

*CSA Standard*

*B214-12*  
***Installation code for hydronic  
heating systems***



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# Contents

Technical Committee on the Installation Code for Hydronic Heating Systems *vii*

Preface *ix*

## **1 Scope** 1

## **2 Reference publications** 1

## **3 Definitions** 5

## **4 General requirements** 7

- 4.1 Component selection 7
- 4.2 Selection of equipment 7
  - 4.2.1 Suitability of equipment 7
  - 4.2.2 Capacity of equipment 7
  - 4.2.3 Oxygen permeation 7
  - 4.2.4 Hydronic medium 8
  - 4.2.5 Potable water as a hydronic medium 8
  - 4.2.6 Prevention of thermosiphons 8
  - 4.2.7 Flow check valves 8
- 4.3 Installation of equipment 9
  - 4.3.1 General 9
  - 4.3.2 Training of personnel 9
  - 4.3.3 Quality of work 9
  - 4.3.4 Accessibility 9
  - 4.3.5 Electrical wiring and equipment 9
  - 4.3.6 Protection during construction 9
  - 4.3.7 Replacement parts 9
- 4.4 Safety/relief valves 9
  - 4.4.1 Pressure-relief valves 9
  - 4.4.2 Steam (pop safety) valves 9
  - 4.4.3 Combination pressure- and temperature-relief valves 9
  - 4.4.4 Discharge piping 10
- 4.5 Start-up procedures 10
  - 4.5.1 Pressure test 10
  - 4.5.2 Flushing 10
  - 4.5.3 Testing controls 10
  - 4.5.4 Inspection of heat source 11
- 4.6 Responsibility of installer 11
  - 4.6.1 Installation 11
  - 4.6.2 System documentation and operational instructions 11

## **5 Heating equipment** 12

- 5.1 General 12
- 5.2 Energy source 12
  - 5.2.1 Gas-fired equipment 12
  - 5.2.2 Oil-fired equipment 12
  - 5.2.3 Solid-fuel-fired equipment 12
  - 5.2.4 Electric-resistance heating equipment 12
  - 5.2.5 Solar heating systems 12
  - 5.2.6 Geothermal heating systems 12

- 5.2.7 Heat pumps 12
- 5.3 Heating appliances 12
  - 5.3.1 Boilers 12
  - 5.3.2 Dual-purpose water heater equipment 12
  - 5.3.3 Integrated mechanical systems 13
- 6 Circulators (circulating pumps) 13**
  - 6.1 General 13
  - 6.2 Materials of construction 13
  - 6.3 Circulator sizing 13
  - 6.4 Circulator location 13
  - 6.5 Circulator support 13
- 7 Expansion tanks 13**
  - 7.1 General 13
  - 7.2 Closed expansion tanks 14
  - 7.3 Open expansion tanks (open to atmosphere) 14
    - 7.3.1 General 14
    - 7.3.2 Conversion of open expansion tank systems 14
  - 7.4 Secondary loops 14
- 8 Distribution piping 14**
  - 8.1 Proximity to heat source 14
  - 8.2 Unconditioned spaces 14
  - 8.3 Inspection and test 14
- 9 Pipe, tube, and tubing 15**
  - 9.1 General 15
    - 9.1.1 Expansion and contraction 15
    - 9.1.2 Minimizing stresses 15
    - 9.1.3 Support 15
  - 9.2 Metallic pipe and tube 15
  - 9.3 Non-metallic pipe and tubing 15
    - 9.3.1 Polyvinyl chloride (PVC) pipe 15
    - 9.3.2 Crosslinked polyethylene (PEX) tubing 15
    - 9.3.3 Chlorinated polyvinyl chloride (CPVC) pipe and tubing 15
    - 9.3.4 Metal/plastic composite pipe 15
    - 9.3.5 Polypropylene (PP-R, random copolymer) pipe and tubing 16
    - 9.3.6 Oxygen corrosion 16
  - 9.4 Metallic pipe support 16
    - 9.4.1 Copper tube 16
    - 9.4.2 Steel pipe 16
    - 9.4.3 Vertical run support 16
    - 9.4.4 Hanger isolation 16
  - 9.5 Non-metallic pipe support 16
    - 9.5.1 PEX tubing 16
    - 9.5.2 Metal/plastic composite pipe 16
    - 9.5.3 PVC or CPVC pipe or tubing 16
    - 9.5.4 PP-R pipe and tubing 16
    - 9.5.5 Vertical run support 17
- 10 Fittings 17**
  - 10.1 Polyvinyl chloride (PVC) pipe fittings 17
  - 10.2 Crosslinked polyethylene (PEX) tubing fittings 17

- 10.3 Chlorinated polyvinyl chloride (CPVC) pipe and tubing fittings 17
- 10.4 Metal/plastic composite pipe fittings 17
- 10.5 Polypropylene (PP-R) pipe and tubing fittings 17
- 10.6 Black malleable fittings 17
- 10.7 Copper tube fittings 17
- 10.8 Compression fittings 17

## **11 Valves 18**

- 11.1 Isolation valves 18
- 11.2 Flow-balancing and throttling valves 18
- 11.3 Mixing and temperature-control valves 18
  - 11.3.1 General 18
  - 11.3.2 Automatic mixing valves 18
  - 11.3.3 Manual mixing valves 18
  - 11.3.4 Two-way injection valves 18
- 11.4 Diverting valves 18

