ARP147E-2001
	Testing of Airplane Installed Environmental Control Systems (ECS)	SAE	SAE ARP217D-1999
	Refrigerant 12 Automotive Air-Conditioning Hose	SAE	SAE J51-1998
	R134a Refrigerant Automotive Air-Conditioning Hose	SAE	SAE J2064-1999
	Design Guidelines for Air Conditioning Systems for Off-Road Operator Enclosures	SAE	SAE J169-1985
	Recovery and Recycle Equipment for Mobile Automotive Air-Conditioning Systems	SAE	SAE J1990-1999
	Guide to the Application and Use of Passenger Car Air-Conditioning Compressor Face Seals	SAE	SAE J1954-2000
	Information Relating to Duty Cycles and Average Power Requirements of Truck and Bus Engine Accessories	SAE	SAE J1343-2000
	Rating Air Conditioner Evaporator Air Delivery and Cooling Capacities	SAE	SAE J1487-1985
Ships	Service Hose for Automotive Air Conditioning	SAE	SAE J2196-1997
	Test Method for Measuring Power Consumption of Air Conditioning and Brake Compressors for Trucks and Buses	SAE	SAE J1340-1996
	Mechanical Refrigeration and Air-Conditioning Installations Aboard Ship	ASHRAE	ANSI/ASHRAE 26-1996
	Practice for Mechanical Symbols, Shipboard Heating, Ventilation, and Air Conditioning (HVAC)	ASTM	ASTM F856-97
<i>Air Curtains</i>	Air Curtains for Entrancesways in Food and Food Service Establishments	NSF	NSF/ANSI 37-2002
	Test Methods for Air Curtain Units	AMCA	AMCA 220-91
	Air Terminals	ARI	ARI 880-98
	Method of Testing for Rating the Performance of Air Outlets and Inlets	ASHRAE	ANSI/ASHRAE 70-1991
	Standard Methods for Laboratory Airflow Measurement	ASHRAE	ANSI/ASHRAE 41.2-1987 (RA92)
<i>Air Diffusion</i>	Rating the Performance of Residential Mechanical Ventilating Equipment	CSA	CAN/CSA-C260-M90 (R1997)
	Air Distribution Basics for Residential and Small Commercial Buildings, 1st ed.	ACCA	ACCA Manual T
	Test Code for Grilles, Registers and Diffusers	ADC	ADC 1062:GRD-84
	Method of Testing for Rating the Performance of Air Outlets and Inlets	ASHRAE	ANSI/ASHRAE 70-1991
	Method of Testing for Room Air Diffusion	ASHRAE	ANSI/ASHRAE 113-1990
<i>Air Filters</i>	Comfort, Air Quality, and Efficiency by Design	ACCA	ACCA Manual RS
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001), Selection of Air Filtration Equipment	ACGIH	ACGIH
	Method for Measuring Performance of Portable Household Electrical Cord Connected Room Air Cleaners	AHAM	ANSI/AHAM AC-1-1988
	Commercial and Industrial Air Filter Equipment	ARI	ARI 850-93
	Residential Air Filter Equipment	ARI	ARI 680-93
	Agricultural Cabs—Environmental Air Quality; Part 1: Definitions, Test Methods, and Safety Practices	ASAE	ANSI/ASAE S525-1.1-1998
	Part 2: Pesticide Vapor Filters-Procedure and Performance Criteria	ASAE	ANSI/ASAE S525-2-1998
	Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter	ASHRAE	ANSI/ASHRAE 52.1-1992
	Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size	ASHRAE	ANSI/ASHRAE 52.2-1999
	Test Method for Air Cleaning Performance of a High-Efficiency Particulate Air Filter System	ASTM	ASTM F1471-93 (2001)
	Specification for Filter Units, Air Conditioning: Viscous-Impingement and Dry Types, Replaceable	ASTM	ASTM F1040-87 (2001)
	Specification for Filters Used in Air or Nitrogen Systems	ASTM	ASTM F1791-00
	Method for Sodium Flame Test for Air Filters	BSI	BS 3928:1969
	Particulate Air Filters for General Ventilation—Requirements, Testing, Marking	BSI	BS EN 779:1993
	Electrostatic Air Cleaners (2000)	UL	ANSI/UL 867
	High-Efficiency, Particulate, Air Filter Units (1996)	UL	UL 586
	Air Filter Units (1994)	UL	ANSI/UL 900
	Exhaust Hoods for Commercial Cooking Equipment (1995)	UL	UL 710

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
	Grease Filters for Exhaust Ducts (2000)	UL	UL 1046
<i>Air-Handling Units</i>	Commercial Applications Systems and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Central Station Air-Handling Units	ARI	ANSI/ARI 430-99
	Non-Recirculating Direct Gas-Fired Industrial Air Heaters	CSA	ANSI Z83.4-1999/CSA-3.7-M99
<i>Air Leakage</i>	Air Leakage Performance for Detached Single-Family Residential Buildings	ASHRAE	ANSI/ASHRAE 119-1988 (RA94)
	Method of Determining Air Change Rates in Detached Dwellings	ASHRAE	ANSI/ASHRAE 136-1993 (RA01)
	Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Retarder Systems	ASTM	ASTM E1186-98
	Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution	ASTM	ASTM E741-00
	Test Method for Determining Air Leakage Rate by Fan Pressurization	ASTM	ASTM E779-99
	Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door	ASTM	ASTM E1827-96 (2002)
	Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure and Temperature Differences Across the Specimen	ASTM	ASTM E1424-91 (2000)
	Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen	ASTM	ASTM E283-91 (1999)
	Test Method for Field Measurement of Air Leakage Through Installed Exterior Window and Doors	ASTM	ASTM E783-93 (2002)
<i>Boilers</i>	Packaged Boiler Engineering Manual	ABMA	ABMA
	A Guide to Clean and Efficient Operation of Coal Stoker-Fired Boilers	ABMA	ABMA
	Boiler Water Limits and Achievable Steam Purity for Watertube Boilers	ABMA	ABMA
	Boiler Water Requirements and Associated Steam Purity—Commercial Boilers	ABMA	ABMA
	Fluidized Bed Combustion Guidelines	ABMA	ABMA
	Guidelines for Industrial Boiler Performance Improvement	ABMA	ABMA
	Operation and Maintenance Safety Manual	ABMA	ABMA
	Recommended Design Guidelines for Stoker Firing of Bituminous Coals	ABMA	ABMA
	(Selected) Codes and Standards of the Boiler Industry	ABMA	ABMA
	Combustion Control Guidelines	ABMA	ABMA
	Commercial Applications Systems and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Methods of Testing for Annual Fuel Utilization Efficiency of Residential Central Furnaces and Boilers	ASHRAE	ANSI/ASHRAE 103-1993
	Boiler and Pressure Vessel Code (2001)	ASME	ASME
	Boiler, Pressure Vessel, and Pressure Piping Code	CSA	CSA B51-97
	Testing Standard for Commercial Boilers	HYDI	HYDI BTS-2000
	Testing and Rating Standard for Heating Boilers (1989)	HYDI	IBR
	Prevention of Furnace Explosions/Implosions in Multiple Burner Boilers	NFPA	ANSI/NFPA 8502-99
	Heating, Water Supply, and Power Boilers—Electric (1995)	UL	ANSI/UL 834
	Gas or Oil	CSA	ANSI Z21.13/CSA 4.9-2000
	Gas-Fired Low-Pressure Steam and Hot Water Boilers	CSA	ANSI Z83.3-1971 (R1995)
	Gas Utilization Equipment in Large Boilers	CSA	ANSI Z83.3-1971 (R1995)
	Control and Safety Devices for Automatically Fired Boilers	ASME	ASME CSD-1-2002
	Industrial and Commercial Gas-Fired Package Boilers	CSA	CAN1-3.1-77 (R2001)
	Oil-Fired Steam and Hot-Water Boilers for Residential Use	CSA	B140.7.1-1976 (R2001)
	Oil-Fired Steam and Hot-Water Boilers for Commercial and Industrial Use	CSA	B140.7.2-1967 (R2001)
	Prevention of Furnace Explosions/Implosions in Multiple Burner Boilers	NFPA	ANSI/NFPA 8502-99
	Single Burner Boiler Operations	NFPA	ANSI/NFPA 8501-97
	Commercial-Industrial Gas Heating Equipment (1999)	UL	UL 795
	Oil-Fired Boiler Assemblies (1995)	UL	UL 726
	Standards and Typical Specifications for Tray Type Deaerators, 7th ed. (2003)	HEI	HEI
Terminology	Handbook of Power Utility and Boiler Terms and Phrases	ABMA	ABMA
<i>Building Codes</i>	ASTM Standards Used in Building Codes	ASTM	ASTM
	BOCA National Building Code, 14th ed. (1999)	BOCA	BOCA
	International Property Maintenance Code (2003)	ICC	IPMC
	International Building Code (2003)	ICC	IBC
	International Performance Code (2003)	ICC	IPC
	National Building Code of Canada (1995)	NRCC	NRCC
	International Residential Code (2003)	ICC	IRC
	International Energy Conservation Code (2003)	ICC	IECC
	International Existing Building Code (2003)	ICC	IEBC
	Uniform Building Code, three volumes (1997)	ICBO	ICBO
	Directory of Building Codes and Regulations, State and City Volumes (annual)	NCSBCS	NCSBCS (electronic only)
	Building Construction and Safety Code	NFPA	ANSI/NFPA 5000-2002

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
Mechanical	Standard Building Code (1999)	SBCCI	SBCCI
	Safety Code for Elevators and Escalators	ASME	ANSI/ASME A17.1-1996
	Natural Gas Installation Code	CSA	CAN/CGA-B149.1-M95
	Propane Installation Code	CSA	CAN/CGA-B149.2-M91
	Uniform Mechanical Code (1997)	ICBO/IAPMO	ICBO/IAPMO
	Standard Gas Code (1999)	SBCCI	SBCCI
	International Mechanical Code (2003)	ICC	IMC
	International Fuel Gas Code (2003)	ICC	IFGC
	Standard Mechanical Code (1997)	SBCCI	SBCCI
<b>Burners</b>	Guidelines for Burner Adjustments of Commercial Oil-Fired Boilers	ABMA	ABMA
	Domestic Gas Conversion Burners	CSA	ANSI Z21.17-1998/CSA 2.7-M98
	Installation of Domestic Gas Conversion Burners	CSA	ANSI Z21.8-1994 (R2000)
	General Requirements for Oil Burning Equipment	CSA	CAN/CSA-B140.0-M87 (R2001)
	Installation Code for Oil Burning Equipment	CSA	CAN/CSA-B139-00
	Oil Burners: Atomizing-Type	CSA	CAN/CSA-B140.2.1-M90 (R2000)
	Pressure Atomizing Oil Burner Nozzles	CSA	B140.2.2-1971 (R2001)
	Replacement Burners and Replacement Combustion Heads for Residential Oil Burners	CSA	B140.2.3-M1981 (R1998)
	Vapourizing-Type Oil Burners	CSA	B140.1-1966 (R2001)
	Commercial/Industrial Gas and/or Oil-Burning Assemblies with Emission Reduction Equipment (1999)	UL	ANSI/UL 2096
	Commercial-Industrial Gas Heating Equipment (1999)	UL	UL 795
	Oil Burners (1994)	UL	ANSI/UL 296
	Waste Oil-Burning Air-Heating Appliances (1995)	UL	ANSI/UL 296A
<b>Chillers</b>	Method of Testing Liquid-Chilling Packages	ASHRAE	ANSI/ASHRAE 30-1995
	Commercial Applications Systems and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Absorption Water-Chilling and Water Heating Packages	ARI	ARI 560-2000
	Centrifugal and Rotary Screw Water-Chilling Packages	ARI	ARI 550-98
	Positive Displacement Compressor Water-Chilling Packages	ARI	ARI 590-98
	Performance Standard for Rating Packaged Water Chillers	CSA	C743-93 (R2000)
<b>Chimneys</b>	Specification for Industrial Chimney Lining Brick	ASTM	ASTM C980-88 (2001)
	Guide for Design and Construction of Brick Liners for Industrial Chimneys	ASTM	ASTM C1298-95 (2001)
	Guide for Design, Fabrication, and Erection of Fiberglass Reinforced Plastic Chimney Liners with Coal-Fired Units	ASTM	ASTM D5364-93 (2002)
	Specification for Clay Flue Liners	ASTM	ASTM C315-02
	Practice for Installing Clay Flue Lining	ASTM	ASTM C1283-02
	Design and Construction of Masonry Chimneys and Fireplaces	CSA	CAN/CSA-A405-M87 (R2000)
	Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	NFPA	ANSI/NFPA 211-96
	Medium Heat Appliance Factory-Built Chimneys (2001)	UL	ANSI/UL 959
	Factory-Built Chimneys for Residential Type and Building Heating Appliance (2001)	UL	ANSI/UL 103
<b>Cleanrooms</b>	Procedural Standards for Certified Testing of Cleanrooms, 2nd ed. (1996)	NEBB	NEBB
	Standard Practice for Continuous Sizing and Counting of Airborne Particles in Dust-Controlled Areas and Clean Rooms Using Instruments Capable of Detecting Single Sub-Micrometre and Larger Particles	ASTM	ASTM F50-92 (2000) e1
	Test Method for Sizing and Counting Airborne Particulate Contamination in Clean Rooms and Other Dust-Controlled Areas Designed for Electronic and Similar Applications	ASTM	ASTM F25-68 (1999)
	Practice for Design and Construction of Aerospace Cleanrooms and Contamination Controlled Areas	ASTM	ASTM E2217-02
	Practice for Cleaning and Maintaining Controlled Areas and Clean Rooms	ASTM	ASTM E2042-99
<b>Coils</b>	Forced-Circulation Air-Cooling and Air-Heating Coils	ARI	ARI 410-2001
	Methods of Testing Forced Circulation Air Cooling and Air Heating Coils	ASHRAE	ASHRAE 33-2000
<b>Comfort Conditions</b>	Threshold Limit Values for Physical Agents (updated annually)	ACGIH	ACGIH
	Thermal Environmental Conditions for Human Occupancy	ASHRAE	ANSI/ASHRAE 55-1992
	Ergonomics—Determination of Metabolic Heat Production	ISO	ISO 8996:1990
	Comfort, Air Quality and Efficiency by Design	ACCA	ACCA Manual RS
	Ergonomics of the Thermal Environment—Estimation of the Thermal Insulation and Evaporative Resistance of a Clothing Ensemble	ISO	ISO 9920:1995
	Hot Environments—Estimation of the Heat Stress on Working Man, Based on the WBGT Index (Wet Bulb Globe Temperature)	ISO	ISO 7243:1989
	Moderate Thermal Environments—Determination of the PMV and PPD Indices and Specification of the Conditions for Thermal Comfort	ISO	ISO 7730:1994

