

**User notes:****About this chapter:**

This code contains numerous references to standards that are used to provide requirements for materials and methods of construction. This chapter contains a comprehensive list of all standards that are referenced in this code. These standards, in essence, are part of this code to the extent of the reference to the standard. This chapter lists the standards that are referenced in various sections of this document.

The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.8.

## **ACCA** *Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206*

### **ANSI/ACCA 1 Manual D—2023:** Residential Duct Systems

601.4, 603.2

### **ANSI/ACCA 10 Manual SPS—2017:** Design for Swimming Pools and Spas

403.2.1

### **ANSI/ASHRAE/ACCA 183—2007 (RA 2020):** Peak Cooling and Heating Load Calculations in Buildings Except Low-rise Residential Buildings

312.1

## **AHRI** *Air-Conditioning, Heating & Refrigeration Institute, 2311 Wilson Blvd., Suite 400, Arlington, VA 22201*

### **700—2019:** Specifications for Refrigerants

1102.2.2.3

## **AISI** *American Iron and Steel Institute, 25 Massachusetts Avenue, NW Suite 800, Washington, DC 20001*

### **AISI S220—20:** North American Standard for Cold-Formed Steel Nonstructural Framing

302.5

### **AISI S240—20:** North American Standard for Cold-Formed Steel Structural Framing, 2020

302.5

## **AMCA** *Air Movement and Control Association International, 30 West University Drive, Arlington Heights, IL 60004*

### **AMCA 550—22:** Test Method for High Velocity Wind Driven Rain Resistant Louvers

401.5, 501.3.2

### **ANSI/AMCA 210—23/ANSI/ASHRAE 51—23:** Laboratory Methods of Testing Fans for Aerodynamic Performance Rating

403.2

### **ANSI/AMCA 230—22:** Laboratory Methods of Testing Air Circulating Fans for Rating and Certification

930.1

## **ANSI** *American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036*

### **ANSI Z21.1—2018/CSA 1.1—2018:** Household Cooking Gas Appliances

505.2

### **Z21.8—94(R2017):** Installation of Domestic Gas Conversion Burners

919.1

## **ASHRAE** *ASHRAE, 180 Technology Parkway, Peachtree Corners, GA 30092*

### **15—2022:** Safety Standard for Refrigeration Systems

1101.6, 1105.8, 1108.1

### **34—2022:** Designation and Safety Classification of Refrigerants

202, 1102.2.1, 1103.1

### **62.1—2022:** Ventilation for Acceptable Indoor Air Quality

401.2, 403.3.1.1.2.3.2

## REFERENCED STANDARDS

- 90.1—2022:** Energy Standard for Buildings Except Low-rise Residential Buildings  
401.2
- 170—2021:** Ventilation of Health Care Facilities  
407
- 180—2018:** Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems  
102.3
- ANSI/AMCA 210—ANSI/ASHRAE 51—16:** Laboratory Methods of Testing Fans for Aerodynamic Performance Rating  
403.3.2.4
- ANSI/ASHRAE/ACCA 183—2007 (RA 2020):** Peak Cooling and Heating Load Calculations in Buildings Except Low-rise Residential Buildings  
312.1
- ASHRAE—2021:** ASHRAE Handbook of Fundamentals  
603.2

## **ASME** *American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990*

- A112.4.1—2009 (R2019):** Water Heater Relief Valve Drain Tubes  
1006.6
- B1.1—2024:** Unified Inch Screw Threads, UN and UNR Thread Form  
1108.3.4
- B1.13M—2020:** Metric Screw Threads: M Profile  
1108.3.4
- B1.20.1—2023:** Pipe Threads, General Purpose (Inch)  
1203.3.5, 1303.3.3
- B1.20.3—2023:** Dryseal Pipe Threads, Inch  
1108.3.4
- B16.3—2021:** Malleable Iron Threaded Fittings, Classes 150 & 300  
Table 1202.5
- B16.5—2024:** Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24, Metric/Inch Standard  
Table 1202.5
- B16.9—2023:** Factory-made Wrought Steel Buttwelding Fittings  
Table 1202.5
- B16.11—2021:** Forged Fittings, Socket-welding and Threaded  
Table 1202.5
- B16.15—2023:** Cast Alloy Threaded Fittings: Classes 125 and 250  
Table 1202.5
- B16.18—2023:** Cast Copper Alloy Solder Joint Pressure Fittings  
512.13.1, Table 1202.5
- B16.22—2023:** Wrought Copper and Copper Alloy Solder Joint Pressure Fittings  
512.13.1, Table 1202.5
- B16.24—2021:** Cast Copper Alloy Pipe Flanges, Flanged Fittings, And Valves: Classes 150, 300, 600, 900, 1500, and 2500  
Table 1202.5
- B16.26—2023:** Cast Copper Alloy Fittings for Flared Copper Tubes  
Table 1202.5
- B16.28—1994:** Wrought Steel Buttwelding Short Radius Elbows and Returns  
Table 1202.5
- B16.50—2018:** Wrought Copper and Copper Alloy Braze-joint Pressure Fittings  
Table 1107.5
- B16.51—2018:** Copper and Copper Alloy Press-connect Pressure Fittings  
Table 1202.5
- B31.5—2022:** Refrigeration Piping and Heat Transfer Components  
1107.1
- B31.9—2023:** Building Services Piping  
1201.3

