CSA Group

CSA B44.1-14/ ASME A17.5-2014

Elevator and escalator electrical equipment

ASME
SETTING THE STANDARD

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ERRATA
to
CSA B44.1-14/ASME A17.5-2014
Elevator and Escalator Electrical Equipment

The errata corrections listed below apply to CSA B44.1-14/ASME A17.5-2014.

Page	*Clause*	*Change*
7	4.2.2	In subparas. (a) and (b), "15 500 mm2 (24 in2)" corrected by errata to "15 500 mm^2 (24 in^2)"
8	5.1	"0.1 m2 (155 in2)" corrected by errata to "0.1 m^2 (155 in^2)"
10	6.4.2	(1) In subparas. (a), (b), and (d), "645 mm2 (1.0 in2)" corrected by errata to "645 mm^2 (1.0 in^2)" (2) In subpara. (c), "5800 mm2 (9 in2)" corrected by errata to "5800 mm^2 (9 in^2)"
16	12.5	Reference to "Clause 20.22" corrected by errata to "Clause 20.23"
	13.2.1	Subparagraphs (d) and (e) redesignated by errata as subsubparas. (c)(i) and (ii), respectively
31	19.5.1	"25 800 mm2 (40 in2)" corrected by errata to "25 800 mm^2 (40 in^2)" in two places
38	20.23	(1) Reference to "Clause 12.4" corrected by errata to "Clause 12.5" (2) "read a" corrected by errata to "read an"

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
Two Park Avenue, New York, NY 10016-5990

October 2014

No text on this page

Standards Update Service

CSA B44.1-14/ASME A17.5-2014
June 2014

Title: *Elevator and escalator electrical equipment*
Pagination: 82 pages (xiv preliminary and 68 text), each dated **June 2014**

After publication of the 2014 Edition of CSA B44.1-14/ASME A17.5-2014, Errata may be posted on the ASME Website to provide corrections to incorrectly published items, or to correct typographical or grammatical errors. To register for errata email alerts, view Special Notices and Errata, or for information regarding them, go to the *A17 B44.1/A17.5 Committee on Elevator and Escalator Electrical Equipment* page at http://go.asme.org/A17B44errata.

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CSA B44.1-14/ASME A17.5-2014
Elevator and escalator electrical equipment

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Mechanical Engineers (ASME)
Two Park Avenue
New York, NY 10016-5990
USA
www.asme.org

ISBN 978-0-7918-6954-3

The 2014 edition of this Standard is being issued with an automatic addenda subscription service. The use of addenda allows revisions made in response to public review comments or committee actions to be published as necessary.

Published in June 2014 by CSA Group
A not-for-profit private sector organization
5060 Spectrum Way, Suite 100
Mississauga, Ontario, Canada
L4W 5N6
1-800-463-6727 • 416-747-4044

Visit the CSA Group Online Store at **shop.csa.ca**

ISBN 978-1-77139-552-6

Contents

CSA Technical Committee on the Elevator Safety Code (B44) *vi*

ASME A17 Elevator and Escalator Standards Committee *ix*

CSA B44.1/ASME A17.5 Joint Committee on Elevator and Escalator Electrical Equipment *xi*

Preface *xiii*

1 Scope *1*

2 Reference publications, abbreviations, and definitions *2*
2.1 Reference publications *2*
2.2 Abbreviations *4*
2.3 Definitions *4*

3 Construction *7*

4 Enclosure construction *7*
4.1 General *7*
4.2 Thickness of cast-metal enclosures for live parts *7*
4.3 Thickness of sheet-metal enclosures for live parts *8*

5 Doors and covers *8*

6 Polymeric enclosures *9*

7 Openings in enclosures *11*
7.1 Requirements for all enclosures *11*
7.2 Requirements for equipment enclosures marked in accordance with Clause 20.22 *12*

8 Wire-bending space *12*

9 Enclosures with environmental ratings *13*

10 Protection against corrosion *13*

11 Insulating material *13*

12 Protective devices *13*
12.1 Overcurrent protection *13*
12.2 Number, arrangement, and ratings or settings of protective devices *13*
12.3 Supplementary overcurrent protection *14*
12.4 Disconnecting means *14*
12.5 Power from more than one source *16*

13 Protection of control circuits *16*
13.1 Control circuit conductor protection *16*
13.2 Control circuit transformer protection *16*
13.3 Use of supplementary protectors in control circuits *17*