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
<b>Compressors</b>	Test Code on Compressors and Exhausters	ASME	ASME PTC 10-1997
	Displacement Compressors, Vacuum Pumps and Blowers	ASME	ASME PTC 9-1970 (RA97)
	Safety Standard for Air Compressor Systems	ASME	ASME B19.1-1995
	Safety Standard for Compressors for Process Industries	ASME	ASME B19.3-1991
	Compressed Air and Gas Handbook, 6th ed. (2003)	CAGI	CAGI
	Refrigerant Ammonia Compressor Units	ARI	ANSI/ARI 510-93
	Method for Presentation of Compressor Performance Data	ARI	ARI 540-99
	Positive Displacement Condensing Units	ARI	ARI 520-97
	Methods of Testing for Rating Positive Displacement Refrigerant Compressors and Condensing Units	ASHRAE	ANSI/ASHRAE 23-1993
	Safety Standard for Refrigeration Systems	ASHRAE	ANSI/ASHRAE 15-2001
	Testing of Refrigerant Compressors	ISO	ISO 917:1989
	Refrigerant Compressors—Presentation of Performance Data	ISO	ISO 9309:1989
	Hermetic Refrigerant Motor-Compressors (1996)	UL/CSA	UL 984/C22.2 No.140.2-96 (R2001)
<b>Computers</b>	Method of Rating Computer and Data Processing Room Unitary Air Conditioners	ASHRAE	ANSI/ASHRAE 127-2001
	Protection of Electronic Computer/Data Processing Equipment	NFPA	NFPA 75-99
<b>Condensers</b>	Commercial Applications Systems and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Remote Mechanical-Draft Air-Cooled Refrigerant Condensers	ARI	ARI 460-2000
	Remote Mechanical Draft Evaporative Refrigerant Condensers	ARI	ARI 490-98
	Water-Cooled Refrigerant Condensers, Remote Type	ARI	ARI 450-99
	Method of Testing for Rating Remote Mechanical-Draft Air-Cooled Refrigerant Condensers	ASHRAE	ANSI/ASHRAE 20-1997
	Methods of Testing Remote Mechanical-Draft Evaporative Refrigerant Condensers	ASHRAE	ANSI/ASHRAE 64-1995
	Methods of Testing for Rating Water-Cooled Refrigerant Condensers	ASHRAE	ANSI/ASHRAE 22-1992
	Safety Code for Refrigeration Systems	ASHRAE	ANSI/ASHRAE 15-2001
	Steam Surface Condensers	ASME	ASME PTC 12.2-1998
	Standards for Steam Surface Condensers, 9th ed., addendum 1	HEI	HEI 2002
<b>Condensing Units</b>	Standards for Direct Contact Barometric and Low Level Condensers, 6th ed.	HEI	HEI 1995
	Commercial Applications Systems and Equipment	ACCA	ACCA Manual CS
	Commercial and Industrial Unitary Air-Conditioning Condensing Units	ARI	ARI 365-94
	Methods of Testing for Rating Positive Displacement Refrigerant Compressors and Condensing Units	ASHRAE	ANSI/ASHRAE 23-1993
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-95
<b>Containers</b>	Series I Freight Containers—Classifications, Dimensions, and Ratings	ISO	ISO 668:1995
	Series I Freight Containers—Specifications and Testing; Part 2: Thermal Containers	ISO	ISO 1496-2:1996
	Animal Environment in Cargo Compartments	SAE	SAE AIR1600A-1997
<b>Controls</b>	Temperature Control Systems (2002)	AABC	National Standards, Ch 12
	Energy Management Control Systems Instrumentation	ASHRAE	ANSI/ASHRAE 114-1986
	BACnet—A Data Communication Protocol for Building Automation and Control Networks	ASHRAE	ANSI/ASHRAE 135-2001
	Performance Requirements for Electric Heating Line-Voltage Wall Thermostats	CSA	C273.4-M1978 (R1998)
	Temperature-Indicating and Regulating Equipment	CSA	C22.2 No. 24-93 (R1999)
	Control Centers for Changing Message Type Electric Signals (1996)	UL	UL 1433
	Limit Controls (1994)	UL	ANSI/UL 353
	Primary Safety Controls for Gas- and Oil-Fired Appliances (1994)	UL	ANSI/UL 372
	Solid State Controls for Appliances (1994)	UL	ANSI/UL 244A
	Temperature-Indicating and -Regulating Equipment (1994)	UL	UL 873
	Tests for Safety-Related Controls Employing Solid-State Devices (1995)	UL	UL 991
	Process Control Equipment (2002)	UL	UL 61010C-1
	Automatic Electrical Controls for Household and Similar Use; Part 1: General Requirements (2002)	UL	UL 60730-1A
	Commercial and Industrial Control and Systems: General Requirements	NEMA	NEMA ICS 1-2001
	Industrial Control and Systems, Controllers, Contactors, and Overload Relays Rated Not More than 2000 Volts AC or 750 Volts DC	NEMA	NEMA ICS 2-2000
	Industrial Control and Systems: Instructions for the Handling, Installation, Operation and Maintenance of Motor Control Centers Rated Not More than 600 Volts	NEMA	NEMA ICS 2.3-1996
	Guideline for the Integration of Boilers and Automated Control Systems in Heating Applications	ABMA	ABMA
	Guidelines for Boiler Control Systems	ABMA	ABMA
	Preventive Maintenance of Industrial Control and Systems Equipment	NEMA	NEMA ICS 1.3-1986 (R2001)
	Industrial Control Equipment (1999)	UL	UL 508
<b>Residential</b>	Automatic Gas Ignition Systems and Components	CSA	ANSI Z21.20-2000
	Gas Appliance Pressure Regulators	CSA	ANSI Z21.18-2000/CSA 6.3-2000
	Gas Appliance Thermostats	CSA	ANSI Z21.23-2000

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
	Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves	CSA	ANSI Z21.15-1997/CGA 9.1-M97
	Manually-Operated Piezo-Electric Spark Gas Ignition Systems and Components	CSA	ANSI Z21.77-1995/CGA 6.23 (R1999)
	Hot-Water Immersion Controls	NEMA	NEMA DC 12-1985 (R1997)
	Line-Voltage Integrally Mounted Thermostats for Electric Heaters	NEMA	NEMA DC 13-1979 (R1997)
	Residential Controls—Electrical Wall-Mounted Room Thermostats	NEMA	NEMA DC 3-1989 (R1996)
	Residential Controls—Surface Type Controls for Electric Storage Water Heaters	NEMA	NEMA DC 5-1989 (R1996)
	Residential Controls—Temperature Limit Controls for Electric Baseboard Heaters	NEMA	NEMA DC 10-1983 (R1999)
	Residential Controls—Class 2 Transformers	NEMA	NEMA DC 20-1992 (R1998)
	Safety Guidelines for the Application, Installation, and Maintenance of Solid State Controls	NEMA	NEMA ICS 1.1-1984 (R1998)
	Electrical Quick-Connect Terminals (1995)	UL	ANSI/UL 310
<b>Coolers</b>	Refrigeration Equipment	CSA	CAN/CSA-C22.2 No. 120-M91 (R1999)
	Unit Coolers for Refrigeration	ARI	ARI 420-2000
Air	Methods of Testing Forced Convection and Natural Convection Air Coolers for Refrigeration	ASHRAE	ANSI/ASHRAE 25-2001
Drinking Water	Self-Contained, Mechanically-Refrigerated Drinking-Water Coolers	ARI	ARI 1010-94
	Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration Systems	ASHRAE	ANSI/ASHRAE 18-1987 (RA97)
	Drinking-Water Coolers (1993)	UL	ANSI/UL 399
	Drinking Water System Components—Health Effects	NSF	NSF/ANSI 61-2002
Food and Beverage	Methods of Testing for Rating Bottled and Canned Beverage Vending Machines	ASHRAE	ANSI/ASHRAE 32.1-1997
	Methods of Testing for Rating Pre-Mix and Post-Mix Soft Drink Vending and Dispensing Equipment	ASHRAE	ANSI/ASHRAE 32.2-1997
	Refrigerated Vending Machines (1995)	UL	UL 541
	Manual Food and Beverage Dispensing Equipment	NSF	NSF/ANSI 18-1996a
	Commercial Bulk Milk Dispensing Equipment	NSF	NSF/ANSI 20-2000
	Terminology for Milking Machines, Milk Cooling, and Bulk Milk Handling Equipment	ASAE	ASAE S300.3-2001
Liquid	Refrigerant-Cooled Liquid Coolers, Remote Type	ARI	ARI 480-95
	Methods of Testing for Rating Liquid Coolers	ASHRAE	ANSI/ASHRAE 24-2000
	Liquid Cooling Systems	SAE	SAE AIR1811A-1997
<b>Cooling Towers</b>	Cooling Tower Testing (2002)	AABC	National Standards, Ch 13
	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Bioaerosols: Assessment and Control (1999)	ACGIH	ACGIH
	Atmospheric Water Cooling Equipment	ASME	ASME PTC 23-1986 (RA97)
	Water-Cooling Towers	NFPA	NFPA 214-00
	Acceptance Test Code for Spray Cooling Systems (1985)	CTI	CTI ATC-133 (85)
	Acceptance Test Code for Water Cooling Towers: Mechanical Draft, Natural Draft Fan Assisted Types, Evaluation of Results, and Thermal Testing of Wet/Dry Cooling Towers	CTI	CTI ATC-105 (00)
	Certification Standard for Commercial Water Cooling Towers (1996)	CTI	CTI STD-201 (96)
	Code for Measurement of Sound from Water Cooling Towers (1986)	CTI	CTI ATC-128 (86)
	Fiberglass-Reinforced Plastic Panels for Application on Industrial Water-Cooling Towers (1986)	CTI	CTI STD-131 (86)
	Nomenclature for Industrial Water-Cooling Towers (1997)	CTI	CTI NCL-109 (97)
	Recommended Practice for Airflow Testing of Cooling Towers (1994)	CTI	CTI PFM-143 (94)
<b>Crop Drying</b>	Construction and Rating of Equipment for Drying Farm Crops	ASAE	ASAE S248.3-2002
	Cubes, Pellets, and Crumbles—Definitions and Methods for Determining Density, Durability, and Moisture Content	ASAE	ASAE 269.4-2001
	Density, Specific Gravity, and Mass-Moisture Relationships of Grain for Storage	ASAE	ANSI/ASAE D241.4-1998
	Dielectric Properties of Grain and Seed	ASAE	ASAE D293.2-1999
	Energy Efficiency Test Procedure for Tobacco Curing Structures	ASAE	ASAE S416-1997
	Moisture Measurement—Forages	ASAE	ASAE S358.2-1999
	Moisture Measurement—Peanuts	ASAE	ASAE S410.1-1997
	Moisture Measurement—Tobacco	ASAE	ASAE S487-1997
	Moisture Measurement—Unground Grain and Seeds	ASAE	ASAE S352.2-1997
	Moisture Relationships of Plant-Based Agricultural Products	ASAE	ASAE D245.5-2002
	Resistance to Airflow of Grains, Seeds, Other Agricultural Products, and Perforated Metal Sheets	ASAE	ASAE D272.3-2001
	Temperature Sensor Locations for Seed-Cotton Drying Systems	ASAE	ASAE S530-2001
	Thin-Layer Drying of Agricultural Crops	ASAE	ASAE S448.1-2001
	Thermal Properties of Grain and Grain Products	ASAE	ASAE 243.3-2001
<b>Dehumidifiers</b>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Bioaerosols: Assessment and Control (1999)	ACGIH	ACGIH

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Subject	Title	Publisher	Reference
	Dehumidifiers	AHAM	ANSI/AHAM DH-1-1992
	Method of Testing for Rating Desiccant Dehumidifiers Utilizing Heat for the Regeneration Process	ASHRAE	ANSI/ASHRAE 139-1998
	Dehumidifiers	CSA	C22.2 No. 92-1971 (R1999)
	Dehumidifiers (1993)	UL	ANSI/UL 474
<b>Desiccants</b>	Method of Testing Desiccants for Refrigerant Drying	ASHRAE	ANSI/ASHRAE 35-1992
<b>Documentation</b>	Preparation of Operating and Maintenance Documentation for Building Systems	ASHRAE	ASHRAE <i>Guideline</i> 4-1993
<b>Driers</b>	Method of Testing Liquid Line Refrigerant Driers	ASHRAE	ANSI/ASHRAE 63.1-1995 (RA 01)
	Liquid-Line Driers	ARI	ANSI/ARI 710-86
<b>Ducts and Fittings</b>	Hose, Air Duct, Flexible Nonmetallic, Aircraft	SAE	SAE AS1501C-1994
	Ducted Electric Heat Guide for Air Handling Systems, 2nd ed.	SMACNA	SMACNA 1994
	Factory-Made Air Ducts and Air Connectors (1996)	UL	UL 181
Construction	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Preferred Metric Sizes for Flat Metal Products	ASME	ASME B32.3M-1984 (RA94)
	Sheet Metal Welding Code	AWS	ANSI/AWS D9.1-2000
	Fibrous Glass Duct Construction Standards, 3rd ed.	NAIMA	NAIMA AH116
	Fibrous Glass Duct Construction with 1-1/2" Duct Boards	NAIMA	NAIMA AH120
	Fibrous Glass Residential Duct Construction Standards	NAIMA	NAIMA AH119
	Accepted Industry Practices for Sheet Metal Lagging, 1st ed.	SMACNA	SMACNA 2002
	Fibrous Glass Duct Construction Standards, 6th ed.	SMACNA	SMACNA 1992
	HVAC Duct Construction Standards, Metal and Flexible, 2nd ed.	SMACNA	SMACNA 1995
	Rectangular Industrial Duct Construction Standards, 1st ed.	SMACNA	SMACNA 1980
	Round Industrial Duct Construction Standards, 2nd ed.	SMACNA	SMACNA 1999
	Thermoplastic Duct (PVC) Construction Manual, 2nd ed.	SMACNA	SMACNA 1995
Industrial	Rectangular Industrial Duct Construction Standards, 1st ed.	SMACNA	SMACNA 1980
	Round Industrial Duct Construction Standards, 2nd ed.	SMACNA	SMACNA 1999
Installation	Flexible Duct Performance and Installation Standards, 3rd ed. (1996)	ADC	ADC-91
	Installation of Air Conditioning and Ventilating Systems	NFPA	NFPA 90A-99
	Installation of Warm Air Heating and Air-Conditioning Systems	NFPA	NFPA 90B-99
Material Specifications	Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip	ASTM	ASTM A480/A480M-02
	Specification for General Requirements for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled	ASTM	ASTM A568/A568M-02
	Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process	ASTM	ASTM A924/A924M-99
	Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability	ASTM	ASTM A1011/A1011M-02
	Specification for Steel, Sheet and Strip, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability	ASTM	ASTM A1008/A1008M-02e1
	Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dipped Process	ASTM	ASTM A653/A653-02
System Design	Commercial Low Pressure, Low Velocity Duct System Design, 1st ed.	ACCA	ACCA Manual Q
	Installation Techniques for Perimeter Heating and Cooling, 11th ed.	ACCA	ACCA Manual 4
	Residential Duct Systems	ACCA	ACCA Manual D
	Closure Systems for Use with Rigid Air Ducts and Air Connectors (1994)	UL	UL 181A
	Closure Systems for Use with Flexible Air Ducts and Air Connectors (1995)	UL	UL 181B
Testing	Duct Leakage Testing (2002)	AABC	National Standards, Ch 5
	Flexible Air Duct Test Code	ADC	ADC FD-72 (R1979)
	Method of Testing to Determine Flow Resistance in HVAC Ducts and Fittings	ASHRAE	ANSI/ASHRAE 120-1999
	Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers	ASTM	ASTM E477-99
	HVAC Air Duct Leakage Test Manual, 1st ed.	SMACNA	SMACNA 1985
	HVAC Duct Systems Inspection Guide, 2nd ed.	SMACNA	SMACNA 2000
<b>Electrical</b>	Electrical Power Systems and Equipment—Voltage Ratings	ANSI	ANSI C84.1-2001
	Test Method for Bond Strength of Electrical Insulating Varnishes by the Helical Coil Test	ASTM	ASTM D2519-02
	Definite Purpose and Limited Duty Definite Purpose Magnetic Contactors	ARI	ARI 780/790-97
	Canadian Electrical Code, Part I (19th ed.)	CSA	C22.1-2002
	Canadian Electrical Code, Part II—General Requirements	CSA	CAN/CSA-C22.2 No.0-M91 (R2001)
	ICC Electrical Code (2003)	ICC	ICCEC
	Application Guide for Ground Fault Protective Devices for Equipment	NEMA	ANSI/NEMA PB 2.2-1999
	Enclosures for Electrical Equipment (1000 Volts Maximum)	NEMA	ANSI/NEMA 250-1997
	Industrial Control and Systems: Enclosures	NEMA	ANSI/NEMA ICS 6-1993 (R2001)
	General Color Requirements for Wiring Devices	NEMA	NEMA WD 1-1999
	Low Voltage Cartridge Fuses	NEMA	NEMA FU 1-1986 (R1996)