**BPVC—2023:** ASME Boiler and Pressure Vessel Code (Sections I, II, IV, V, VI and VIII)  
1003.1, 1004.1, 1009.2, 1011.1

**CSD-1—2024:** Controls and Safety Devices for Automatically Fired Boilers  
1004.1

**ASSE** *ASSE International, 18927 Hickory Creek Drive, Suite 220, Mokena, IL 60448*

**1017—2009:** Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems  
1002.2.2

**1061—2020:** Performance Requirements for Push-Fit Fittings  
Table 1202.5

**1079—2012(R2021):** Performance Requirements for Dielectric Pipe Unions  
1108.1.1

**ASSP** *American Society of Safety Professionals, 520 N. Northwest Highway, Park Ridge, IL 60068*

**ANSI/ASSP Z359.1—2020:** The Fall Protection Code  
304.11

**ASTM** *ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428*

**A53/A53M—2020:** Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless  
Table 1202.4, Table 1202.5, Table 1302.3

**A105/A105M—21:** Standard Specification for Carbon Steel Forgings for Piping Applications  
Table 1107.5

**A106/A106M—2019a:** Specification for Seamless Carbon Steel Pipe for High-Temperature Service  
Table 1202.4, Table 1202.5, Table 1302.3

**A126—04(2019):** Standard Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings  
Table 1202.5

**A181/A181M—14(2020):** Standard Specification for Carbon Steel Forgings, for General-Purpose Piping  
Table 1107.5

**A193/A193M—20:** Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications  
Table 1107.5

**A234/A234M—19:** Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service  
Table 1202.5

**A240/A240M—20a:** Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications  
Table 1302.3

**A254/A254M—12(2019):** Specification for Copper-Brazed Steel Tubing  
Table 1202.4, Table 1302.3

**A269/A269M—15a (2019):** Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service  
Table 1302.3

**A312/A312M—21:** Specification for Seamless, Welded and Heavily Cold Worked Austenitic Stainless Steel Pipes  
Table 1302.3

**A333/A333M—2017:** Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service and Other Applications with Required Notch Toughness  
1107.4

**A334/A334M—04a(2021):** Standard Specification for Seamless and Welded Carbon and Alloy-Steel Tubes for Low-Temperature Service  
Table 1107.4

**A395/A395M—99(2018):** Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures  
Table 1202.5, Table 1302.3

**A420/A420M—20:** Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service  
Table 1202.5

**A536—84(2019)e1:** Standard Specification for Ductile Iron Castings  
Table 1202.5

## REFERENCED STANDARDS

- A539—99:** Specification for Electric-Resistance-Welded Coiled Steel Tubing for Gas and Fuel Oil Lines  
Table 1302.3
- A707/A707M—19:** Standard Specification for Forged Carbon and Alloy Steel Flanges for Low-Temperature Service  
Table 1107.5
- A778/A778M—16(2021):** Standard Specification for Welded, Unannealed Austenitic Stainless Steel Tubular Products  
Table 1202.4, Table 1202.5
- B32—20:** Specification for Solder Metal  
1203.3.3
- B42—20:** Specification for Seamless Copper Pipe, Standard Sizes  
512.13.1, Table 1107.4, Table 1202.4, Table 1302.3
- B43—20:** Specification for Seamless Red Brass Pipe, Standard Sizes  
512.13.1, Table 1107.4, Table 1202.4, Table 1302.3
- B68/B68M—19:** Specification for Seamless Copper Tube, Bright Annealed  
512.13.1
- B75/B75M—20:** Specification for Seamless Copper Tube  
Table 1302.3
- B88—20:** Specification for Seamless Copper Water Tube  
512.13.1, Table 1107.4, Table 1202.4, Table 1302.3
- B135/B135M—17:** Specification for Seamless Brass Tube  
Table 1202.4
- B210/B210M—19a:** Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes  
Table 1107.4
- B251/B251M—2017:** Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube  
512.13.1, Table 1202.4
- B280—20:** Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service  
512.13.1, Table 1107.4, Table 1302.3
- B302—17:** Specification for Threadless Copper Pipe, Standard Sizes  
Table 1202.4, Table 1302.3
- B361—16:** Standard Specification for Factory-Made Wrought Aluminum and Aluminum-Alloy Welding Fittings  
Table 1107.5
- B491/B491M—15:** Standard Specification for Aluminum and Aluminum-Alloy Extruded Round Tubes for General-Purpose Applications  
Table 1107.4
- B813—2016:** Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube  
1203.3.3
- B819—2019:** Standard Specification for Seamless Copper Tube for Medical Gas Systems  
Table 1107.4
- B828—2016:** Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings  
1203.3.3
- B1003—16:** Standard Specification for Seamless Copper Tube for Linesets  
Table 1107.4
- C315—2007(2021):** Specification for Clay Flue Liners and Chimney Pots  
801.16.1, Table 803.10.4
- C411—19:** Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation  
604.3
- D56—21a:** Test Method for Flash Point by Tag Closed Cup Tester  
202
- D93—20:** Test Methods for Flash Point by Pensky-Martens Closed Cup Tester  
202
- D1527—99(2005):** Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80  
Table 1202.4
- D1693—21:** Test Method for Environmental Stress-Cracking of Ethylene Plastics  
Table 1202.4
- D1785—21a:** Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120  
Table 1202.4, Table 1210.4