## **12 System controls 19**

- 12.1 Water temperature controls 19
  - 12.1.1 General 19
  - 12.1.2 Radiant floor heating panels 19
- 12.2 Operating steam controls 19
  - 12.2.1 Pressure controls 19
  - 12.2.2 Water-level controls 19
- 12.3 Occupied space temperature 19
- 12.4 Return-water low-temperature protection 19
- 12.5 Pressure and flow controls 19
  - 12.5.1 Balancing 19
  - 12.5.2 Low-water control 20
  - 12.5.3 Flow-sensing devices 20
  - 12.5.4 Automatic makeup water 20
  - 12.5.5 Differential pressure regulation 20
- 12.6 Air elimination 20
  - 12.6.1 Air-removal device 20
  - 12.6.2 Air-separation device 20
  - 12.6.3 Secondary loops 21

## **13 Hydronic space heating 21**

- 13.1 General 21
  - 13.1.1 Selection 21
  - 13.1.2 Installation 21
- 13.2 Location 21
- 13.3 Freeze protection 21
- 13.4 Balancing 21
- 13.5 Steam units 21
  - 13.5.1 Steam traps 21
  - 13.5.2 Sloping for two-pipe system 21
  - 13.5.3 Sloping for one-pipe system 21
  - 13.5.4 Automatic air vents and vacuum breakers 21
  - 13.5.5 Condensate flow 22
  - 13.5.6 Steam-distribution piping 22

## **14 Radiant heating 22**

- 14.1 Installation 22

- 14.2 Radiant under-floor heating 22
- 14.3 Tube placement 22
- 14.4 Poured floor systems (thermal mass) 23
  - 14.4.1 Spacing 23
  - 14.4.2 Slab penetration tube protection 23
  - 14.4.3 Slab joint tube protection 23
  - 14.4.4 Insulation 23
- 14.5 Joist systems and subfloors 24
- 14.6 Wall and ceiling panels 24

## **15 Heat exchangers 25**

## **16 Indirect-fired domestic hot-water storage tanks 25**

## **17 Auxiliary systems 25**

- 17.1 General 25
- 17.2 Use of chemical additives and corrosive fluids 26
- 17.3 Pools and spas 26
- 17.4 Snow melt 26
  - 17.4.3 Tube placement 27
  - 17.4.4 Poured concrete slab systems (thermal mass) 27
- 17.5 Hydronic makeup air units 27

## **Annexes**

- A** (informative) — Dual-purpose water heater selection and site documentation 30
- B** (informative) — Heat-transfer fluids 34

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## **Tables**

- 1** — Maximum length of continuous tubing from a supply-and-return manifold arrangement 28
- 2** — Toxicity classes 28
- 3** — Loop lengths for snow melt systems 29

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# Preface

This is the third edition of CSA B214, *Installation code for hydronic heating systems*. It supersedes the previous editions, published in 2001 and 2007.

The main changes from the previous edition are as follows:

- (a) clarification of the use of additives used in hydronic heating applications;
- (b) clarification of the use of combination pressure- and temperature-relief valves;
- (c) clarification of system documentation and operational instructions;
- (d) inclusion of requirements for heat pumps;
- (e) inclusion of requirements for integrated mechanical systems (IMS) and combination potable water heating and space heating systems;
- (f) clarification of the use of multiple expansion tanks;
- (g) clarification of the use of compression fittings;
- (h) inclusion of requirements for the use of two-way injection valves;
- (i) clarification of requirements for low-water control and flow-sensing devices;
- (j) clarification of thermal insulation requirements for poured concrete radiant heating systems;
- (k) inclusion of pressure testing requirements for tubing used in radiant floor heating systems;
- (l) clarification of requirements for the use of single- and double-wall heat exchangers in hydronic heating systems;
- (m) enhancement of requirements for snow melt systems; and
- (n) inclusion of [Annex B](#) on the Hodge and Sterner scale for defining the toxicity classes for heat transfer fluids.

This Code was prepared by the Technical Committee on the Installation Code for Hydronic Heating Systems, under the jurisdiction of the Strategic Steering Committee on Fuel Burning Equipment, and has been formally approved by the Technical Committee.

January 2012

## Notes:

- (1)** Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2)** Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- (3)** This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.
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  - (b) provide an explanation of circumstances surrounding the actual field condition; and
  - (c) where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are published in CSA’s periodical Info Update, which is available on the CSA website at [standardsactivities.csa.ca](http://standardsactivities.csa.ca).
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  - (a) Standard designation (number);
  - (b) relevant clause, table, and/or figure number;
  - (c) wording of the proposed change; and
  - (d) rationale for the change.



# B214-12

# ***Installation code for hydronic heating systems***

## **1 Scope**

### **1.1**

This Code sets out the minimum provisions for the installation, extension, alteration, and renewal of hydronic heating systems.

### **1.2**

This Code applies to open and closed hydronic heating systems. These systems include

- (a) hydronic space heating;
- (b) radiant heating (wall, floor, ceiling);
- (c) convectors;
- (d) fan coils;
- (e) combination potable water heating and space heating (combo) systems;
- (f) integrated mechanical systems;
- (g) indirect-fired domestic water heating;
- (h) pool and spa heating;
- (i) snow melt systems; and
- (j) other auxiliary systems.

### **1.3**

In CSA standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.

### **1.4**

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

## **2 Reference publications**

This Code refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

### **CSA (Canadian Standards Association)**

ANSI Z21.10.1-2009/CSA 4.1-2009

*Gas water heaters — Volume I, Storage water heaters with input ratings of 75,000 Btu per hour or less*