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Subject	Title	Publisher	Reference
	Molded Case Circuit Breakers and Molded Case Switches	NEMA	NEMA AB 1-1999
	Industrial Control and Systems: Terminal Blocks	NEMA	NEMA ICS 4-2000
	National Electrical Code	NFPA	NFPA 70-02
	National Fire Alarm Code	NFPA	NFPA 72-99
	Compatibility of Electrical Connectors and Wiring	SAE	SAE AIR1329A-1988
<b>Energy</b>	Air Conditioning and Refrigerating Equipment Nameplate Voltages	ARI	ARI 110-2002
	Comfort, Air Quality and Efficiency by Design	ACCA	ACCA Manual RS
	Energy Standard for Buildings Except Low-Rise Residential Buildings	ASHRAE	ANSI/ASHRAE/IESNA 90.1-2001
	Energy-Efficient Design of Low-Rise Residential Buildings	ASHRAE	ASHRAE 90.2-2001
	Energy Conservation in Existing Buildings	ASHRAE	ANSI/ASHRAE 100-1995
	Standard Methods of Measuring and Expressing Building Energy Performance	ASHRAE	ANSI/ASHRAE 105-1984 (RA99)
	International Energy Conservation Code (2003)	ICC	IECC
	Uniform Solar Energy Code (2000)	IAPMO	IAPMO
	Model Energy Code, Thermal Envelope Compliance Guide	NAIMA	NAIMA BI407
	Energy Management Guide for Selection and Use of Fixed Frequency Medium AC Squirrel-Cage Polyphase Induction Motors	NEMA	NEMA MG 10-2001
	Energy Management Guide for Selection and Use of Single-Phase Motors	NEMA	NEMA MG 11-1977 (R2001)
	Energy Systems Analysis and Management, 1st ed.	SMACNA	SMACNA 1997
	HVAC Systems Commissioning Manual, 1st ed.	SMACNA	SMACNA 1994
	Building Systems Analysis and Retrofit Manual, 1st ed.	SMACNA	SMACNA 1995
	Energy Management Equipment (1998)	UL	ANSI/UL 916
<b>Exhaust Systems</b>	Fan Systems: Supply/Return/Relief/Exhaust (2002)	AABC	National Standards, Ch 10
	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Recirculation of Air from Industrial Process Exhaust Systems	AIHA	ANSI/AIHA Z9.7-1998
	Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems	AIHA	ANSI/AIHA Z9.2-2001
	Laboratory Ventilation	AIHA	ANSI/AIHA Z9.5-1992
	Safety Code for Design, Construction, and Ventilation of Spray Finishing Operations	AIHA	ANSI/AIHA Z9.3-1994
	Abrasive Blasting Operations—Ventilation and Safe Practices	AIHA	ANSI/AIHA Z9.4-1997
	Method of Testing Performance of Laboratory Fume Hoods	ASHRAE	ANSI/ASHRAE 110-1995
	Test Code on Compressors and Exhausters	ASME	ASME PTC 10-1997
	Mechanical Flue-Gas Exhausters	CSA	CAN3-B255-M81 (R2000)
	Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids	NFPA	ANSI/NFPA 91-99
	Draft Equipment (1993)	UL	UL 378
<b>Expansion Valves</b>	Thermostatic Refrigerant Expansion Valves	ARI	ARI 750-94
	Method of Testing Capacity of Thermostatic Refrigerant Expansion Valves	ASHRAE	ANSI/ASHRAE 17-1998
<b>Fan-Coil Units</b>	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Room Fan-Coils and Unit Ventilators	ARI	ARI 440-98
	Methods of Testing for Rating Room Fan-Coil Air Conditioners	ASHRAE	ANSI/ASHRAE 79-2002
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-95
<b>Fans</b>	Commercial Low Pressure, Low Velocity Duct System Design, 1st ed.	ACCA	ACCA Manual Q
	Residential Duct Systems (1995)	ACCA	ACCA Manual D
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Designation of Rotation and Discharge of Centrifugal Fans	AMCA	AMCA 99-2406-98
	Drive Arrangements for Centrifugal Fans	AMCA	AMCA 99-2404-98
	Drive Arrangements for Tubular Centrifugal Fans	AMCA	AMCA 99-2410-98
	Recommended Safety Practices for Users and Installers of Industrial and Commercial Fans	AMCA	AMCA 410-96
	Motor Positions for Belt or Chain Drive Centrifugal Fans	AMCA	AMCA 99-2407-98
	Industrial Process/Power Generation Fans: Site Performance Test Standard	AMCA	AMCA 803-96
	Standards Handbook (1998)	AMCA	AMCA 99-86
	Fans and Blowers	ARI	ARI 670-96
	Methods for the Measurement of Noise Emitted by Small Air-Moving Devices	ASA	ANSI S12.11-1987 (R1997)
	Laboratory Methods of Testing Fans for Aerodynamic Performance Rating	ASHRAE/ AMCA	ANSI/ASHRAE 51-1999 ANSI/AMCA 210-99
	Laboratory Method of Testing to Determine the Sound Power in a Duct	ASHRAE/ AMCA	ANSI/ASHRAE 68-1997 ANSI/AMCA 330-97
	Methods of Testing Fan Vibration—Blade Vibrations and Critical Speeds	ASHRAE	ANSI/ASHRAE 87.1-1992
	Fans	ASME	ASME PTC 11-1984 (RA95)
	Fans and Ventilators	CSA	C22.2 No. 113-M1984 (R1999)
	Rating the Performance of Residential Mechanical Ventilating Equipment	CSA	CAN/CSA-C260-M90 (R1997)

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Subject	Title	Publisher	Reference
	Acoustics—Method for the Measurement of Airborne Noise Emitted by Small Air-Moving Devices	ISO	ISO 10302:1996
	Electric Fans (1999)	UL	UL 507
	Power Ventilators	UL	ANSI/UL 705-1994
<b>Fenestration</b>	Specification for Classification of the Durability of Sealed Insulating Glass Units	ASTM	ASTM E774-97
	Standard Practice for Calculation of Photometric Transmittance and Reflectance of Materials to Solar Radiation	ASTM	ASTM E971-88(1996)e1
	Practice for Determining the Load Resistance of Glass in Buildings	ASTM	ASTM E1300-02
	Practice for Installation of Exterior Windows, Doors and Skylights	ASTM	ASTM E2112-01
	Specification for Insulating Glass Unit Performance and Evaluation	ASTM	ASTM E2190-02
	Tables for References Solar Spectral Irradiance at Air Mass 1.5:	ASTM	ASTM G159-98
	Direct Normal and Hemispheric for a 37° Tilted Surface		
	Test Method for Accelerated Weathering of Sealed Insulating Glass Units	ASTM	ASTM E773-01
	Test Method for Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres	ASTM	ASTM E903-96a
	Test Method for Solar Photometric Transmittance of Sheet Materials Using Sunlight	ASTM	ASTM E972-96 (2002)
	Test Method for Solar Transmittance (Terrestrial) of Sheet Materials Using Sunlight	ASTM	ASTM E1084-86(1996)
	Test Method for Testing Resistance to Fogging Insulating Glass Units	ASTM	ASTM E2189-02
	Test Method for Insulating Glass Unit Performance	ASTM	ASTM E2188-02
	Energy Performance Evaluation of Swinging Doors	CSA	A453-95 (R2000)
	Windows	CSA	A440-00
	Energy Performance Evaluation of Windows and Other Fenestration Systems	CSA	A440.2-98
	Window and Door Installation	CSA	A440.4-98
<b>Filter-Driers</b>	Flow-Capacity Rating and Application of Suction-Line Filters and Filter Driers	ARI	ANSI/ARI 730-86
	Method of Testing Flow Capacity of Suction Line Filters and Filter Driers	ASHRAE	ANSI/ASHRAE 78-1985 (RA97)
	Method of Testing Liquid Line Filter-Drier Filtration Capability	ASHRAE	ANSI/ASHRAE 63.2-1996
<b>Fireplaces</b>	Factory-Built Fireplaces (1996)	UL	UL 127
	Fireplace Stoves (1996)	UL	UL 737
<b>Fire Protection</b>	Standard Test Methods for Fire Test of Building Construction and Materials	ASTM	ASTM E119-00a
	Standard Test Method for Surface Burning Characteristics of Building Materials	ASTM/NFPA	ASTM E84-01/NFPA 255-00
	BOCA National Fire Prevention Code, 11th ed. (1999)	BOCA	BOCA
	Uniform Fire Code	IFCI	IFCI 1997
	International Fire Code (2003)	ICC	IFC
	International Mechanical Code (2003)	ICC	IMC
	International Urban-Wildland Interface Code (2003)	ICC	IUWIC
	Fire-Resistance Tests—Elements of Building Construction; Part 1: General Requirements	ISO	ISO 834:1999
	Fire-Resistance Tests—Doors and Shutter Assemblies	ISO	ISO 3008:1976
	Reaction to Fire Tests—Ignitability of Building Products Using a Radiant Heat Source	ISO	ISO 5657:1997
	Fire-Resistance Tests—Ventilating Ducts	ISO	ISO 6944:1985
	Interconnection Circuitry of Noncoded Remote-Station Protective Signalling Systems	NEMA	NEMA SB 3-1969 (R1994)
	Fire Doors and Fire Windows	NFPA	NFPA 80-99
	Fire Protection Guide to Hazardous Materials	NFPA	NFPA HAZ-01
	Fire Prevention Code	NFPA	NFPA 1-00
	Fire Protection for Laboratories Using Chemicals	NFPA	NFPA 45-00
	Fire Protection Handbook, 18th ed. (1996)	NFPA	NFPA
	Flammable and Combustible Liquids Code	NFPA	NFPA 30-00
	Health Care Facilities	NFPA	NFPA 99-02
	Installation of Sprinkler Systems	NFPA	NFPA 13-1999
	Life Safety Code	NFPA	NFPA 101-00
	National Fire Alarm Code	NFPA	NFPA 72-99
	National Fire Codes (issued annually)	NFPA	NFPA
	Methods of Fire Tests of Door Assemblies	NFPA	NFPA 252-99
	Standard Fire Prevention Code (1999)	SBCCI	SBCCI
	Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems, 5th ed.	SMACNA	SMACNA 2002
	Fire Dampers (1999)	UL	UL 555
	Fire Tests of Building Construction and Materials (1997)	UL	ANSI/UL 263
	Fire Tests of Door Assemblies (1997)	UL	UL 10B
	Fire Tests of Through-Penetration Firestops (1994)	UL	ANSI/UL 1479
	Heat Responsive Links for Fire-Protection Service (1993)	UL	ANSI/UL 33

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Subject	Title	Publisher	Reference
Smoke Management	Commissioning Smoke Management Systems	ASHRAE	ASHRAE <i>Guideline</i> 5-1994 (RA2001)
	Recommended Practice for Smoke Control Systems	NFPA	NFPA 92A-00
	Guide for Smoke Management Systems in Malls, Atria, and Large Areas	NFPA	NFPA 92B-00
	Ceiling Dampers (1996)	UL	UL 555C
	Smoke Dampers (1999)	UL	UL 555S
<b>Freezers</b>	Energy Performance and Capacity of Household Refrigerators, Refrigerator-Freezers, and Freezers	CSA	C300-00
	Energy Performance Standard for Food Service Refrigerators and Freezers	CSA	C827-98
	Refrigeration Equipment	CSA	CAN/CSA-C22.2 No. 120-M91 (R1999)
Commercial	Dispensing Freezers	NSF	NSF/ANSI 6-1996
	Ice Cream Makers (1993)	UL	ANSI/UL 621
	Commercial Refrigerators and Freezers (1995)	UL	ANSI/UL 471
	Commercial Refrigerators and Freezers	NSF	NSF/ANSI 7-2001
	Ice Makers (1995)	UL	ANSI/UL 563
Household	Household Refrigerators, Combination Refrigerator-Freezers and Household Freezers	AHAM	ANSI/AHAM HRF-1-2001
	Household Refrigerators and Freezers (1993)	UL/CSA	ANSI/UL 250/C22.2 No. 63-93 (R1999)
<b>Fuels</b>	Threshold Limit Values for Chemical Substances (updated annually)	ACGIH	ACGIH
	Standard Classification of Coals by Rank	ASTM	ANSI/ASTM D388-99e1
	Specification for Diesel Fuel Oils	ASTM	ANSI/ASTM D975-02
	Specification for Fuel Oils	ASTM	ANSI/ASTM D396-02
	Specification for Gas Turbine Fuel Oils	ASTM	ANSI/ASTM D2880-00
	Specification for Kerosene	ASTM	ASTM D3699-02
	Practice for Receipt, Storage and Handling of Fuels	ASTM	ASTM D4418-00
	Reporting of Fuel Properties when Testing Diesel Engines with Alternative Fuels Derived from Biological Materials	ASAE	ASAE EP552-2001
<b>Furnaces</b>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Residential Equipment Selection, 2nd ed.	ACCA	ACCA Manual S
	Method of Testing for Annual Fuel Utilization Efficiency of Residential Central Furnaces and Boilers	ASHRAE	ANSI/ASHRAE 103-1993
	Prevention of Furnace Explosions/Implosions in Multiple Burner Boilers	NFPA	NFPA 8502-99
	Standard Mechanical Code (1997)	SBCCI	SBCCI
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-95
	Residential Gas Detectors (2000)	UL	ANSI/UL 1484
	Single and Multiple Station Carbon Monoxide Alarms (1996)	UL	UL 2034
	Gas-Fired Central Furnaces	CSA	ANSI Z21.47-1998/CSA 2.3-2001
	Gas Unit Heaters and Gas-Fired Duct Furnaces	CSA	ANSI Z83.8-1996/CGA-2.6-M96
	Industrial and Commercial Gas-Fired Package Furnaces	CSA	CGA 3.2-1976 (R1999)
	International Fuel Gas Code (2003)	ICC	IFGC
	Standard Gas Code (1999)	SBCCI	SBCCI
	Commercial-Industrial Gas Heating Equipment (1999)	UL	UL 795
	Standard Specification for Fuel Oils	ASTM	ANSI/ASTM D396-02a
Gas	Test Method for Smoke Density in Flue Gases from Burning Distillate Fuels	ASTM	ANSI/ASTM D2156-94 (1999)
	Oil Burning Stoves and Water Heaters	CSA	B140.3-1962 (R2001)
	Oil-Fired Warm Air Furnaces	CSA	B140.4-1974 (R2001)
	Installation of Oil-Burning Equipment	NFPA	NFPA 31-01
	Oil-Fired Central Furnaces (1994)	UL	UL 727
	Oil-Fired Floor Furnaces (1994)	UL	ANSI/UL 729
	Oil-Fired Wall Furnaces (1994)	UL	ANSI/UL 730
	Standard Classification of Coals by Rank	ASTM	ANSI/ASTM D975-02
Oil	Installation Code for Solid-Fuel-Burning Appliances and Equipment	CSA	B365-01
	Solid-Fuel-Fired Central Heating Appliances	CSA	CAN/CSA-B366.1-M91 (R2000)
	Solid-Fuel and Combination-Fuel Central and Supplementary Furnaces (1995)	UL	ANSI/UL 391
<b>Heaters</b>	Gas-Fired High-Intensity Infrared Heaters	CSA	ANSI Z83.19-2001/CSA 2.35-2001
	Gas-Fired Low-Intensity Infrared Heaters	CSA	ANSI Z83.20-2001/CSA 2.34-2001
	Threshold Limit Values for Chemical Substances (updated annually)	ACGIH	ACGIH
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Thermal Performance Testing of Solar Ambient Air Heaters	ASAE	ASAE S423-2001
	Air Heaters	ASME	ASME PTC 4.3-1968 (RA91)
	Guide for Construction of Solid Fuel Burning Masonry Heaters	ASTM	ASTM E1602-01
	Non-Recirculating Direct Gas-Fired Industrial Air Heaters	CSA	ANSI Z83.4-1999/CSA-3.7-M99
	Electric Duct Heaters	CSA	C22.2 No. 155-M1986 (R1999)