- D2235—2021:** Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings  
1203.3.4
- D2241—21:** Standard Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR-Series)  
Table 1202.4, Table 1210.4
- D2282—99(2005):** Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)  
Table 1202.4
- D2412—21:** Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading  
603.8.3
- D2464—15:** Standard Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80  
Table 1210.5
- D2466—21:** Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40  
Table 1202.5, Table 1210.5
- D2467—20:** Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80  
Table 1202.5, Table 1210.5
- D2564—20:** Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems  
1203.3.4
- D2657—2007(2015):** Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings  
Table 1210.5
- D2683—20:** Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing  
Table 1210.5, 1210.6.6.1
- D2737—21:** Standard Specification for Polyethylene (PE) Plastic Tubing  
Table 1210.4
- D2846/D2846M—19a:** Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems  
Table 1202.4, Table 1202.5, 1203.3.4, Table 1210.4
- D2996—2017:** Specification for Filament-Wound Fiberglass (Glass Fiber Reinforced Thermosetting Resin) Pipe  
Table 1302.3
- D3035—21:** Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter  
Table 1210.4
- D3261—2016:** Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing  
Table 1210.5, 1210.6.6.1
- D3278—21:** Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus  
202
- D3309—96a(2002):** Specification for Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems  
Table 1202.4
- E84—21a:** Standard Test Method for Surface Burning Characteristics of Building Materials  
202, 509.8, 602.2, 602.3, 602.3.7, 602.3.8, 604.3, 1204.1
- E119—20:** Standard Test Methods for Fire Tests of Building Construction and Materials  
607.2.1, 607.5.2, 607.5.5, 607.6.1
- E136—2022:** Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C  
202
- E814—2013A(2017):** Standard Test Method for Fire Tests of Penetration Firestop Systems  
506.3.11.2, 506.3.11.3
- E1509—2012(2017):** Specification for Room Heaters, Pellet Fuel-Burning Type  
904.1
- E2231—21:** Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics  
604.3, 1204.1
- E2336—20:** Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems  
506.3.6, 506.3.11.2
- F437—21:** Standard Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80  
Table 1210.5
- F438—2017:** Specification for Socket Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40  
Table 1202.5, Table 1210.5

## REFERENCED STANDARDS

- F439—19:** Standard Specification for Socket Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80  
Table 1202.5, Table 1210.5
- F441/F441M—20:** Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80  
Table 1202.4, Table 1210.4
- F442/F442M—20:** Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)  
Table 1202.4, Table 1210.4
- F493—20:** Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings  
1203.3.4
- F714—21a:** Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter  
Table 1210.4
- F876—20b:** Specification for Cross-Linked Polyethylene (PEX) Tubing  
Table 1202.4, Table 1210.
- F877—20:** Specification for Cross-Linked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems  
Table 1202.4, Table 1202.5, Table 1210.4
- F1055—2016A:** Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing  
Table 1210.5, 1210.6.6.2
- F1281—2017(2021)e1:** Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe  
Table 1202.4
- F1282—2017:** Standard Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe  
Table 1202.4, Table 1210.4, Table 1210.5
- F1476—07(2019):** Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications  
Table 1202.5, 1203.3.7
- F1548—2001(2018):** Standard Specification for the Performance of Fittings for Use with Gasketed Mechanical Couplings Used in Piping Applications  
Table 1202.5
- F1807—19b:** Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1202.5, Table 1210.5
- F1924—19:** Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing  
1210.6.6.3
- F1960—21:** Standard Specification for Cold-Expansion Fittings with PEX Reinforcing Rings for Use with Cross-Linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1202.5
- F1974—09(2020):** Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Cross-Linked Polyethylene/Aluminum/Cross-Linked Polyethylene Composite Pressure Pipe  
Table 1202.5
- F2080—19:** Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Cross-Linked Polyethylene (PEX) Pipe  
Table 1202.5
- F2098—2018:** Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-Linked Polyethylene (PEX) Tubing to Metal Insert and Plastic Insert Fittings  
Table 1202.5
- F2159—21:** Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1202.5, Table 1210.5
- F2389—21:** Standard Specification for Pressure-Rated Polypropylene Piping Systems  
Table 1202.4, Table 1202.5, 1203.17.1, Table 1210.4, Table 1210.5, 1210.6.7.1
- F2434—19:** Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Cross-Linked Polyethylene/Aluminum/Cross-Linked Polyethylene (PEX-AL-PEX) Tubing  
Table 1210.5
- F2623—22:** Raised Temperature (PE-RT) Systems for Non-Potable Water Applications  
Table 1202.4, Table 1210.4