14 Internal wiring *18*

15 Wiring terminals and leads *18*

16 Electrical spacings *20*

17 Grounding *24*

18 Printed circuit boards *25*

19 Tests *25*
19.1 General *25*
19.2 Endurance *26*
19.3 Solid-state ac motor controller tests *26*
19.3.1 General *26*
19.3.2 Test voltage *26*
19.3.3 Temperature test *26*
19.3.4 Dielectric voltage withstand test *27*
19.3.5 Overvoltage and undervoltage tests *27*
19.3.6 Overload and endurance tests *27*
19.3.7 Exception *27*
19.3.8 Short-circuit test *27*
19.3.9 Breakdown of components test *28*
19.4 Power-conversion equipment *28*
19.4.1 General *28*
19.4.2 Temperature test *29*
19.4.3 Dielectric voltage withstand test *29*
19.4.4 Operation tests *29*
19.4.5 Normal operation *30*
19.4.6 Contactor overload *30*
19.4.7 Single phasing *30*
19.4.8 Inoperative blower motor *30*
19.4.9 Clogged filter *30*
19.4.10 Current-limiting control *30*
19.4.11 Breakdown of components *31*
19.5 Impact test *31*
19.6 Printed circuit board coatings *31*
19.6.1 General *31*
19.6.2 Dielectric strength (new samples) *31*
19.6.3 Dielectric strength (aged samples) *31*
19.6.4 Dielectric strength (after humidity conditioning) *32*
19.6.5 Adhesion *32*
19.7 Transient-voltage-surge suppression *32*
19.8 Compression *32*
19.9 Deflection *32*
19.10 Cord pullout *33*
19.11 Crushing resistance test *33*

20 Marking *33*

Annexes
A (informative) — Application examples *60*
B (informative) — CSA Group and ASME elevator and escalator publications *66*

Tables

1 — Thickness of sheet metal for enclosures — Carbon steel or stainless steel *39*
2 — Thickness of sheet metal for enclosures — Aluminum, copper, or brass *40*
3 — Size of bonding conductor *41*
4 — Minimum acceptable distance from an opening to a part that can involve a risk of electric shock or injury to persons *41*
5 — Minimum spacings for live parts *42*
6 — Wire-bending space at the terminal of enclosed motor controllers *43*
7 — Maximum acceptable rating of overcurrent device *43*
8 — Allowable ampacities of insulated copper conductors inside elevator electrical equipment enclosures (based on a maximum room ambient temperature of 40 °C) *44*
9 — Ampacity correction factors for multiple conductor groupings *44*
10 — Full-load motor-running currents in amperes corresponding to various ac horsepower ratings *45*
11 — Full-load motor-running currents in amperes corresponding to various dc horsepower ratings *47*
12 — Minimum conductor spacings for printed circuit boards *48*
13 — Minimum acceptable spacings for equipment for which transient voltages are known and controlled *49*
14 — Dimensions of bushings *50*
15 — Size and number of conductors per grounding termination *50*
16 — Size of grounding conductors *51*
17 — Sequence of tests for solid-state ac motor controllers *52*
18 — Maximum permissible temperature rises *53*
19 — Sequence of tests for power-conversion equipment *55*
20 — Rating codes for ac control circuit contacts at 50 and 60 Hz *56*
21 — Rating codes for dc control circuit contacts *57*

Figures

1 — Articulated probe *58*
2 — Location of applicators for crushing resistance test *59*

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Preface

This is the fifth edition of CSA B44.1/ASME A17.5, *Elevator and escalator electrical equipment*. It supersedes the previous editions published in 2011, 2004, 1996, and 1991.

The purpose of this Standard is to reduce the risk of injury to persons and damage to property from fire and electrical shock. To this end, it is a safety Standard for the design and construction of equipment to be used in conformity with the rules of the applicable elevator and electrical codes (i.e., ASME A17.1/CSA B44 and CSA C22.1, *Canadian Electrical Code, Part I*, or ANSI/NFPA 70).

This Standard arose from the need to have identical Canadian and U.S. requirements for this equipment, thereby enabling manufacturers to have their products certified by an approved testing laboratory in Canada or the United States and to have the certification ratified for acceptance in either country.