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Subject	Title	Publisher	Reference
Engine	Portable Kerosene-Fired Heaters	CSA	CAN3-B140.9.3 M86 (R2001)
	Standards for Closed Feedwater Heaters, 6th ed. (1998)	HEI	HEI
	Electric Dry Bath Heaters (2000)	UL	UL 875
	Electric Heating Appliances (1997)	UL	UL 499
	Electric Oil Heaters (1996)	UL	UL 574
	Oil-Burning Stoves (1993)	UL	ANSI/UL 896-1997
	Oil-Fired Air Heaters and Direct-Fired Heaters (1993)	UL	UL 733
	Electric Engine Preheaters and Battery Warmers for Diesel Engines	SAE	SAE J1310-1993
	Fuel Warmer—Diesel Engines	SAE	SAE J1422-1996
	Selection and Application Guidelines for Diesel, Gasoline, and Propane Fired Liquid Cooled Engine Pre-Heaters	SAE	SAE J1350-1988
Nonresidential	Recirculating Direct Gas-Fired Industrial Air Heaters	CSA	ANSI Z83.18-2000
	Gas-Fired Construction Heaters	CSA	ANSI Z83.7-2000/CSA 2.14-2000
	Portable Industrial Oil-Fired Heaters	CSA	B140.8-1967 (R2001)
	Fuel-Fired Heaters—Air Heating—for Construction and Industrial Machinery	SAE	SAE J1024-1989
	Commercial-Industrial Gas Heating Equipment (1999)	UL	UL 795
	Electric Heaters for Use in Hazardous (Classified) Locations (1995)	UL	ANSI/UL 823
Pool	Installation of Electric Infrared Brooding Equipment	ASAE	ASAE EP258.3-1998
	Gas-Fired Pool Heaters	CSA	ANSI Z21.56-1998/CSA 4.7-M98
	Method of Testing and Rating Pool Heaters	ASHRAE	ANSI/ASHRAE 146-1998
Room	Oil-Fired Service Water Heaters and Swimming Pool Heaters	CSA	B140.12-1976 (R2001)
	Specification for Room Heaters, Pellet Fuel Burning Type	ASTM	ASTM E1509-95 (2000)
	Vented Gas-Fired Space Heating Appliances	CSA	ANSI Z21.86-2000/CSA 2.32-2000
	Gas-Fired Room Heaters, Vol. II, Unvented Room Heaters	CSA	ANSI Z21.11.2-2000
	Gas-Fired Unvented Catalytic Room Heaters for Use with Liquefied Petroleum (LP) Gases	CSA	ANSI Z21.76-2000
Transport	Fixed and Location-Dedicated Electric Room Heaters (1997)	UL	UL 2021
	Movable and Wall- or Ceiling-Hung Electric Room Heaters (2000)	UL	UL 1278
	Room Heaters, Solid Fuel-Type (1996)	UL	ANSI/UL 1482
	Unvented Kerosene-Fired Room Heaters and Portable Heaters (1993)	UL	UL 647
	Heater, Aircraft Internal Combustion Heat Exchanger Type	SAE	SAE AS8040A-1996
	Heater, Airplane, Engine Exhaust Gas to Air Heat Exchanger Type	SAE	SAE ARP86A-1996
	Installation, Heaters, Airplane, Internal Combustion Heater Exchange Type	SAE	SAE ARP266-1996
	Motor Vehicle Heater Test Procedure	SAE	SAE J638-1998
Unit	Gas Unit Heaters and Gas-Fired Duct Furnaces	CSA	ANSI Z83.8-1996/CGA 2.6-M96
	Oil-Fired Unit Heaters (1995)	UL	ANSI/UL 731
<b>Heat Exchangers</b>	Remote Mechanical-Draft Evaporative Refrigerant Condensers	ARI	ARI 490-98
	Method of Testing Air-to-Air Heat Exchangers	ASHRAE	ANSI/ASHRAE 84-1991
	Standard Methods of Test for Rating the Performance of Heat-Recovery Ventilators	CSA	C439-00
	Standards for Power Plant Heat Exchangers, 3rd ed. (1998)	HEI	HEI
	Standards of Tubular Exchanger Manufacturers Association, 8th ed. (1999)	TEMA	TEMA
<b>Heating</b>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Comfort, Air Quality, and Efficiency by Design	ACCA	ACCA Manual RS
	Residential Equipment Selection, 2nd ed.	ACCA	ACCA Manual S
	Determining the Required Capacity of Residential Space Heating and Cooling Appliances	CSA	CAN/CSA-F280-M90 (R1998)
	Automatic Flue-Pipe Dampers for Use with Oil-Fired Appliances	CSA	B140.14-M1979 (R2001)
	Heater Elements	CSA	C22.2 No.72-M1984 (R1999)
	Advanced Installation Guide (Light Commercial) for Hydronic Heating Systems	HYDI	HYDI 250
	Heat Loss Calculation Guide	HYDI	HYDI H-22 (1998)
	Installation/Design of Residential Heating Systems	HYDI	HYDI Guide 2000
	Radiant Floor Heating	HYDI	HYDI 400
	Environmental Systems Technology, 2nd ed.	NEBB	NEBB
	Pulverized Fuel Systems	NFPA	NFPA 8503-97
	Aircraft Electrical Heating Systems	SAE	SAE AIR860A-2000
	Performance Test for Air-Conditioned, Heated, and Ventilated Off-Road Self-Propelled Work Machines	SAE	SAE J1503-1998
	Heating Value of Fuels	SAE	SAE J1498-1998
	HVAC Systems Applications, 1st ed.	SMACNA	SMACNA 1987
	Electric Baseboard Heating Equipment (1994)	UL	ANSI/UL 1042
	Electric Duct Heaters (1996)	UL	UL 1996
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-M95

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
<b>Heat Pumps</b>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Geothermal Heat Pump Training Certification Program	ACCA	ACCA Training Manual
	Heat Pumps Systems, Principles and Applications, 2nd ed.	ACCA	ACCA Manual H
	Residential Equipment Selection, 2nd ed.	ACCA	ACCA Manual S
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment	ARI	ARI 340/360-2000
	Ground Source Closed-Loop Heat Pumps	ARI	ARI 330-98
	Ground Water-Source Heat Pumps	ARI	ARI 325-98
	Water-Source Heat Pumps	ARI	ARI 320-98
	Methods of Testing for Rating Unitary Air-Conditioning and Heat Pump Equipment	ASHRAE	ANSI/ASHRAE 37-1988
	Methods of Testing for Rating Seasonal Efficiency of Unitary Air-Conditioners and Heat Pumps	ASHRAE	ANSI/ASHRAE 116-1995
	Installation Requirements for Air-to-Air Heat Pumps	CSA	C273.5-1980 (R1998)
	Performance Standard for Split-System Central Air-Conditioners and Heat Pumps	CSA	CAN/CSA-C273.3-M91 (R2001)
	Heating and Cooling Equipment (1995)	UL/CSA	UL 1995/C22.2 No. 236-M95
	Gas Fired		
	Gas-Fired, Heat Activated Air Conditioning and Heat Pump Appliances	CSA	ANSI Z21.40.1-1996/CGA 2.91-M96
	Gas-Fired, Work Activated Air Conditioning and Heat Pump Appliances (Internal Combustion)	CSA	ANSI Z21.40.2-1996/CGA 2.92-M96
	Performance Testing and Rating of Gas-Fired Air Conditioning and Heat Pump Appliances	CSA	ANSI Z21.40.4-1996/CGA 2.94-M96
<b>Heat Recovery</b>	Gas Turbine Heat Recovery Steam Generators	ASME	ASME PTC 4.4-1981 (RA92)
	Water Heaters, Hot Water Supply Boilers, and Heat Recovery Equipment	NSF	NSF/ANSI 5-2000
<b>Humidifiers</b>	Method for Measuring Performance of Appliance Humidifiers	AHAM	ANSI/AHAM HU-1-1987
	Comfort, Air Quality, and Efficiency by Design	ACCA	ACCA Manual RS
	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Bioaerosols: Assessment and Control (1999)	ACGIH	ACGIH
	Central System Humidifiers for Residential Applications	ARI	ANSI/ARI 610-96
	Commercial and Industrial Humidifiers	ARI	ANSI/ARI 640-96
	Self-Contained Humidifiers for Residential Applications	ARI	ANSI/ARI 620-96
<b>Ice Makers</b>	Humidifiers (2001)	UL/CSA	UL 998/C22.2 No. 104-93
	Automatic Commercial Ice Makers	ARI	ARI 810-2000
	Ice Storage Bins	ARI	ARI 820-2000
	Methods of Testing Automatic Ice Makers	ASHRAE	ANSI/ASHRAE 29-1988 (RA99)
	Refrigeration Equipment	CSA	CAN/CSA-C22.2 No. 120-M91 (R1999)
	Performance of Automatic Ice-Makers and Ice Storage Bins	CSA	C742-98
	Automatic Ice Making Equipment	NSF	NSF/ANSI 12-1992
<b>Incinerators</b>	Ice Makers (1995)	UL	ANSI/UL 563
	Large Incinerators	ASME	ASME PTC 33-1978 (RA91)
	Incinerators and Waste and Linen Handling Systems and Equipment	NFPA	NFPA 82-99
	Residential Incinerators (1993)	UL	UL 791
<b>Indoor Air Quality</b>	Ventilation for Acceptable Indoor Air Quality	ASHRAE	ANSI/ASHRAE 62-2001
	Bioaerosols: Assessment and Control (1999)	ACGIH	ACGIH
	Practice for Continuous Sizing and Counting of Airborne Particles in Dust-Controlled Areas and Clean Rooms Using Instruments Capable of Detecting Single Sub-Micrometre and Larger Particles	ASTM	ASTM F50-92(2001)e1
	Practice for Referencing Suprathreshold Odor Intensity	ASTM	ASTM E544-99
	Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and Ventilation	ASTM	ASTM D6245-98 (2002)
	Guide for Selecting Instruments and Methods for Measuring Air Quality in Aircraft Cabins	ASTM	ASTM D6399-99a
	Test Method for Determination of Volatile Organic Chemicals in Atmospheres (Canister Sampling Methodology)	ASTM	ASTM D5466-01
	Guide for Using Probability Sampling Methods in Studies of Indoor Air Quality in Buildings	ASTM	ASTM D5791-95 (2001)
	Guide for Placement and Use of Diffusion Controlled Passive Monitors for Gaseous Pollutants in Indoor Air		
	Ambient Air—Determination of Mass Concentration of Nitrogen Dioxide—Modified Griess-Saltzman Method	ISO	ISO 6768:1998
	Air Quality—Exchange of Data	ISO	ISO 7168:1999
	Environmental Tobacco Smoke—Estimation of Its Contribution to Respirable Suspended Particles	ISO	ISO 15593:2001
	Indoor Air—Part 3: Determination of Formaldehyde and Other Carbonyl Compounds—Active Sampling Method	ISO	ISO 16000-3:2001

Selected Codes and Standards Published by Various Societies and Associations (*Continued*)