- F2735—21:** Standard Specification for Plastic Insert Fittings for SDR9 Cross-Linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1202.5
- F2769—18:** Standard Specification for Polyethylene of Raised Temperature (PE-RT) Plastic Hot- and Cold-Water Tubing and Distribution Systems  
Table 1202.4, Table 1210.5
- F2806—20:** Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (Metric SDR-PR)  
Table 1202.4
- F2855—19:** Standard Specification for Chlorinated Poly(Vinyl Chloride)/Aluminum/Chlorinated Poly(Vinyl Chloride) (CPVC-AL-CPVC) Composite Pressure Tubing  
Table 1202.4
- F3226/F3226M—19:** Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems  
Table 1302.3
- F3253—19:** Standard Specification for Crosslinked Polyethylene (PEX) Tubing with Oxygen Barrier for Hot- and Cold-Water Hydronic Distribution Systems  
Table 1202.4, Table 1202.5, Table 1210.4
- F3347—20a:** Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1210.5
- F3348—20b:** Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing  
Table 1210.5

**AWS** *American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33166*

- A5.8M/A5.8—2019:** Specification for Filler Metals for Brazing and Braze Welding  
1203.3.1, 1303.3.1

**AWWA** *American Water Work Association, 6666 West Quincy Avenue, Denver, CO 80235*

- C110/A21.10—21:** Standard for Ductile Iron & Gray Iron Fittings  
Table 1202.5
- C115/A21.15—20:** Standard for Flanged Ductile-iron Pipe with Ductile Iron or Grey-iron Threaded Flanges  
Table 1202.4
- C151/A21.51—17:** Ductile-iron Pipe, Centrifugally Cast  
Table 1202.4
- C153/A21.53—19:** Ductile-iron Compact Fittings  
Table 1202.5
- C901—20:** Polyethylene (PE) Pressure Pipe and Tubing,  $\frac{3}{4}$  in. (19 mm) through 3 in. (76 mm) for Water Service  
Table 1210.4

**CPSC** *Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814*

- CPSC (2011):** Title 15 of the Federal Hazardous Substance Act  
202, 1009.1

**CSA** *CSA Group, 8501 East Pleasant Valley Road, Cleveland, OH 44131-5516*

- ANSI/CSA/IGSHPA C448 Series—16(R2021):** Design and Installation of Ground Source Heat Pump Systems for Commercial and Residential Buildings  
Table 1202.4, Table 1202.5, Table 1210.5
- B137.1—23:** Polyethylene (PE) Pipe, Tubing and Fittings for Cold-water Pressure Services  
Table 1210.4, Table 1210.5
- B137.2—23:** Polyvinylchloride (PVC) Injection-moulded Gasketed Fittings for Pressure Applications  
Table 1210.5
- B137.3—23:** Rigid Polyvinylchloride (PVC) Pipe and Fittings for Pressure Applications  
Table 1210.5

## REFERENCED STANDARDS

**B137.5—23:** Crosslinked Polyethylene (PEX) Tubing Systems for Pressure Applications

Table 1202.5, Table 1210.4, Table 1210.5

**B137.6—23:** Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing and Fittings for Hot- and Cold-water Distribution Systems

Table 1210.5,

**B137.9—23:** Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure-pipe Systems

Table 1202.4, Table 1210.4, Table 1210.5

**B137.10—23:** Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Composite Pressure-pipe Systems

Table 1202.4

**B137.11—23:** Polypropylene (PP-R & PP-RCT) Pipe and Fittings for Pressure Applications

Table 1210.4, Table 1210.5

**B137.18—23:** Polyethylene of Raised Temperature Resistance (PE-RT) Tubing Systems for Pressure Applications

Table 1202.4, Table 1202.5, Table 1210.5

**C22.2 No. 218.1—13(R2017):** Spas, Hot Tubs and Associated Equipment

916.1

**C22.2 No. 236—15:** Heating and Cooling Equipment

916.1

**CSA/ANSI FC 1—21/CSA C22.2 No. 62282-2-100—21:** Fuel Cell Technologies—Part 3-100: Stationary Fuel Cell Power Systems—Safety

