

STANDARD FOR INSTALLATION OF SMOKE ALARMS

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STANDARD FOR INSTALLATION OF SMOKE ALARMS

PREFACE

This is the Third Edition of the Standard for Installation of Smoke Alarms, CAN/ULC-S553-14.

This Edition of the Standard was developed by the ULC Standards Working Group on Installation, Inspection, Testing and Maintenance of Smoke Alarms (ULC WG-S552/S553) and was reviewed by the ULC Standards Subcommittee on Installation, Inspection, Testing and Verification of Fire Alarm Systems (ULC S500F/SC1). It has been formally approved by the ULC Committee on Fire Alarm and Life Safety Equipment and Systems (ULC-S500F).

The requirements in this Standard have been developed in consideration of the requirements of the National Building Code of Canada and the National Fire Code of Canada.

This Standard provides for the regulation of the installation of smoke alarms that are powered by batteries or by permanent connections to electrical circuits.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

Appendices A, B, C and D, identified as informative, are for informational purposes only.

In Canada, there are two official languages, French and English. All safety warnings must be in French and English. Attention is drawn to the fact that some Canadian authorities may require markings and /or installation instructions to be in both official languages.

This Third Edition National Standard of Canada is based on, and now supersedes, the Second Edition.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a "yes" or "no" answer based on the literal text of the requirement concerned.

The initiation of the review of this Standard will commence within 5 years of the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

This Standard is intended to be used for conformity assessment.

1 SCOPE

1.1 This Standard applies to the installation of *smoke alarms* within *dwelling units* as well as within sleeping rooms / areas that are not part of *dwelling units*. (Refer to Appendix A, Explanatory Material, Clause A1.1 and Appendix B, Enhancement of Fire Safety in Residential Occupancies.)

1.2 Requirements for the inspection, testing and maintenance of *smoke alarms* are referenced in CAN/ULC-S552, Standard for Inspection, Testing and Maintenance of Smoke Alarms.

1.3 This Standard does not cover systems incorporating residential fire warning systems. Requirements for these systems are referenced in CAN/ULC-S540, Standard for Residential Fire Warning and Life Safety Systems: Installation, Inspection, Testing and Maintenance. (Refer to Appendix A, Explanatory Material, Clause A1.3, and Appendix D, Smoke Detector with Sounder Base.)

2 REFERENCE PUBLICATIONS

The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard. All undated references shall be interpreted as referring to the latest edition of that document.

Document Published by the CSA Group
5060 Spectrum Way, Mississauga, Ontario, Canada, L4W 5N6
Telephone: (416) 747-4000 or 1-800-469-6727
www.csa.ca

- CSA C22.1-12, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations
- CSA Z462-12, Workplace Electrical Safety

Document published by the Institute of Electrical and Electronics Engineers Inc.
IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ, U.S.A. 08855-1331
Telephone: (908) 562-3800 or (908) 981-0060
www.ieee.org

- IEEE 1584-2002, Guide for Performing Arc-Flash Hazard Calculations – Includes Access to Additional Content

Document published by the National Electrical Manufacturers Association
1300 North 17th Street; Suite 1752, Rosslyn, VA, U.S.A. 22209
Telephone: (703) 841-3200

- ANSI/NEMA Z535.4-12, Product Safety Signs and Labels

Documents published by the National Research Council of Canada (NRC)
Publication Sales M20, National Research Council of Canada, Institute for Research in Construction,
Ottawa, ON K1A 0R6
Telephone: (613) 993-2463, Canada, 1-800-672-7990

- National Building Code of Canada 2010

- National Fire Code of Canada 2010

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- CAN/ULC-S524, Standard for Installation of Fire Alarm Systems
- CAN/ULC-S531, Standard for Smoke Alarms
- CAN/ULC-S537, Standard for Verification of Fire Alarm Systems
- CAN/ULC-S540, Standard for Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance
- CAN/ULC-S552, Standard for the Inspection, Testing and Maintenance of Smoke Alarms
- ULC/ORD-C539, Guide for the Investigation of Fire Alarm Devices, Single and Multiple Station, Mechanically-Operated Type

3 GLOSSARY

NOTE: Terms used in this Standard that are in *italic* print are defined as follows:

3.1 *ACCESSORY DEVICES* – Devices which are *interconnected* to *smoke alarms* to provide optional functions, including but not limited to manual stations, fire sprinkler flow switches, heat alarms, visible signalling devices, relay modules, etc.

3.2 *AUTHORITY HAVING JURISDICTION* – The governmental body responsible for the enforcement of any part of this Standard or the official or agency designated by that body to exercise such a function.

3.3 *CARE* — The provision of services other than treatment by or through *care* facility management to resident who requires these services because of cognitive, physical or behavioural limitations.

3.4 *CARE OCCUPANCY* – The occupancy or use of a *building* or part thereof where *care* is provided to residents.

NOTE: Examples of *care occupancies* include, but are not limited to, assisted/supportive living facilities, *care* facilities without treatment, children's custodial homes, convalescence/recovery/rehabilitation centres without treatment, group homes, hospices without treatment, nursing homes without treatment, reformatories without detention quarters and respite centres without treatment.

3.5 *COMPATIBLE* – The correct electrical, electronic or mechanical interaction between a series of system components that depend on individual unique characteristics that are connected together to meet the intent of this Standard.

3.6 *DWELLING UNIT*¹ – A *suite* operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.