Subject	Title	Publisher	Reference
Aircraft	Workplace Air Quality—Sampling and Analysis of Volatile Organic Compounds by Solvent Desorption/Gas Chromatography—Part 1: Pumped Sampling Method	ISO	ISO 16200-1:2001
	Part 2: Diffusive Sampling Method	ISO	ISO 16200-2:2000
	Workplace Air Quality—Determination of Total Isocyanate Group in Air Using 2-(1-Methoxyphenyl) Piperazine and Liquid Chromatography	ISO	ISO 16702-1:2001
	Comfort, Air Quality, and Efficiency by Design	ACCA	ACCA Manual RS
	Indoor Air Quality—A Systems Approach, 3rd ed.	SMACNA	SMACNA 1998
	IAQ Guidelines for Occupied Buildings Under Construction, 1st ed.	SMACNA	SMACNA 1995
Aircraft	Guide for Selecting Instruments and Methods for Measuring Air Quality in Aircraft Cabins	ASTM	ASTM D6399-99a
<b>Insulation</b>	Classification for Rating Sound Insulation	ASTM	ASTM E413-87(1999)
	Classification of Potential Health and Safety Concerns Associated with Thermal Insulation Materials and Accessories	ASTM	ASTM C930-99
	Practice for Prefabrication and Field Fabrication of Thermal Insulating Fitting Covers for NPS Piping, Vessel Lagging, and Dished Head Segments	ASTM	ASTM C450-02
	Practice for Installation and Use of Radiant Barrier Systems (RBS) in Building Construction	ASTM	ASTM C1158-01
	Guide for Selecting Jacketing Materials for Thermal Insulation	ASTM	ASTM C1423-98
	Guide for Measuring and Estimating Quantities of Insulated Piping and Components	ASTM	ASTM C1409-98
	Test Method for Characterizing the Effect of Exposure to Environmental Cycling on Thermal Performance of Insulation Products	ASTM	ASTM C1512-01
	Specification for Cellulosic Fiber Stabilized Thermal Insulation	ASTM	ASTM C1497-01e1
	Specification for Polyimide Flexible Cellular Thermal and Sound Absorbing Insulation	ASTM	ASTMC1482-02
	Specification for Preformed Flexible Cellular Pololefin Thermal Insulation in Sheet and Tubular Form	ASTM	ASTM C1427-99a
	Specification for Cellular Melamine Thermal and Sound Absorbing Insulation	ASTM	ASTM C1410-98
	Specification for Flexible Polymeric Foam Sheet Insulation Used as a Thermal and Sound Absorbing Liner for Duct Systems	ASTM	ASTM C1534-02
	Specification for Perpendicularly Oriented Mineral Fiber Roll and Sheet Thermal Insulation for Pipes and Tanks	ASTM	ASTM C1393-00a
	Specification for Adhesives for Duct Thermal Insulation	ASTM	ASTM C916-8(2001)e1
	Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material)	ASTM	ASTM C1071-00
	Specification for Preformed Flexible Elastometric Cellular Thermal Insulation in Sheet and Tabular Form	ASTM	ASTM C534-02
	Specification for Cellular Glass Thermal Insulation	ASTM	ASTM C552-00e1
	Specification for Rigid, Cellular Polystyrene Thermal Insulation	ASTM	ASTM C578-01
	Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation	ASTM	ASTM C591-01
	Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation	ASTM	ASTM C1126-00
	Standard Practice for Determination of Heat Gain or Loss and the Surface Temperature of Insulated Pipe and Equipment Systems by the Use of a Computer Program	ASTM	ASTM C680-89(1995)e1 (2002)
	Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System)	ASTM	ASTM C585-90(1998)
	Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings	ASTM	ASTM C1060-90(1997)e1
	Terminology Relating to Thermal Insulating Materials	ASTM	ASTM C168-02
	Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus	ASTM	ASTM C177-97
	Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	ASTM	ASTM C518-02
	Test Method for Steady-State Heat Transfer Properties of Horizontal Pipe Insulations	ASTM	ASTM C335-95
	Test Method for Steady-State and Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus	ASTM	ASTM C1363-97
	Accepted Industry Practices for Sheet Metal Lagging, 1st ed.	SMACNA	SMACNA 2002
	Guidelines for Use of Thermal Insulation in Agricultural Buildings	ASAE	ASAE S401.2-2000
	Thermal Insulation—Materials, Products, and Systems—Vocabulary	ISO	ISO 9229:1991
	National Commercial and Industrial Insulation Standards, 5th ed.	MICA	MICA 1999
<b>Louvers</b>	Laboratory Methods of Testing Louvers for Rating	AMCA	AMCA 500-L-99
	Laboratory Methods of Testing Dampers for Rating	AMCA	AMCA 500-D-98
<b>Lubricants</b>	Methods of Testing the Floc Point of Refrigeration Grade Oils	ASHRAE	ANSI/ASHRAE 86-1994 (RA01)
	Classification of Industrial Fluid Lubricants by Viscosity System	ASTM	ANSI/ASTM D2422-97 (2002)
	Test Method for Molecular Weight (Relative Molecular Mass) of Hydrocarbons by Thermoelectric Measurement of Vapor Pressure	ASTM	ASTM D2503-92 (2002)

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Subject	Title	Publisher	Reference
	Test Method for Pour Point of Petroleum Products	ASTM	ASTM D97-902
	Petroleum Products—Corrosiveness to Copper—Copper Strip Test	ISO	ISO 2160:1998
<b>Measurements</b>	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Engineering Analysis of Experimental Data	ASHRAE	ASHRAE <i>Guideline</i> 2-1986 (RA96)
	Method of Measuring Solar-Optical Properties of Materials	ASHRAE	ANSI/ASHRAE 74-1988
	Standard Method for Measurement of Proportion of Lubricant in Liquid Refrigerant	ASHRAE	ANSI/ASHRAE 41.4-1996
	Standard Method for Measurement of Moist Air Properties	ASHRAE	ANSI/ASHRAE 41.6-1994 (RA01)
	Standard Methods of Measuring and Expressing Building Energy Performance	ASHRAE	ANSI/ASHRAE 105-1984 (RA99)
	Measurement of Industrial Sound	ASME	ASME PTC 36-1985 (RA98)
	Measurement Uncertainty	ASME	ASME PTC 19.1-1998
	Method for Establishing Installation Effects on Flowmeters	ASME	ASME MFC-10M-2001
	Specification for Temperature-Electromotive Force (EMF) Tables for Standardized Thermocouples	ASTM	ASTM E230-02
	Standard Practice for Continuous Sizing and Counting of Airborne Particles in Dust-Controlled Areas and Clean Rooms Using Instruments Capable of Detecting Single Sub-Micrometre and Larger Particles	ASTM	ASTM F50-92(2001)e1
	Standard for Use of the International System of Units (SI): The Modern Metric System	IEEE/ASTM	IEEE/ASTM-SI-10
	Test Methods for Water Vapor Transmission of Materials	ASTM	ASTM E96-00e1
	Ergonomics—Determination of Metabolic Heat Production	ISO	ISO 8996:1990
	Ergonomics of the Thermal Environment—Estimation of the Thermal Insulation and Evaporative Resistance of a Clothing Ensemble	ISO	ISO 9920:1995
	Ergonomics of the Thermal Environment—Instruments for Measuring Physical Quantities	ISO	ISO 7726:1998
<b>Fluid Flow</b>	Standard Methods of Measurement of Flow of Liquids in Pipes Using Orifice Flowmeters	ASHRAE	ANSI/ASHRAE 41.8-1989
	Calorimeter Test Methods for Mass Flow Measurements of Volatile Refrigerants	ASHRAE	ANSI/ASHRAE 41.9-2000
	Application of Fluid Meters	ASME	ASME PTC 19.5-1972
	Fluid Flow in Closed Conduits: Connections for Pressure Signal Transmissions Between Primary and Secondary Devices	ASME	ASME MFC-8M-2001
	Glossary of Terms Used in the Measurement of Fluid Flow in Pipes	ASME	ASME MFC-1M-1991 (RA97)
	Measurement of Fluid Flow by Means of Coriolis Mass Flowmeters	ASME	ASME MFC-11M-1989 (RA94)
	Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi	ASME	ASME MFC-3M-1989 (RA95)
	Measurement of Fluid Flow in Pipes Using Vortex Flow Meters	ASME	ASME MFC-6M-1998
	Measurement of Fluid Flow Using Small Bore Precision Orifice Meters	ASME	ASME MFC-14M-2001
	Measurement of Liquid Flow in Closed Conduits by Weighting Method	ASME	ASME MFC-9M-1988 (RA01)
	Measurement of Liquid Flow in Closed Conduits Using Transit-Time Ultrasonic Flowmeters	ASME	ASME MFC-5M-1985 (RA01)
	Measurement Uncertainty for Fluid Flow in Closed Conduits	ASME	ANSI/ASME MFC-2M-1983 (RA01)
	Measurement of Fluid Flow in Closed Conduits—Velocity Area Method Using Pitot Static Tubes	ISO	ISO 3966:1977
<b>Gas Flow</b>	Standard Methods for Laboratory Airflow Measurement	ASHRAE	ANSI/ASHRAE 41.2-1987 (RA92)
	Method of Test for Measurement of Flow of Gas	ASHRAE	ANSI/ASHRAE 41.7-1984 (RA00)
	Measurement of Gas Flow by Means of Critical Flow Venturi Nozzles	ASME	ASME MFC-7M-1987 (RA01)
	Measurement of Gas Flow by Turbine Meters	ASME	ANSI/ASME MFC-4M-1986 (RA97)
<b>Pressure</b>	Standard Method for Pressure Measurement	ASHRAE	ANSI/ASHRAE 41.3-1989
	Pressure Gauges and Gauge Attachments	ASME	ASME B40.100-1998
	Pressure Measurement	ASME	ASME PTC 19.2-1987 (RA98)
<b>Temperature</b>	Standard Method for Temperature Measurement	ASHRAE	ANSI/ASHRAE 41.1-1986 (RA01)
	Temperature Measurement	ASME	ASME PTC 19.3-1974 (RA98)
	Total Temperature Measuring Instruments (Turbine Powered Subsonic Aircraft)	SAE	SAE AS793A-2001
<b>Thermal</b>	Method of Testing Thermal Energy Meters for Liquid Streams in HVAC Systems	ASHRAE	ANSI/ASHRAE 125-1992 (RA00)
	Standard Practice for Determining Thermal Resistance of Building Envelope Components from In-Situ Data	ASTM	ASTM C1155-95(2001)
	Standard Practice for In-Situ Measurement of Heat Flux and Temperature on Building Envelope Components	ASTM	ASTM C1046-95(2001)
	Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus	ASTM	ASTM C177-97
	Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus	ASTM	ASTM C518-02
	Test Method for Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box	ASTM	ASTM C976-90(1996)e1

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Subject	Title	Publisher	Reference
<b>Mobile Homes and Recreational Vehicles</b>	Residential Load Calculation, 8th ed.	ACCA	ACCA Manual J
	Recreational Vehicle Cooking Gas Appliances	CSA	ANSI Z21.57-2001
	Mobile Homes	CSA	CAN/CSA-Z240 MH Series-92 (R2001)
	Oil-Fired Warm Air Heating Appliances for Mobile Housing and Recreational Vehicles	CSA	B140.10-1974 (R2001)
	Recreational Vehicles	CSA	CAN/CSA-Z240 RV Series-99
	Gas Supply Connectors for Manufactured Homes	IAPMO	IAPMO TS 9-97
	Manufactured Housing Construction and Safety Standards	ICC/ANSI	ICC/ANSI 2.0-1998
	Recreational Vehicles	NFPA	NFPA 1192-99
	Manufactured Housing	NFPA	NFPA 501-00 (ANSI A119.2)
	Plumbing System Components for Manufactured Homes and Recreational Vehicles	NSF	NSF/ANSI 24-1988
	Gas Burning Heating Appliances for Manufactured Homes and Recreational Vehicles (1995)	UL	UL 307B
<b>Motors and Generators</b>	Gas-Fired Cooking Appliances for Recreational Vehicles (1993)	UL	UL 1075
	Liquid Fuel-Burning Heating Appliances for Manufactured Homes and Recreational Vehicles (1995)	UL	ANSI/UL 307A
	Low Voltage Lighting Fixtures for Use in Recreational Vehicles (1994)	UL	ANSI/UL 234
	Testing of Nuclear Air-Treatment Systems	ASME	ASME N510-1989 (RA95)
	Nuclear Power Plant Air Cleaning Units and Components	ASME	ASME N509-1989 (RA96)
	Test Methods for Film-Insulated Magnet Wire	ASTM	ASTM D1676-02
	Energy Efficiency Test Methods for Three-Phase Induction Motors	CSA	C390-98
	Motors and Generators	CSA	C22.2 No. 100-95 (R2000)
	Energy Management Guide for Selection and Use of Fixed Frequency Medium AC Squirrel-Cage Polyphase Industrial Motors	NEMA	NEMA MG 10-2001
	Energy Management Guide for Selection and Use of Single-Phase Motors	NEMA	NEMA MG 11-1977 (R2001)
	Motion/Position Control Motors, Controls, and Feedback Devices	NEMA	NEMA ICS 16-2001
<b>Pipe, Tubing, and Fittings</b>	Motors and Generators	NEMA	NEMA MG 1-1998
	Electric Motors (1994)	UL	UL 1004
	Electric Motors and Generators for Use in Division 1 Hazardous (Classified) Locations (1994)	UL	ANSI/UL 674
	Overheating Protection for Motors (1997)	UL	UL 2111
	Standard Test Procedure for Polyphase Induction Motors and Generators	IEEE	IEEE 112-1996
	Process Piping	ASME	ASME B31.3-1999
	Building Services Piping	ASME	ASME B31.9-1996
	Pipe Threads, General Purpose (Inch)	ASME	ASME B1.20.1-1983 (RA01)
	Power Piping	ASME	ASME B31.1-1998
	Refrigeration Piping and Heat Transfer Components	ASME	ASME B31.5-2001
	Scheme for the Identification of Piping Systems	ASME	ANSI/ASME A13.1-1996
<b>Plastic</b>	Standard Practice for Obtaining Hydrostatic or Pressure Design Basis for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings	ASTM	ASTM D2992-01
	Standards of the Expansion Joint Manufacturers Association, Inc., 7th ed. (1998)	EJMA	EJMA
	Guideline for Quality Piping Installation (1996)	MCAA	MCAA
	Pipe Hangers and Supports—Materials, Design and Manufacture	MSS	MSS SP-58-1993
	Pipe Hangers and Supports—Selection and Application	MSS	MSS SP-69-1996
	Welding Procedure Specifications	NCPWB	NCPWB
	Electrical Nonmetallic Tubing (ENT)	NEMA	NEMA TC 13-2000
	National Fuel Gas Code	AGA/NFPA	ANSI Z223.1-2002/ANSI/NFPA 54
	Refrigeration Tube Fittings—General Specifications	SAE	SAE J513-1999
	Seismic Restraint Manual—Guidelines for Mechanical Systems, 2nd ed.	SMACNA	ANSI/SMACNA 001-2000
	Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service, and Marine Use (1997)	UL	UL 109
<b>Plastic</b>	Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80	ASTM	ANSI/ASTM D1527-99
	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80	ASTM	ANSI/ASTM F441/F441M-02
	Specification for Plastic Insert Fittings for Polybutylene (PB) Tubing	ASTM	ANSI/ASTM F845-96
	Specification for Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems	ASTM	ANSI/ASTM D3309-96a (2002)
	Specification for Polybutylene (PB) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter	ASTM	ANSI/ASTM D2662-96a
	Specification for Polybutylene (PB) Plastic Pipe (SIDR-PR) Based on Outside Diameter	ASTM	ANSI/ASTM D3000-95ae1
	Specification for Polybutylene (PB) Plastic Tubing	ASTM	ANSI/ASTM D2666-96a
	Specification for Polyethylene (PE) Plastic Pipe, Schedule 40	ASTM	ANSI/ASTM D2104-01
<b>Plastic</b>	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120	ASTM	ANSI/ASTM D1785-99