924.1

**CSA/ANSI FC 1—21/CSA C22.2 No. 62282-3-100—21:** Fuel Cell Technologies—Part 3-100: Stationary Fuel Cell Power Systems—Safety

924.1

## DOL

*U.S. Department of Labor Occupational Safety and Health Administration, c/o Superintendent of Documents U.S. Government Printing Office, Washington, DC 20402-9325*

**29 CFR Part 1910.1000 (2015):** Air Contaminants

502.6

**29 CFR Part 1910.1025 (2015):** Toxic and Hazardous Substances

502.19

## FDA

*U.S. Food and Drug Administration, 10903 New Hampshire Avenue, Silver Springs, MD 20993*

**FDA Title 15:** Federal Hazardous Substances Act

1403.4

**FDA Title 21:** Code of Federal Regulations, Title 21, Food and Drugs, Chapter 1, Food and Drug Administration, Parts 174–186 (revised as of April 1, 2015)

1403.3

## FS

*Federal Specifications\* General Services Administration, 7th & D Streets Specification Section, Room 6039, Washington, DC 20407*

**WW-P-325B (1976):** Pipe, Bends, Traps, Caps and Plugs; Lead (for Industrial Pressure and Soil and Waste Applications)

\*Standards are available from the Supt. of Documents, U.S. Government Printing Office, Washington, DC 20402-9325

Table 1202.4

## ICC

*International Code Council, Inc., 200 Massachusetts Avenue, NW, Suite 250, Washington, DC 20001*

**IBC—24:** International Building Code®

201.3, 202, 301.15, 301.16, 301.17, 301.18, 302.1, 302.2, 304.8, 304.11, 308.4.2.2, 308.4.2.4, 401.4, 401.5, 406.1, 501.3.1, 501.3.2, 502.10, 502.10.1, 504.2, 504.11, 505.3, 506.3.3, 506.3.10, 506.4.1, 507.2.11, 509.5, 509.5.2, 509.5.3, 509.6, 509.6.1.1, 509.6.2, 509.6.3, 509.7, 510.1.5, 512.1, 512.2, 512.3, 512.4.3, 512.5, 512.5.2, 512.5.3, 512.5.3.2, 512.6.2, 512.10.5, 512.11.1, 512.12, 512.12.2, 601.3, 602.2, 602.2.1, 602.4, 603.1, 603.10, 603.13, 603.18.2, 607.1.1, 607.1.2, 607.3.2.1, 607.5.1, 607.5.2, 607.5.3, 607.5.4, 607.5.4.1, 607.5.5, 607.5.5.2, 607.5.6, 607.6, 607.6.1, 607.6.2, 607.6.2.1, 607.6.3, 701.2, 801.3, 801.16.1, 801.18.4, 801.18.4.1, 902.1, 908.3, 908.4, 910.3, 924.1, 925.1, 926.1, 927.2, 928.1, 1004.6, 1105.1, 1206.4, 1210.8.2, 1305.2.1, 1402.4, 1402.4.1

**ICC 900/SRCC Standard 300—2020:** Solar Thermal System Standard

1002.1, 1401.4, 1401.4.1, 1402.1, 1402.3.1, 1402.4, 1402.8.1.1, 1402.8.1.4, 1402.8.5, 1402.8.5.3, 1403.2

**ICC 901/SRCC Standard 100—20:** Solar Thermal Collector Standard

1401.4.1, 1402.8.1.1

**IECC—24:** International Energy Conservation Code®

301.2, 303.3, 312.1, 401.2, 513.1, 604.1, 1204.1, 1204.2



**IFC—24:** International Fire Code®

201.3, 310.1, 311.1, 502.4, 502.5, 502.7.2, 502.8.1, 502.9.1, 502.9.5, 502.9.5.2, 502.9.5.3, 502.9.8.2, 502.9.8.3, 502.9.8.5, 502.9.8.6, 502.9.11, 502.10, 502.10.3, 502.16.2, 507.2.11, 509.2.1, 509.2.2, 509.4, 510.1.1, 512.1, 512.2, 512.6.3, 512.12.1, 512.12.3, , 512.12, 512.15, 512.16, 512.17, 512.18, 512.19, 606.2.1, 606.4.1, 908.7, 924.1, 926.1, 1101.8, 1105.3, 1105.8, 1106.4, 1106.5, 1301.1, 1301.2, 1301.5

**IFGC—24:** International Fuel Gas Code®

101.2, 201.3, 301.6, 701.1, 801.1, 901.1, 906.1, 926.1, 1101.5

**IPC—24:** International Plumbing Code®

201.3, 301.11, 307.2.2, 511.2, 908.5, 928.1, 1002.1, 1002.2, 1002.3, 1005.2, 1006.6, 1008.2, 1009.3, 1101.4, 1201.1, 1206.2, 1206.3, 1210.8.1, 1401.2

**IRC—24:** International Residential Code®

101.2

**IIAR**

*International Institute of Ammonia Refrigeration, 1001 N. Fairfax Street, Suite 503, Arlington, VA 22314*

