



**CSA
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Z317.1-16

Special requirements for plumbing installations in health care facilities



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Preface

This is the fifth edition of CSA Z317.1, *Special requirements for plumbing installations in health care facilities*, one of a series of Standards related to health care facility engineering. It supersedes the previous editions, published in 2009, 1999, 1988, and 1978.

This Standard is intended to assist health care facilities to manage the potential risks associated with plumbing installation and maintenance.

The following have been updated for this edition:

- a) scope and definitions (Clauses 1 and 3);
- b) requirements and recommendations on infection prevention and control (Clause 4);
- c) requirements on system design, initial system treatment, and ongoing measures to limit the occurrence of legionella and other infectious micro-organisms (Clause 6);
- d) requirements on plumbing fixtures and fittings, including hand hygiene sinks (Clause 8); and
- e) a new clause on catastrophic event management (Clause 9).

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of the governments of Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Québec, Saskatchewan, and Yukon, as administered by CADTH.

This Standard was prepared by the Subcommittee on Plumbing in Health Care Facilities, under the jurisdiction of the Technical Committee on Health Care Facilities and the Strategic Steering Committee on Health Care Technology and Systems, and has been formally approved by the Technical Committee.

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 Standard 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 Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
 - 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 available on the Current Standards Activities page at standardsactivities.csa.ca.
- 5) *This Standard is subject to review five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:*
 - a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

Z317.1-16

Special requirements for plumbing installations in health care facilities

1 Scope

1.1

This Standard addresses the special requirements of plumbing systems pertinent to the design, construction, operation, and maintenance of health care facilities (HCFs). This Standard specifies requirements for the following in HCFs:

- a) water supply systems, including domestic cold water systems and hot water systems;
- b) plumbing fixtures and fittings;
- c) drainage systems;
- d) monitoring and maintenance of water systems;
- e) infection control;
- f) catastrophic event planning;
- g) specialized water systems (e.g., reverse-osmosis, deionized, distilled); and
- h) hydraulic fire protection systems.

Note: *Special requirements for plumbing systems apply in HCFs because of the need to protect occupants of the facility and the adjacent surroundings from*

- a) *infectious diseases;*
- b) *hazards created by improper temperatures, leaks, and inadequate drainage; and*
- c) *adverse conditions created by the failure or improper operation of plumbing systems.*

1.2

This Standard supplements the relevant standards and other applicable requirements for plumbing systems, fixtures, and fittings in general building applications.

Notes:

- 1) *Relevant plumbing standards for plumbing systems, fixtures, and fittings in general building applications include*
 - a) *ASME A112.19.2/CSA B45.1;*
 - b) *ASME A112.19.1/CSA B45.2;*
 - c) *ASME A112.19.3/CSA B45.4;*
 - d) *CSA B45.5/IAPMO Z124;*
 - e) *CAN/CSA-B64 Series;*
 - f) *ASME A112.18.1/CSA-B125.1;*
 - g) *ASME A112.18.2/CSA-B125.2; and*
 - h) *CSA B125.3.*
- 2) *Applicable requirements for plumbing systems are also contained in the National Building Code of Canada and the National Plumbing Code of Canada.*

1.3

This Standard does not apply to medical gas systems.

Note: *See CAN/CSA-Z7396.1 for design, installation, certification, and maintenance requirements for non-flammable medical gas piping systems.*

1.4

This Standard is not intended to preclude the use of design concepts and the adoption of construction, installation, operations, and maintenance procedures more stringent than those specified in this Standard and in the documents listed in Clause 1.2.

1.5

This Standard applies to all classes of HCF.

Note: *Some requirements may be waived for smaller Class C-2 HCFs as determined by the application of engineering principles and in consultation with the administrator and the authority having jurisdiction.*

1.6

The requirements of this Standard apply to the retrofitting of existing systems when

- a) an existing HCF is
 - i) extended; or
 - ii) undergoing material alteration or repair; and
- b) the plumbing in existing facilities is adversely affected.

1.7

In this Standard, “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 (non-mandatory) to define their application.

1.8

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 Standard 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 Group

CAN/CSA-ISO 13959-11

Water for haemodialysis and related therapies

CAN/CSA-ISO 26722-16

Water treatment equipment for haemodialysis applications and related therapies