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Subject	Title	Publisher	Reference
Metal	Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials	ASTM	ANSI/ASTM D2837-01e1
	Electrical Polyvinyl Chloride (PVC) Tubing and Conduit	NEMA	NEMA TC 2-1998
	Fittings for PVC Plastic Utilities Duct for Underground Installation	NEMA	NEMA TC 9-1999
	PVC Plastic Utilities Duct for Underground Installation	NEMA	NEMA TC 6 and 8-1999
	Smooth-Wall Coilable Polyethylene Electrical Plastic Duct	NEMA	NEMA TC 7-2000
	Plastics Piping System Components and Related Materials	NSF	NSF/ANSI 14-2002
	Rubber Gasketed Fittings for Fire-Protection Service (2001)	UL	UL 213
	Welded and Seamless Wrought Steel Pipe	ASME	ASME B36.10M-2000
	Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless	ASTM	ANSI/ASTM A53/53M-02
	Specification for Seamless Carbon Steel Pipe for High-Temperature Service	ASTM	ANSI/ASTM A106-02
	Specification for Seamless Copper Pipe, Standard Sizes	ASTM	ANSI/ASTM B42-02
	Specification for Seamless Copper Tube	ASTM	ANSI/ASTM B75-902
	Specification for Hand-Drawn Copper Capillary Tube for Restrictor Applications	ASTM	ANSI/ASTM B360-01
	Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	ASTM	ASTM B280-902
	Specification for Seamless Copper Water Tube	ASTM	ANSI/ASTM B88-902
	Specification for Welded Copper Tube for Air Conditioning and Refrigeration Service	ASTM	ANSI/ASTM B640-00
	Thickness Design of Ductile-Iron Pipe	AWWA	ANSI/AWWA C150/A21.50-96
	Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies	NEMA	NEMA FB 1-2001
	Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit	NEMA	NEMA RN 1-1998
<b>Plumbing</b>	Uniform Plumbing Code (2000) (with IAPMO Installation Standards)	IAPMO	IAPMO
	International Plumbing Code (2003)	ICC	ICPC
	International Private Sewage Disposal Code (2003)	ICC	IPSDC
	National Standard Plumbing Code (NSPC)	PHCC	NSPC 2000
	Standard Plumbing Code (1997)	SBCCI	SBCCI
<b>Pumps</b>	Centrifugal Pumps	ASME	ASME PTC 8.2-1990
	Displacement Compressors, Vacuum Pumps and Blowers	ASME	ASME PTC 9-1970 (RA97)
	Liquid Pumps	CSA	CAN/CSA-C.22.2 No. 108-01
	Performance Standard for Liquid Ring Vacuum Pumps, 2nd ed. (2000)	HEI	HEI
	Centrifugal Pumps	HI	ANSI/HI 1.1-1.5 (2000)
	Centrifugal Pumps - Horizontal Baseplate Design	HI	ANSI/HI 1.3.4 (2000)
	Vertical Pumps	HI	ANSI/HI 2.1-2.5 (2000)
	Rotary Pumps	HI	ANSI/HI 3.1-3.5 (2000)
	Sealless Rotary Pumps	HI	ANSI/HI 4.1-4.6 (2000)
	Sealless Centrifugal Pumps	HI	ANSI/HI 5.1-5.6 (2000)
	Reciprocating Pumps	HI	ANSI/HI 6.1-6.5 (2000)
	Controlled Volume Metering Pumps	HI	ANSI/HI 7.1-7.5 (2002)
	Direct Acting (Steam) Pumps	HI	ANSI/HI 8.1-8.5 (2000)
	Pumps—General Guideline	HI	ANSI/HI 9.1-9.5 (2000)
	Centrifugal and Vertical Pumps—NPSH Margin	HI	ANSI/HI 9.6.1 (2000)
	Centrifugal and Vertical Pumps—Allowable Operating Region	HI	ANSI/HI 9.6.3 (2000)
	Pump Intake Design	HI	ANSI/HI 9.8 (2000)
	Engineering Data Book, 2nd ed. (1990)	HI	HI
	Circulation System Components and Related Materials for Swimming Pools, Spas/Hot Tubs	NSF	NSF/ANSI 50-2001
	Swimming Pool Pumps, Filters and Chlorinators (1997)	UL	UL 1081
	Motor-Operated Water Pumps (1996)	UL	UL 778
	Pumps for Oil-Burning Appliances (1997)	UL	ANSI/UL 343
<b>Radiators</b>	Testing and Rating Standard for Baseboard Radiation, 6th ed. (1990)	HYDI	IBR
	Testing and Rating Standard for Finned-Tube (Commercial) Radiation (1990)	HYDI	IBR
<b>Receivers</b>	Refrigerant Liquid Receivers	ARI	ARI 495-99
<b>Refrigerants</b>	Threshold Limit Values for Chemical Substances (updated annually)	ACGIH	ACGIH
	Refrigerant Recovery/Recycling Equipment	ARI	ARI 740-98
	Specifications for Fluorocarbon and Other Refrigerants	ARI	ARI 700-99
	Format for Information on Refrigerants	ASHRAE	ASHRAE Guideline 6-1996
	Method of Testing Flow Capacity of Refrigerant Capillary Tubes	ASHRAE	ANSI/ASHRAE 28-1996 (RA02)
	Designation and Safety Classification of Refrigerants	ASHRAE	ANSI/ASHRAE 34-2001
	Reducing Emission of Fully Halogenated Refrigerants in Refrigeration and Air-Conditioning Equipment and Systems	ASHRAE	ASHRAE Guideline 3-1996
	Refrigeration Oil Description	ASHRAE	ASHRAE 99-1987

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Subject	Title	Publisher	Reference
	Sealed Glass Tube Method to Test the Chemical Stability of Material for Use Within Refrigerant Systems	ASHRAE	ANSI/ASHRAE 97-1999
	Test Method for Acid Number of Petroleum Products by Potentiometric Titration	ASTM	ANSI/ASTM D664-01
	Test Method for Concentration Limits of Flammability of Chemical (Vapors and Gases)	ASTM	ASTM E681-01
	Refrigerant-Containing Components for Use in Electrical Equipment	CSA	C22.2 No. 140.3-M1987 (R1999)
	Refrigerant-Containing Components and Accessories, Non-Electrical (2001)	UL	ANSI/UL 207
	Refrigerants-Number Designation	ISO	ISO 817:1974
	Recommended Service Procedure for the Containment of HFC-134a	SAE	SAE J2211-1998
	Recovery/Recycling Equipment for Mobile Air-Conditioning Systems	SAE	SAE J2210-1999
	CFC-12 (R-12) Refrigerant Recovery Equipment for Mobile Automotive Air-Conditioning Systems	SAE	SAE J2209-1999
	HFC-134a (R-134a) Service Hose Fittings for Automotive Air-Conditioning Service Equipment	SAE	SAE J2197-1997
	Standard of Purity for Recycled HFC-134a for Use in Mobile Air-Conditioning Systems	SAE	SAE J2099-1999
	Recommended Service Procedure for the Containment of CFC-12 (R-12)	SAE	SAE J1989-1998
	Procedure Retrofitting CFC-12 (R12) Mobile Air-Conditioning Systems to HFC-134a (R134a)	SAE	SAE J1661-1998
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Construction and Operation (1993)	UL	ANSI/UL 2170
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Insulating Material and Refrigerant Compatibility (1993)	UL	ANSI/UL 2171
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Procedures and Methods (1993)	UL	ANSI/UL 2172
	Refrigerant Recovery/Recycling Equipment (1995)	UL	UL 1963
	Refrigerants (1994)	UL	UL 2182
<b>Refrigeration</b>	Safety Code for Refrigeration Systems	ASHRAE	ANSI/ASHRAE 15-2001
	Mechanical Refrigeration Code	CSA	B52-99
	Refrigeration Equipment	CSA	CAN/CSA-C22.2 No. 120-M91 (R1999)
	Equipment, Design and Installation of Ammonia Mechanical Refrigerating Systems	IIAR	ANSI/IIAR 2-1999
	Refrigerated Medical Equipment (1993)	UL	ANSI/UL 416
<b>Refrigeration Systems</b>	Ejectors	ASME	ASME PTC 24-1976 (RA82)
	Testing of Refrigerating Systems	ISO	ISO 916-1968
	Standards for Steam Jet Vacuum Systems, 5th ed. (2000)	HEI	HEI
Transport	Mechanical Transport Refrigeration Units	ARI	ARI 1110-2001
	Mechanical Refrigeration and Air-Conditioning Installations Aboard Ship	ASHRAE	ANSI/ASHRAE 26-1996
	General Requirements for Application of Vapor Cycle Refrigeration Systems for Aircraft	SAE	SAE ARP731B-1997
	Safety and Containment of Refrigerant for Mechanical Vapor Compression Systems Used for Mobile Air-Conditioning Systems	SAE	SAE J639-1999
<b>Refrigerators</b>	Method of Testing Open Refrigerators	ASHRAE	ANSI/ASHRAE 72-1998
	Methods of Testing Closed Refrigerators	ASHRAE	ANSI/ASHRAE 117-2002
Commercial	Energy Performance Standard for Commercial Refrigerated Display Cabinets and Merchandise	CSA	C657-95 (R2001)
	Energy Performance Standard for Food Service Refrigerators and Freezers	CSA	C827-98
	Gas Food Service Equipment	CSA	ANSI Z83.11-1996/CGA 1.8-M96
	Mobile Food Carts	NSF	NSF/ANSI 59-2002
	Food Equipment	NSF	NSF/ANSI 2-2002
	Commercial Refrigerators and Freezers	NSF	NSF/ANSI 7-2001
	Commercial Refrigerators and Freezers (1995)	UL	ANSI/UL 471
	Refrigerating Units (1994)	UL	ANSI/UL 427
	Refrigeration Unit Coolers (1993)	UL	ANSI/UL 412
Household	Refrigerators Using Gas Fuel	CSA	ANSI Z21.19-1990 (R1999)
	Household Refrigerators, Combination Refrigerator-Freezers and Household Freezers	AHAM	ANSI/AHAM HRF-1-2001
	Energy Performance and Capacity of Household Refrigerators, Refrigerator-Freezers, and Freezers	CSA	CAN/CSA C300-00
	Household Refrigerators and Freezers (1993)	UL/CSA	ANSI/UL 250-1997/C22.2 No. 63-93
<b>Retrofitting</b>			
Building	Building Systems Analysis and Retrofit Manual, 1st ed.	SMACNA	SMACNA 1995
Refrigerant	Procedure for Retrofitting CFC-12 (R12) Mobile Air Conditioning Systems to HFC-134a (R134a)	SAE	SAE J1661-1998
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Construction and Operation (1993)	UL	ANSI/UL 2170

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Subject	Title	Publisher	Reference
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Insulating Material and Refrigerant Compatibility (1993)	UL	ANSI/UL 2171
	Field Conversion/Retrofit of Products to Change to an Alternative Refrigerant—Procedures and Methods (1993)	UL	ANSI/UL 2172
<b>Roof Ventilators</b>	Commercial Low Pressure, Low Velocity Duct System Design, 1st ed. Power Ventilators (1994)	ACCA UL	ACCA Manual Q ANSI/UL 705
<b>Safety Devices</b>	Bursting Discs and Bursting Disc Devices	ISO	ISO 6718:1991
<b>Solar Equipment</b>	Method of Measuring Solar-Optical Properties of Materials	ASHRAE	ANSI/ASHRAE 74-1988
	Methods of Testing to Determine the Thermal Performance of Flat-Plate Solar Collectors Containing a Boiling Liquid	ASHRAE	ANSI/ASHRAE 109-1986 (RA96)
	Methods of Testing to Determine the Thermal Performance of Solar Collectors	ASHRAE	ANSI/ASHRAE 93-1986 (RA91)
	Methods of Testing to Determine the Thermal Performance of Solar Domestic Water Heating Systems	ASHRAE	ASHRAE 95-1987
	Methods of Testing to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors	ASHRAE	ANSI/ASHRAE 96-1980 (RA89)
	Practice for Installation and Service of Solar Space Heating Systems for One and Two Family Dwellings	ASTM	ASTM E683-91 (2001)
	Practice for Installation and Service of Solar Domestic Water Heating Systems for One and Two Family Dwellings	ASTM	ASTM E1056-85 (2001)
	Practice for Evaluating Thermal Insulation Materials for Use in Solar Collectors	ASTM	ASTM E861-94 (2001)
	Reference Solar Spectral Irradiance at the Ground at Different Receiving Conditions—Part 1: Direct Normal and Hemispherical Solar Irradiance for Air Mass 1.5	ISO	ISO 9845-1:1992
	Solar Energy—Calibration of a Pyranometer Using a Pyrliometer	ISO	ISO 9846:1993
	Solar Heating—Domestic Water Heating Systems—Part 2: Outdoor Test Methods for System Performance Characterization and Yearly Performance Prediction of Solar-Only Systems	ISO	ISO 9459-2:1995
	Solar Heating—Swimming Pool Heating Systems—Dimensions, Design and Installation Guidelines	ISO	ISO 12596:1995
	Solar Water Heaters—Elastomeric Materials for Absorbers, Connecting Pipes and Fittings—Method of Assessment	ISO	ISO 9808:1990
	Test Methods for Solar Collectors—Part 1: Thermal Performance of Glazed Liquid Heating Collectors Including Pressure Drop	ISO	ISO 9806-1:1994
	Test Methods for Solar Collectors—Part 2: Qualification Test Procedures	ISO	ISO 9806-2:1995
	Test Methods for Solar Collectors—Part 3: Thermal Performance of Unglazed Liquid Heating Collectors (Sensible Heat Transfer Only) Including Pressure Drop	ISO	ISO 9806-3:1995
	Thermal Performance Testing of Solar Ambient Air Heaters	ASAE	ANSI/ASAE S423-2001
<b>Solenoid Valves</b>	Solenoid Valves for Use with Volatile Refrigerants	ARI	ARI 760-2001
<b>Sound Measurement</b>	Threshold Limit Values for Physical Agents (updated annually)	ACGIH	ACGIH
	Method for the Calibration of Microphones	ASA	ANSI S1.10-1966 (R2001)
	Specification for Sound Level Meters	ASA	ANSI S1.4-1983 (R2001)
	Specification for Octave-Band and Fractional-Octave-Band Analog and Digital Filters	ASA	ANSI S1.11-1986 (R1998)
	Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers	ASTM	ASTM E477-99e1
	Sound and Vibration Design and Analysis (1994)	NEBB	NEBB
Fans	Methods for Calculating Fan Sound Ratings from Laboratory Test Data	AMCA	AMCA 301-90
	Reverberant Room Method for Sound Testing of Fans	AMCA	AMCA 300-96
	Balance Quality and Vibration Levels for Fans	AMCA	AMCA 204-96
	Laboratory Methods of Testing Air Circulator Fans for Rating	AMCA	AMCA 230-99
	Methods for the Measurement of Noise Emitted by Small Air-Moving Devices	ASA	ANSI S12.11-1987 (R1997)
	Laboratory Method of Testing to Determine the Sound Power in a Duct	ASHRAE/ AMCA	ANSI/ASHRAE 68-1997/ AMCA 330-97
	Acoustics—Method for the Measurement of Airborne Noise Emitted by Small Air-Moving Devices	ISO	ISO 10302:1996
Other Equipment	Application of Sound Rating Levels of Outdoor Unitary Equipment	ARI	ARI 275-97
	Method of Measuring Machinery Sound Within Equipment Space	ARI	ARI 575-94
	Method of Measuring Sound and Vibration of Refrigerant Compressors	ARI	ARI 530-95
	Sound Rating and Sound Transmission Loss of Packaged Terminal Equipment	ARI	ARI 300-2000
	Sound Rating of Large Outdoor Refrigerating and Air-Conditioning Equipment	ARI	ARI 370-2001
	Sound Rating of Non-Ducted Indoor Air-Conditioning Equipment	ARI	ARI 350-2000
	Sound Rating of Outdoor Unitary Equipment	ARI	ARI 270-95
	Statistical Methods for Determining and Verifying Stated Noise Emission Values of Machinery and Equipment	ASA	ANSI S12.3-1985 (R2001)
	Sound Level Prediction for Installed Rotating Electrical Machines	NEMA	NEMA MG 3-1974 (R2000)