**ANSI/IIAR 2—2021:** Safe Design of Closed-circuit Ammonia Refrigeration Systems

1101.6, 1105.6.3

**ANSI/IIAR 3—2017:** Ammonia Refrigeration Valves

1101.6

**ANSI/IIAR 4—2020:** Installation of Closed-circuit Ammonia Refrigeration Systems

1101.6

**ANSI/IIAR 5—2019:** Startup of Closed-circuit Ammonia Refrigeration Systems

1101.6

**ANSI/IIAR 6—2019:** Inspection, Testing, and Maintenance of Closed-Circuit Ammonia Refrigeration Systems

1101.1.2

**ANSI/IIAR CO2—2021:** Safety Standard for Closed-Circuit Carbon Dioxide Refrigeration Systems

1101.1.1

**MSS**

*Manufacturers Standardization Society of the Valve and Fittings Industry, Inc., 127 Park Street, NE, Vienna, VA 22180*

**SP 58—2023:** Pipe Hangers and Supports—Materials Design and Manufacture, Selection, Application and Installation

305.4

**NAIMA**

*North American Insulation Manufacturers Association, 11 Canal Center Plaza, Suite 103, Alexandria, VA 22314*

**AH 116—09:** Fibrous Glass Duct Construction Standards, Fifth Edition

603.5, 603.9

**NBBI**

*National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, OH 43229-1183*

**NBIC—2023:** National Board Inspection Code, Part 3 (ANSI/NB23)

1003.3

**NFPA**

*National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471*

**2—23:** Hydrogen Technologies Code

502.16.1

**30A—24:** Code for Motor Fuel Dispensing Facilities and Repair Garages

304.6

**31—20:** Standard for the Installation of Oil-Burning Equipment

701.1, 801.2.1, 801.18.1, 801.18.2, 920.2, 922.1, 1308.1

**37—21:** Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

915.1, 915.2

**58—23:** Liquefied Petroleum Gas Code

502.9.10

**69—19:** Standard on Explosion Prevention Systems

509.8.3

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- 70—23:** National Electrical Code  
301.7, 306.3.1, 306.4.1, 510.1.1, 512.11, 512.12.2, 602.3.3, 927.2, 1104.2.2, 1106.3, 1402.8.1.4
- 72—22:** National Fire Alarm and Signaling Code  
606.3
- 80—22:** Standard for Fire Doors and Other Opening Protectives  
607.4.1.2
- 82—19:** Incinerators and Waste and Linen Handling Systems and Equipment  
601.1
- 85—23:** Boiler and Combustion Systems Hazards Code  
1004.1
- 91—20:** Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids  
502.9.5.1, 502.17
- 92—21:** Standard for Smoke Control Systems  
512.7, 512.8
- 96—24:** Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations  
507.1
- 99—24:** Health Care Facilities Code  
407.1
- 105—22:** Standard for Smoke Door Assemblies and Other Opening Protectives  
607.4.1.2
- 211—22:** Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-burning Appliances  
806.1
- 262—23:** Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces  
602.3.3
- 286—23:** Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth  
602.3.7
- 704—22:** Standard System for the Identification of the Hazards of Materials for Emergency Response  
502.8.4, 509.1, Table 1103.1
- 853—20:** Standard for the Installation of Stationary Fuel Cell Power Systems  
924.1

## **NSF** *NSF International, 789 N. Dixboro Road P.O. Box 130140, Ann Arbor, MI 48105*

- 14—2020:** Plastic Piping System Components and Related Materials  
301.4
- 358-1—2021:** Polyethylene Pipe and Fittings for Water-based Ground-source “Geothermal” Heat Pump Systems  
Table 1210.4, Table 1210.5
- 358-2—2017:** Polypropylene Pipe and Fittings for Water-based Ground-source “Geothermal” Heat Pump Systems  
Table 1210.4, Table 1210.5
- 358-3—2021:** Cross-linked Polyethylene (PEX) Pipe and Fittings for Water-based Ground-source (Geothermal) Heat Pump Systems  
Table 1210.4, Table 1210.5
- 358-4—2018:** Polyethylene of Raised Temperature (PE-RT) Pipe and Fittings for Water-based Ground-source (Geothermal) Heat Pump Systems  
Table 1210.4, Table 1210.5

## **SMACNA** *Sheet Metal and Air Conditioning Contractors’ National Association, Inc., 4201 Lafayette Center Drive, Chantilly, VA 20151-1219*

- ANSI/SMACNA 2nd Edition 2011:** Rectangular Industrial Duct Construction Standards (ANSI/SMACNA 002—2011)  
509.8.1
- ANSI/SMACNA 3rd Edition 2013:** Round Industrial Duct Construction Standards (ANSI/SMACNA 005—2013)  
509.8.1
- ANSI/SMACNA—4th Edition, 2020:** HVAC Duct Construction Standards—Metal and Flexible (ANSI/SMACNA 006—2020)  
603.4, Table 603.4, 603.9, 603.10
- ANSI/SMACNA 022 1st Edition 2015:** Phenolic Duct Construction Standards (ANSI/SMACNA 022—2015)  
603.5.2

**SMACNA—2021:** Fibrous Glass Duct Construction Standards, 8th Edition  
603.5, 603.9

**UL** *UL LLC, 333 Pfingsten Road, Northbrook, IL 60062-2096*

- 17—2008:** Vent or Chimney Connector Dampers for Oil-fired Appliances—with Revisions through September 2013  
803.6
- 103—2010:** Factory-built Chimneys, Residential Type and Building Heating Appliances—with Revisions through September 2021  
805.2
- 109—1997:** Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service and Marine Use—with Revisions through May 2020  
Table 1101.2
- 127—2011:** Factory-built Fireplaces—with Revisions through February 2020  
903.1, 903.3, 903.4
- 174—2004:** Household Electric Storage Tank Water Heaters—with Revisions through October 2021  
1002.1
- 180—2019:** Liquid-level Indicating Gauges for Oil Burner Fuels and Other Combustible Liquids—with Revisions through August 2021  
1306.4
- 181—2013:** Factory-Made Air Ducts and Air Connectors  
511.2, 603.5, 603.6.1, 603.6.2, 603.9, 604.13
- 181A—2013:** Closure Systems for Use with Rigid Air Ducts and Air Connectors—with Revisions through March 2017  
603.9
- 181B—2013:** Closure Systems for Use with Flexible Air Ducts and Air Connectors—with Revisions through March 2017  
603.9
- 197—2010:** Commercial Electric Cooking Appliances—with Revisions through January 2018  
917.1
- 207—2009:** Refrigerant-containing Components and Accessories, Nonelectrical—with Revisions through January 2020  
1101.2
- 263—2011:** Fire Tests of Building Construction and Materials—with Revisions through August 2021  
607.5.2, 607.5.5, 607.6.1, 607.6.2.1
- 268—2016:** Smoke Detectors for Fire Alarm Systems—with Revisions through October 2019  
606.1
- 268A—2008:** Smoke Detectors for Duct Application—with Revisions through August 2020  
606.1
- 343—2008:** Pumps for Oil-burning Appliances—with Revisions through December 2017  
1302.7
- 378—2006:** Draft Equipment—with Revisions through September 2013  
804.3, 804.3.8
- 391—2010:** Solid-fuel and Combination-fuel Central and Supplementary Furnaces—with Revisions through August 2019  
918.1
- 412—2011:** Refrigeration Unit Coolers—with Revisions through August 2018  
1101.2
- 427—2011:** Standard for Refrigerating Units—with Revisions through February 2014  
Table 1101.2
- 471—2010:** Commercial Refrigerators and Freezers—with Revisions through September 2019  
1101.2
- 474—2015:** Standard for Dehumidifiers  
Table 1101.2
- 484—2014:** Room Air Conditioners—with Revisions through May 2019  
Table 1101.2
- 499—2014:** Standard for Electric Heating Appliances—with Revisions through February 2017  
912.1, 923.1
- 507—2017:** Electric Fans—with Revisions through May 2020  
505.2

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- 508—2018:** Industrial Control Equipment—with Revisions through July 2021  
307.2.3
- 536—2021:** Flexible Metallic Hose  
1302.8
- 555—2006:** Fire Dampers—with Revisions through October 2020  
607.3.1
- 555C—2014:** Ceiling Dampers—with Revisions through January 2021  
607.3.1
- 555S—2014:** Smoke Dampers—with Revisions through October 2020  
607.3.1
- 586—2009:** High-efficiency, Particulate, Air Filter Units—with Revisions through December 2017  
605.2
- 641—2010:** Type L Low-temperature Venting Systems—with Revisions through April 2018  
802.1
- 705—2017:** Power Ventilators—with Revisions through August 2021  
504.5
- 710—2012:** Exhaust Hoods for Commercial Cooking Equipment—with Revisions through February 2021  
507.1
- 710B—2011:** Recirculating Systems—with Revisions through February 2019  
507.1, 507.2
- 723—2018:** Standard for Surface Burning Characteristics of Building Materials  
509.8, 602.2, 602.3, 602.3.7, 602.3.8, 604.3, 1204.1
- 726—1995:** Oil-fired Boiler Assemblies—with Revisions through October 2013  
916.1, 1004.1
- 727—2018:** Oil-fired Central Furnaces  
918.1
- 729—2003:** Oil-fired Floor Furnaces—with Revisions through November 2016  
910.1,
- 730—2003:** Oil-fired Wall Furnaces—with Revisions through November 2016  
909.1
- 731—2018:** Oil-fired Unit Heaters  
920.1
- 732—2018:** Oil-fired Storage Tank Water Heaters—with Revisions through August 2018  
1002.1
- 737—2011:** Fireplace Stoves  
905.1
- 762—2013:** Outline of Investigation for Power Ventilators for Restaurant Exhaust Appliances  
506.5.1
- 791—2006:** Residential Incinerators—with Revisions through February 2021  
907.1
- 834—2004:** Heating, Water Supply and Power Boilers—Electric—with Revisions through July 2019  
1004.1
- 842—2019:** Valves for Flammable Fluids  
1307.1
- 858—2014:** Household Electric Ranges—with Revisions through September 2019  
917.1
- 864—2014:** Control Units and Accessories for Fire Alarm Systems—with Revisions through May 2020  
512.12
- 867—2011:** Electrostatic Air Cleaners—with Revisions through August 2021  
605.2
- 875—2009:** Electric Dry-Bath Heaters—with Revisions through January 2021  
914.2
- 896—1993:** Oil-burning Stoves—with Revisions through November 2016  
917.1, 922.1