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Subject	Title	Publisher	Reference
Techniques	Methods for Measurement of Sound Emitted by Machinery and Equipment at Workstations and Other Specified Positions	ANSI	ANSI S12.43-1997
	Methods for Calculation of Sound Emitted by Machinery and Equipment at Workstations and Other Specified Positions from Sound Power Level	ANSI	ANSI S12.44-1997
	Criteria for Evaluating Room Noise	ASA	ANSI S12.2-1995 (R1999)
	Engineering Method for the Determination of Sound Power Levels of Noise Sources Using Sound Intensity	ASA	ANSI S12.12-1992 (R1997)
	Engineering Methods for the Determination of Sound Power Levels of Noise Sources for Essentially Free-Field Conditions over a Reflecting Plane	ASA	ANSI S12.34-1988 (R1997)
	Guidelines for the Use of Sound Power Standards and for the Preparation of Noise Test Codes	ASA	ANSI S12.30-1990 (R1997)
	Measurement of Sound Pressure Levels in Air	ASA	ANSI S1.13-1995 (R1999)
	Methods for Determination of Insertion Loss of Outdoor Noise Barriers	ASA	ANSI S12.8-1998
	Methods for the Determination of Sound Power Levels of Noise Sources in a Special Reverberation Test Room	ASA	ANSI S12.33-1990 (R1997)
	Precision Methods for the Determination of Sound Power Levels of Broad-Band Noise Sources in Reverberation Rooms	ASA	ANSI S12.31-1990 (R2001)
	Precision Methods for the Determination of Sound Power Levels of Discrete-Frequency and Narrow-Band Noise Sources in Reverberation Rooms	ASA	ANSI S12.32-1990 (R2001)
	Precision Methods for the Determination of Sound Power Levels of Noise Sources in Anechoic and Hemi-Anechoic Rooms	ASA	ANSI S12.35-1990 (R2001)
	Preferred Frequencies, Frequency Levels, and Band Numbers for Acoustical Measurements	ASA	ANSI S1.6-1984 (R2001)
	Procedure for the Computation of Loudness of Noise	ASA	ANSI S3.4-1980 (R1997)
	Procedures for Outdoor Measurement of Sound Pressure Level	ASA	ANSI S12.18-1994 (R1999)
	Reference Quantities for Acoustical Levels	ASA	ANSI S1.8-1989 (R2001)
	Survey Methods for the Determination of Sound Power Levels of Noise Sources	ASA	ANSI S12.36-1990 (R1997)
	Measurement of Industrial Sound	ASME	ASME PTC 36-1985 (RA98)
	Test Method for Evaluating Masking Sound in Open Offices Using A-Weighted and One-Third Octave Band Sound Pressure Levels	ASTM	ASTM E1573-02
	Test Method for Measurement of Sound in Residential Spaces	ASTM	ASTM E1574-98
	Test Method for Measurement of Airborne Sound Insulation in Buildings	ASTM	ASTM E336-97
	Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method	ASTM	ASTM C423-02
	Test Method for Impedance and Absorption of Acoustical Materials by the Impedance Tube Method	ASTM	ASTM C384-98
	Test Method for Impedance and Absorption of Acoustical Materials Using a Tube, Two Microphones and a Digital Frequency Analysis System	ASTM	ASTM E1050-98
	Acoustics—Measurement of Sound Insulation in Buildings and of Building Elements; Part 1: Requirements for Laboratory Test Facilities with Suppressed Flanking Transmission	ISO	ISO 140-1: 1997
	Part 4: Field Measurements of Airborne Sound Insulation Between Rooms	ISO	ISO 140-4: 1998
	Part 5: Field Measurements of Airborne Sound Insulation of Facade Elements and Facade	ISO	ISO 140-5: 1998
	Part 6: Laboratory Measurements of Impact Sound Insulation of Floors	ISO	ISO 140-6: 1998
	Part 7: Field Measurements of Impact Sound Insulation of Floors	ISO	ISO 140-7: 1998
	Part 8: Laboratory Measurements of the Reduction of Transmitted Impact Noise by Floor Coverings on a Solid Standard Floor	ISO	ISO 140-8: 1997
	Acoustics—Determination of Sound Power Levels of Noise Sources Using Sound Intensity; Part 1: Measurement at Discrete Points	ISO	ISO 9614-1:1993
	Acoustics—Determination of Sound Power Levels of Noise Sources Using Sound Intensity; Part 2: Measurement by Scanning	ISO	ISO 9614-2:1996
	Acoustics—Method for Calculating Loudness Level	ISO	ISO 532:1975
	Procedural Standards for Measurement and Assessment of Sound and Vibration (1994)	NEBB	NEBB
Terminology	Acoustical Terminology	ASA	ANSI S1.1-1994 (R1999)
	Terminology Relating to Environmental Acoustics	ASTM	ASTM C 634-02
<i>Space Heaters</i>	Methods of Testing for Rating Combination Space-Heating and Water-Heating Appliances	ASHRAE	ANSI/ASHRAE 124-1991
	Fixed and Location-Dedicated Electric Room Heaters (1997)	UL	UL 2021
	Movable and Wall- or Ceiling-Hung Electric Room Heaters (2000)	UL	UL 1278
	Vented Gas-Fired Space Heating Appliances	CSA	ANSI Z21.86-2000/CSA 2.32-2000
	Gas-Fired Room Heaters, Vol. II, Unvented Room Heaters	CSA	ANSI Z21.11.2-2000
<i>Symbols</i>	Graphic Electrical/Electronic Symbols for Air-Conditioning and Refrigeration Equipment	ARI	ARI 130-88
	Graphic Symbols for Heating, Ventilating, and Air Conditioning	ASME	ASME Y32.2.4-1949 (RA98)

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Subject	Title	Publisher	Reference
	Graphical Symbols for Pipe Fittings, Valves and Piping	ASME	ASME Y32.2.3-1949 (RA99)
	Graphical Symbols for Plumbing Fixtures for Diagrams used in Architecture and Building Construction	ASME	ASME Y32.4-1977 (RA99)
	Symbols for Mechanical and Acoustical Elements as Used in Schematic Diagrams	ASME	ASME Y32.18-1972 (RA98)
	Practice for Mechanical Symbols, Shipboard Heating, Ventilation, and Air Conditioning (HVAC)	ASTM	ASTM F856-97
	Standard Symbols for Welding, Brazing, and Nondestructive Examination	AWS	AWS A2.4
	Graphic Symbols for Electrical and Electronic Diagrams	IEEE	ANSI/IEEE 315-1975 (R1993)
	Recommended Practice for the Preparation and Use of Symbols	IEEE	IEEE 267-1966
	Standard Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering	IEEE	IEEE 280-1985 (R1997)
	Standard for Logic Circuit Diagrams	IEEE	IEEE 991-1986 (R1994)
	Standard for Use of the International System of Units (SI): The Modern Metric System	IEEE/ ASTM	IEEE/ASTM-SI-10
	Abbreviations and Acronyms	ASME	ASME Y14.38-1999
	Engineering Drawing Practices	ASME	ASME Y14.100-2000
	Safety Color Code	NEMA	ANSI/NEMA Z535.1-1998
<b>Terminals, Wiring</b>	Electrical Quick-Connect Terminals (1995)	UL	ANSI/UL 310
	Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors (1994)	UL	ANSI/UL 486E
	Splicing Wire Connectors (2000)	UL	ANSI/UL 486C
	Wire Connectors and Soldering Lugs for Use with Copper Conductors (1997)	UL	ANSI/UL 486A
	Wire Connectors for Use with Aluminum Conductors (1997)	UL	UL 486B
<b>Testing and Balancing</b>	AABC Commissioning Guideline	AABC	AABC
	Industrial Process/Power Generating Fans: Site Performance Test Standard	AMCA	AMCA 803-96
	The HVAC Commissioning Process	ASHRAE	ASHRAE <i>Guideline</i> 1-1996
	Practices for Measurement, Testing, Adjusting, and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems	ASHRAE	ANSI/ASHRAE 111-1988
	Centrifugal Pump Test	HI	ANSI/HI 1.6 (2000)
	Vertical Pump Tests	HI	ANSI/HI 2.6 (2000)
	Rotary Pump Tests	HI	ANSI/HI 3.6 (2000)
	Reciprocating Pump Tests	HI	ANSI/HI 6.6 (2000)
	Pumps—General Guidelines (Including “Measurement of Airborne Sound”)	HI	HI 9.1-9.6 (2000)
	Procedural Standards for Certified Testing of Cleanrooms, 2nd ed. (1996)	NEBB	NEBB
	Procedural Standards for Testing, Adjusting, Balancing of Environmental Systems, 6th ed. (1998)	NEBB	NEBB
	Guidelines for Measuring and Reporting Environmental Parameters for Plant Experiments in Growth Chambers	ASAE	ANSI/ASAE EP411.4-2002
	HVAC Systems Testing, Adjusting and Balancing, 3rd ed.	SMACNA	SMACNA 2002
<b>Thermal Storage</b>	Method of Testing Active Sensible Thermal Energy Storage Devices Based on Thermal Performance	ASHRAE	ANSI/ASHRAE 94.3-1986 (RA02)
	Method of Testing Active Latent-Heat Storage Devices Based on Thermal Performance	ASHRAE	ANSI/ASHRAE 94.1-2002
	Method of Testing Thermal Storage Devices with Electrical Input and Thermal Output Based on Thermal Performance	ASHRAE	ANSI/ASHRAE 94.2-1981 (RA02)
	Practices for Measurement, Testing, Adjusting, and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems	ASHRAE	ANSI/ASHRAE 111-1988
<b>Turbines</b>	Steam Turbines	ASME	ASME PTC 6-1996
	Wind Turbines	ASME	ASME PTC 42-1988 (RA98)
	Specification for Gas Turbine Fuel Oils	ASTM	ANSI/ASTM D2880-00
	Land Based Steam Turbine Generator Sets	NEMA	NEMA SM 24-1991 (R1997)
	Steam Turbines for Mechanical Drive Service	NEMA	NEMA SM 23-1991 (R1997)
<b>Valves</b>	Face-to-Face and End-to-End Dimensions of Valves	ASME	ASME B16.10-2000
	Pressure Relief Devices	ASME	ASME PTC 25-2001
	Valves—Flanged, Threaded, and Welding End	ASME	ASME B16.34-1996
	Manually Operated Metallic Gas Valves for Use in House Piping Systems	ASME	ASME B16.44-1995
	Relief Valves for Hot Water Supply	CSA	ANSI Z21.22-1999/CSA 4.4-M99
	Control Valve Capacity Test Procedures	ISA	ANSI/ISA-S75.02-1996
	Flow Equations for Sizing Control Valves	ISA	ANSI/ISA-S75.01-1985 (R1995)
	Industrial Valves—Part-Turn Actuator Attachments	ISO	ISO 5211-1:2001
	Metal Valves for Use in Flanged Pipe Systems—Face-to-Face and Centre-to-Face Dimensions	ISO	ISO 5752:1982
	Safety Valves, Part 1: General Requirements	ISO	ISO 4126-1:1991
	Oxygen System Fill/Check Valve	SAE	SAE AS1225A-1997

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Subject	Title	Publisher	Reference
Gas	Electrically Operated Valves (1999)	UL	UL 429
	LP-Gas Regulators (1999)	UL	UL 144
	Safety Relief Valves for Anhydrous Ammonia and LP-Gas (1997)	UL	UL 132
	Valves for Anhydrous Ammonia and LP-Gas (Other Than Safety Relief) (1997)	UL	UL 125
	Valves for Flammable Fluids (1997)	UL	UL 842
	Automatic Valves for Gas Appliances	CSA	ANSI Z21.21-2000/CGA 6.5-2000
	Combination Gas Controls for Gas Appliances	CSA	ANSI Z21.78-2000/CGA 6.20-2000
	Manually Operated Gas Valves for Appliances, Appliance Connection Valves, and Hose End Valves	CSA	ANSI Z21.15-1997/CGA 9.1-M97
	Large Metallic Valves for Gas Distribution (Manually Operated, NPS-2 1/2 to 12, 125 psig Maximum)	ASME	ASME B16.38-1985 (RA94)
	Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 125 psig (Sizes 1/2 through 2)	ASME	ASME B16.33-2002
	Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems	ASME	ASME B16.40-2002 (RA94)
	Refrigerant Access Valves and Hose Connectors	ARI	ARI 720-97
Refrigerant	Refrigerant Pressure Regulating Valves	ARI	ARI 770-2001
	Solenoid Valves for Use with Volatile Refrigerants	ARI	ARI 760-2001
	Thermostatic Refrigerant Expansion Valves	ARI	ARI 750-94
<b>Vapor Retarders</b>	Practice for Selection of Vapor Retarders for Thermal Insulation	ASTM	ASTM C755-02
	Practice for Determining the Properties of Jacketing Materials for Thermal Insulation	ASTM	ANSI/ASTM C921-02
	Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation	ASTM	ANSI/ASTM C1136-02
	Test Method for Water Vapor Transmission Rate of Flexible Barrier Materials Using an Infrared Detection Technique	ASTM	ASTM F372-99
<b>Vending Machines</b>	Methods of Testing for Rating Bottled and Canned Beverage Vending Machines	ASHRAE	ANSI/ASHRAE 32.1-1997
	Methods of Testing for Rating Pre-Mix and Post-Mix Soft Drink Vending and Dispensing Equipment	ASHRAE	ANSI/ASHRAE 32.2-1997
	Vending Machines	CSA	C22.2 No.128-95 (R1999)
	Vending Machines for Food and Beverages	NSF	NSF/ANSI 25-2002
	Vending Machines (1995)	UL	ANSI/UL 751
<b>Vent Dampers</b>	Refrigerated Vending Machines (1995)	UL	UL 541
	Automatic Vent Damper Devices for Use with Gas-Fired Appliances	CSA	ANSI Z21.66-1996/CSA 6.14-M96
<b>Ventilation</b>	Vent or Chimney Connector Dampers for Oil-Fired Appliances (1994)	UL	UL 17
	Commercial Low Pressure, Low Velocity Duct System Design, 1st ed.	ACCA	ACCA Manual Q
	Comfort, Air Quality, and Efficiency by Design	ACCA	ACCA Manual RS
	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Guide for Testing Ventilation Systems (1991)	ACGIH	ACGIH
	Industrial Ventilation: A Manual of Recommended Practice, 24th ed. (2001)	ACGIH	ACGIH
	Ventilation for Acceptable Indoor Air Quality	ASHRAE	ASHRAE 62-2001
	Method of Testing for Room Air Diffusion	ASHRAE	ANSI/ASHRAE 113-1990
	Measuring Air Change Effectiveness	ASHRAE	ANSI/ASHRAE 129-1997 (RA02)
	Method of Determining Air Change Rates in Detached Dwellings	ASHRAE	ANSI/ASHRAE 136-1993 (RA01)
	Design of Ventilation Systems for Poultry and Livestock Shelters	ASAE	ASAE EP270.5-2001
	Design Values for Emergency Ventilation and Care of Livestock and Poultry	ASAE	ASAE EP282.2-2000
	Uniform Terminology for Livestock Production Facilities	ASAE	ASAE S501-2001
	Guidelines for Selection of Energy Efficient Agricultural Ventilation Fans	ASAE	ASAE EP566-2001
	Heating, Ventilating and Cooling Greenhouses	ASAE	ASAE EP406.3-1998
	Residential Mechanical Ventilation Systems	CSA	CAN/CSA F326-M91 (R1998)
	Installation of Air Conditioning and Ventilating Systems	NFPA	NFPA 90A-99
	Parking Structures	NFPA	NFPA 88A-98
	Ventilation Control and Fire Protection of Commercial Cooking Operations	NFPA	NFPA 96-01
	Food Equipment	NSF	NSF/ANSI 2-2002
	Class II (Laminar Flow) Biosafety Cabinetry	NSF	NSF/ANSI 49-2002
	Test Procedure for Battery Flame Retardant Venting Systems	SAE	SAE J1495-1998
	Heater, Airplane, Engine Exhaust Gas to Air Heat Exchanger Type	SAE	SAE ARP86A-1996
	Aerothermodynamic Systems Engineering and Design	SAE	SAE AIR1168/3-1989
<b>Venting</b>	Commercial Applications, Systems, and Equipment, 1st ed.	ACCA	ACCA Manual CS
	Draft Hoods	CSA	ANSI Z21.12-1990 (R2000)
	National Fuel Gas Code	AGA/NFPA	ANSI Z223.1-2002/ANSI/NFPA 54-02
	Balance Quality and Vibration Levels for Fans	AMCA	AMCA 204-96
	Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances	NFPA	NFPA 211-00
	Explosion Prevention Systems	NFPA	NFPA 69-97

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Subject	Title	Publisher	Reference
	Smoke and Heat Venting	NFPA	NFPA 204-02
	Guide for Steel Stack Construction, 2nd ed.	SMACNA	SMACNA 1996
	Draft Equipment (1993)	UL	UL 378
	Gas Vents (1996)	UL	UL 441
	Type L Low-Temperature Venting Systems (1995)	UL	ANSI/UL 641
<b>Vibration</b>	Mechanical Vibration of Rotating and Reciprocating Machinery—Requirements for Instruments for Measuring Vibration Severity	ASA	ANSI S2.40-1984 (R2001)
	Methods for Analysis and Presentation of Shock and Vibration Data	ASA	ANSI S2.10-1971 (R2001)
	Selection of Calibrations and Tests for Electrical Transducers Used for Measuring Shock and Vibration	ASA	ANSI S2.11-1969 (R2001)
	Techniques of Machinery Vibration Measurement	ASA	ANSI S2.17-1980 (R2001)
	Vibrations of Buildings—Guidelines for the Measurement of Vibrations and Evaluation of Their Effects on Buildings	ASA	ANSI S2.47-1990 (R2001)
	Evaluation of Human Exposure to Whole-Body Vibration; Part 2: Continuous and Shock-Induced Vibrations in Buildings (1 to 80 Hz)	ISO	ISO 2631-2:1989
	Guidelines for the Evaluation of the Response of Occupants of Fixed Structures, Especially Buildings and Off-Shore Structures, to Low-Frequency Horizontal Motion (0.063 to 1 Hz)	ISO	ISO 6897:1984
	Procedural Standards for Measurement and Assessment of Sound and Vibration (1994)	NEBB	NEBB
	Sound and Vibration Design and Analysis (1994)	NEBB	NEBB
<b>Water Heaters</b>	Gas Water Heaters, Vol. I, Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less	CSA	ANSI Z21.10.1-1998/CSA 4.1-M98
	Gas Water Heaters, Vol. III, Storage, with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous Water Heaters	CSA	ANSI Z21.10.3-1998/CSA 4.3-M98
	Desuperheater/Water Heaters	ARI	ARI 470-95
	Method of Testing for Rating Commercial Gas, Electric, and Oil Water Heaters	ASHRAE	ANSI/ASHRAE 118.1-1993
	Method of Testing for Rating Residential Water Heaters	ASHRAE	ANSI/ASHRAE 118.2-1993
	Methods of Testing for Efficiency of Space-Conditioning/Water-Heating Appliances That Include a Desuperheater Water Heater	ASHRAE	ANSI/ASHRAE 137-1995 (RA01)
	Methods of Testing to Determine the Thermal Performance of Solar Domestic Water Heating Systems	ASHRAE	ASHRAE 95-1987
	Methods of Testing for Rating Combination Space-Heating and Water-Heating Appliances	ASHRAE	ANSI/ASHRAE 124-1991
	Construction and Test of Electric Storage-Tank Water Heaters	CSA	CAN/CSA-C22.2 No. 110-94 (R1999)
	Performance of Electric Storage Tank Water Heaters for Household Service	CSA	C191-00
	Oil Burning Stoves and Water Heaters	CSA	B140.3-1962 (R2001)
	Oil-Fired Service Water Heaters and Swimming Pool Heaters	CSA	B140.12-1976 (R2001)
	Water Heaters, Hot Water Supply Boilers, and Heat Recovery Equipment	NSF	NSF/ANSI 5-2000e
	Commercial-Industrial Gas Heating Equipment (1999)	UL	UL 795
	Electric Booster and Commercial Storage Tank Water Heaters (1995)	UL	UL 1453
	Household Electric Storage Tank Water Heaters (1996)	UL	ANSI/UL 174
	Oil-Fired Storage Tank Water Heaters (1995)	UL	ANSI/UL 732
	Safety for Electrically Heated Livestock Waterers	ASAE	ASAE EP342.2-1999
<b>Wood-Burning Appliances</b>	Threshold Limit Values for Chemical Substances (updated annually)	ACGIH	ACGIH
	Guide for Construction of Solid Fuel Burning Masonry Heaters	ASTM	ASTM E1602-01
	Specification for Room Heaters, Pellet Fuel Burning Type	ASTM	ASTM E1509-95
	Installation Code for Solid-Fuel-Burning Appliances and Equipment	CSA	CAN/CSA-B365-01
	Solid-Fuel-Fired Central Heating Appliances	CSA	CAN/CSA-B366.1-M91 (R2000)
	Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	NFPA	ANSI/NFPA 211-00
	Commercial Cooking, Rethermalization and Powered Hot Food Holding and Transport Equipment	NSF	NSF/ANSI 4-2000e

## ABBREVIATIONS, ADDRESSES, TELEPHONE NUMBERS, AND WEB ADDRESSES

Abbrev.	Organization	Address	Telephone	http://www.
AABC	Associated Air Balance Council	1518 K Street NW, Suite 503 Washington, D.C. 20005	(202) 737-0202	aabchq.com
ABMA	American Boiler Manufacturers Association	4001 North 9th Street, Suite 226 Arlington, VA 22203-1900	(703) 522-7350	abma.com
ACCA	Air Conditioning Contractors of America	2800 Shirlington Road, Suite 300 Arlington, VA 22206	(703) 575-4477	acca.org
ACGIH	American Conference of Governmental Industrial Hygienists	1330 Kemper Meadow Drive Cincinnati, OH 45240	(513) 742-2020	acgih.org
ADC	Air Diffusion Council	1000 E. Woodfield Road, Suite 102 Schaumburg, IL 60173-5921	(847) 706-6750	flexibleduct.org
AGA	American Gas Association	400 N. Capitol Street NW Washington, D.C. 20001	(202) 824-7000	aga.org
AHAM	Association of Home Appliance Manufacturers	111 19th Street NW, Suite 402 Washington, D.C. 20036	(202) 872-5955	aham.org
AIHA	American Industrial Hygiene Association	2700 Prosperity Avenue, Suite 250 Fairfax, VA 22031	(703) 849-8888	aiha.org
AMCA	Air Movement and Control Association International	30 West University Drive Arlington Heights, IL 60004-1893	(847) 394-0150	amca.org
ANSI	American National Standards Institute	1819 L Street NW, 6th Floor Washington, D.C. 20036	(202) 293-8020	ansi.org
ARI	Air-Conditioning and Refrigeration Institute	4100 North Fairfax Drive, Suite 200 Arlington, VA 22203	(703) 524-8800	ari.org
ASA	Acoustical Society of America	2 Huntington Quadrangle Melville, NY 11747-4502	(516) 576-2360	asa.aip.org
ASAE	American Society of Agricultural Engineers	2950 Niles Road St. Joseph, MI 49085-9659	(616) 429-0300	asae.org
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers	1791 Tullie Circle, NE Atlanta, GA 30329	(404) 636-8400	ashrae.org
ASME	ASME International	3 Park Avenue New York, NY 10016-5990	(973) 843-2763	asme.org
ASTM	ASTM International	100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959	(610) 832-9585	astm.org
AWS	American Welding Society	550 N.W. LeJeune Road Miami, FL 33126	(305) 443-9353	aws.org
AWWA	American Water Works Association	6666 W. Quincy Avenue Denver, CO 80235	(303) 794-7711	awwa.org
BOCA	Building Officials and Code Administrators International	4051 West Flossmoor Road Country Club Hills, IL 60478	(708) 799-2300	bocai.org
BSI	British Standards Institution	389 Chiswick High Road London W4 4AL, UK	44(0)20-8996-9000	bsi-global.com
CAGI	Compressed Air and Gas Institute	1300 Sumner Avenue Cleveland, OH 44115-2851	(216) 241-7333	cagi.org
CSA	Canadian Standards Association International	178 Rexdale Boulevard Toronto, ON M9W 1R3, Canada	(416) 747-4044	csa.ca
	Also available from CSA International	8501 East Pleasant Valley Road Cleveland, OH 44131-5575	(216) 328-8103	
CTI	Cooling Technology Institute	P.O. Box 73383 Houston, TX 77273-3383	(281) 583-4087	cti.org
EJMA	Expansion Joint Manufacturers Association	25 North Broadway Tarrytown, NY 10591	(914) 332-0040	ejma.org
HEI	Heat Exchange Institute	1300 Sumner Avenue Cleveland, OH 44115-2815	(216) 241-7333	heatexchange.org
HI	Hydraulic Institute	9 Sylvan Way Parsippany, NJ 07054	(973) 267-9700	pumps.org

ABBREVIATIONS, ADDRESSES, TELEPHONE NUMBERS, AND WEB ADDRESSES (*Continued*)

Abbrev.	Organization	Address	Telephone	http://www.
HYDI	Hydronics Institute	35 Russo Place, P.O. Box 218 Berkeley Heights, NJ 07922-0218	(908) 464-8200	gamanet.org
IAPMO	International Association of Plumbing and Mechanical Officials	20001 E Walnut Drive South Walnut, CA 91789-2825	(909) 595-8449	iapmo.com
ICBO	International Conference of Building Officials	5360 Workman Mill Road Whittier, CA 90601-2298	(562) 699-0541	icbo.org
ICC	International Code Council	5203 Leesburg Pike, Suite 600 Falls Church, VA 22041	(703) 931-4533	intlcode.org
IEEE	Institute of Electrical and Electronics Engineers	45 Hoes Lane Piscataway, NJ 08854-1331	(732) 981-0060	ieee.org
IESNA	Illuminating Engineering Society of North America	120 Wall Street, Floor 17 New York, NY 10005	(212) 248-5000	iesna.org
IFCI	International Fire Code Institute	5360 Workman Mill Road Whittier, CA 90601-2298	(562) 699-0541	ifci.org
IAR	International Institute of Ammonia Refrigeration	1110 North Glebe Road, Suite 250 Arlington, VA 22201	(703) 312-4200	iiar.org
ISA	The Instrumentation, Systems, and Automation Society	67 Alexander Drive, P.O. Box 12777 Research Triangle Park, NC 27709	(919) 549-8411	isa.org
ISO	International Organization for Standardization	1, rue de Varembe, Case postale 56 CH-1211 Geneva 20, Switzerland	41-22-749-0111	iso.org
MCAA	Mechanical Contractors Association of America	1385 Piccard Drive Rockville, MD 20850	(301) 869-5800	mcaa.org
MICA	Midwest Insulation Contractors Association	2017 South 139th Circle Omaha, NE 68144-2149	(800) 747-6422	micainsulation.org
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry	127 Park Street, N.E. Vienna, VA 22180-4602	(703) 281-6613	mss-hq.com
NAIMA	North American Insulation Manufacturers Association	44 Canal Center Plaza, Suite 310 Alexandria, VA 22314	(703) 684-0084	naima.org
NCPWB	National Certified Pipe Welding Bureau	1385 Piccard Drive Rockville, MD 20850-4340	(301) 869-5800	mcaa.org/ncpwb
NCSBCS	National Conference of States on Building Codes and Standards	505 Huntmar Park Drive, Suite 210 Herndon, VA 20170	(703) 437-0100	ncsbcs.org
NEBB	National Environmental Balancing Bureau	8575 Grovemont Circle Gaithersburg, MD 20877	(301) 977-3698	nebb.org
NEMA	National Electrical Manufacturers Association	1300 North 17th Street, Suite 1847 Rosslyn, VA 22209	(703) 841-3200	nema.org
NFPA	National Fire Protection Association	1 Batterymarch Park P.O. Box 9101, Quincy, MA 02269-9101	(617) 770-3000	nfpa.org
NRCC	National Research Council of Canada, Publication Sales, Institute for Research in Construction	M-20, 1200 Montreal Road Ottawa, ON K1A 0R6, Canada	(877) 672-2672	nrc.ca
NSF	NSF International	P.O. Box 130140, 789 N. Dixboro Road Ann Arbor, MI 48113-0140	(734) 769-8010	nsf.org
PHCC	Plumbing-Heating-Cooling Contractors National Association	180 S. Washington Street, P.O. Box 6808 Falls Church, VA 22040	(703) 237-8100	phccweb.org
SAE	Society of Automotive Engineers International	400 Commonwealth Drive Warrendale, PA 15096-0001	(724) 776-4841	sae.org
SBCCI	Southern Building Code Congress International	900 Montclair Road Birmingham, AL 35213-1206	(205) 591-1853	sbcci.org
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association	4201 Lafayette Center Drive Chantilly, VA 20151-1209	(703) 803-2980	smacna.org
TEMA	Tubular Exchanger Manufacturers Association	25 North Broadway Tarrytown, NY 10591	(914) 332-0040	tema.org
UL	Underwriters Laboratories	333 Pfingsten Road Northbrook, IL 60062-2096	(847) 272-8800	ul.com