- 900—2015:** Air Filter Units  
605.2
- 907—2016:** Fireplace Accessories  
902.2
- 921—2020:** Standard for Commercial Dishwashers  
507.1
- 923—2013:** Microwave Cooking Appliances—with Revisions through August 2020  
917.1
- 959—2010:** Medium Heat Appliance Factory-built Chimneys—with Revisions through August 2019  
805.6
- 971A—2006:** Outline of Investigation for Metallic Underground Fuel Pipe  
1302.9,
- 1046—2010:** Grease Filters for Exhaust Ducts—with Revisions through April 2017  
507.2.8
- 1240—2005:** Electric Commercial Clothes-Drying Equipment—with Revisions through September 2021  
913.1
- 1261—2016:** Electric Water Heaters for Pools and Tubs—with Revisions through September 2017  
916.1
- 1369—2018:** Aboveground Piping for Flammable and Combustible Liquids—with Revisions through August 2020  
1302.9
- 1370—2011:** Unvented Alcohol Fuel Burning Decorative Appliances—with Revisions through March 2016  
929.1,
- 1453—2016:** Electric Booster and Commercial Storage Tank Water Heaters—with Revisions through May 2018  
1002.1,
- 1479—2015:** Fire Tests of Penetration Firestops—with Revisions through May 2021  
506.3.11.2, 506.3.11.3
- 1482—2011:** Solid-fuel Type Room Heaters—with Revisions through February 2020  
905.1
- 1563—2009:** Electric Spas, Equipment Assemblies, and Associated Equipment—with Revisions through September 2020  
916.1
- 1618—2015:** Wall Protectors, Floor Protectors and Hearth Extensions—with Revisions through January 2018  
308.4.1, 903.2, 905.3
- 1777—2015:** Chimney Liners—with Revisions through April 2019  
801.16.1, 801.18.4
- 1812—2013:** Ducted Heat Recovery Ventilators—with Revisions through April 2021  
513.1
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513.1
- 1820—2004:** Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics—with Revisions through July 2017  
602.3.5
- 1887—2004:** Fire Tests of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics—with Revisions through October 2021  
602.3.4
- 1978—2010:** Grease Ducts—with Revisions through October 2021  
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- 1995—2015:** Heating and Cooling Equipment—with Revisions through August 2018  
908.1, 911.1, 918.1, 918.2, 1101.2
- 1996—2009:** Electric Duct Heaters—with Revisions through September 2021  
911.1
- 2021—2015:** Fixed and Location-Dedicated Electric Room Heaters—with Revisions through December 2016  
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602.3.3

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with Revisions through July 2018  
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- 2075—2013:** Gas and Vapor Detectors and Sensors—with Revisions through August 2021  
404.1
- 2158—2021:** Electric Clothes Dryers  
913.1
- 2158A—2013:** Clothes Dryer Transition Duct—with Revisions through October 2021  
504.9.3
- 2162—2014:** Commercial Wood-Fired Baking Ovens—Refractory Type—with Revisions through August 2019  
917.1
- 2200—2020:** Stationary Engine Generator Assemblies  
915.1
- 2221—2010:** Tests of Fire Resistive Grease Duct Enclosure Assemblies  
506.3.11.3
- 2518—2016:** Air Dispersion Systems—with Revisions through June 2021  
603.17
- 2523—2009:** Solid Fuel-fired Hydronic Heating Appliances, Water Heaters, and Boilers—with Revisions through March 2018  
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602.3.8
- 8782—2017:** Outline of Investigation for Pollution Control Units for Commercial Cooking Operations  
506.5.2
- UL/CSA 60335-2-40—2022:** Household and Similar Electrical Appliances—Safety—Part 2-40: Particular Requirements for Electrical Heat  
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908.1, 916.1, 918.1, 918.2
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Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor  
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