In 1986, an ad hoc committee on the certification of electrical equipment consisting of jurisdictional authorities, representatives of Canadian and U.S. testing laboratories, and Canadian and U.S. manufacturers began to develop a draft for submission to the ASME A17 Standards Committee on Elevators and Escalators and the CSA Technical Committee on the Elevator Safety Code. Its initial investigation consisted of a review of the industrial control Standards CSA C22.2 No. 14 and UL 508. These Standards could not be used as such, due to the differences in the application of industrial control equipment and elevator equipment. It was recognized that industrial control equipment normally operates continuously for a low number of operations (about 3000/year) and at full-load current. In contrast, elevator control equipment operates intermittently for a high number of operations (about 500 000/year), and at up to 200 to 250% of full-load current in order to accelerate a mass. Further, elevator equipment is usually protected by either a locked machine room or a hoistway. The applicable portions of CSA C22.2 No. 14 and UL 508 were then reviewed and adapted to elevator equipment. (Grateful acknowledgement is made to Underwriters Laboratories Inc. for the use of UL 508.) Where there were differences between the UL and CSA Group Standards, the more stringent requirements were used.

This Standard has been approved by the CSA Technical Committee on the Elevator Safety Code and the ASME A17 Standards Committee on Elevators and Escalators. It is the intent of these committees to maintain a single harmonized Standard by coordinating their procedures for revising and interpreting this Standard. To this end, interpretations and revisions of this Standard will not be issued without the approval of both committees.

Changes to this edition include:

(a) addition of Clause 2.3, Definitions;
(b) addition of Clause 5.3;
(c) update to Clause 6.4.2;
(d) updates to Clause 7.1, Requirements for enclosures;
(e) addition of Clause 7.2;
(f) update to Clause 12.2, and addition of Clauses 12.4 and 12.5;
(g) updates to Clauses 19.2.1, 19.2.2, and 19.2.3;
(h) update to Clauses 20.8 and 20.11;
(i) addition of Clauses 20.22, 20.23, and 20.24; and
(i) updates to Table 18.

This Standard was prepared by the CSA B44.1/ASME A17.5 Joint Committee on Elevator and Escalator Electrical Equipment, under the jurisdiction of the CSA Technical Committee on the Elevator Safety Code, the CSA Strategic Steering Committee on Mechanical and Industrial Equipment Safety, and the ASME A17 Standards Committee on Elevators and Escalators, and has been formally approved by the CSA Technical Committee and the ASME A17 Standards Committee. It was approved as an American National Standard by the American National Standards Institute (ANSI) on July 2, 2014.

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CSA B44.1-14/ASME A17.5-2014
Elevator and escalator electrical equipment

1 Scope

1.1
The requirements of this Standard apply to the following electrical equipment for elevators, escalators, moving walks, dumbwaiters, material lifts, and elevating devices for persons with physical disabilities (platform lifts and stairway chairlifts):

(a) motor controllers;
(b) motion controllers;
(c) operation controllers;
(d) operating devices; and
(e) all other electrical equipment not listed/certified and labelled/marked according to another product safety standard or code.

The equipment specified in this Standard is intended for installation in accordance with the *Canadian Electrical Code, Part I* (CSA C22.1) and the *National Electrical Code* (ANSI/NFPA 70), whichever is applicable.

Note: *Controllers (i.e., motion, motor, and operation controllers) are defined in CSA B44 and ASME A17.1.*

1.2
The electrical equipment covered by this Standard is intended

(a) to be connected to supply circuits at a nominal system voltage of 600 V or less;
(b) for internal voltages that are not more than 1500 V;
(c) for use in non-hazardous locations in accordance with the rules of the applicable electrical codes; and
(d) for use in an ambient temperature no greater than 40 °C.

Note: *This Standard does not include requirements for equipment intended for use in an ambient temperature above* 40 °C. *Additional investigation of the equipment will be required when equipment is to be used in ambient temperature above* 40 °C.

1.3
The object of this Standard is to reduce the risk of injury to persons and damage to property from fire and electrical shock by presenting requirements for the proper design, the good construction, and the high quality of work of the equipment listed in Clause 1.1.

1.4
This Standard does not apply to devices that are rated for connection to extra-low-voltage Class 2 supply circuits as defined in the applicable electrical code.

Note: *Extra-low-voltage circuits are circuits that have a voltage of not more than* 30 V *rms or* 42.4 V *peak.*

1.5
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 (nonmandatory) to define their application.

1.6

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, abbreviations, and definitions

2.1 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

B355-09 (R2013)
Lifts for persons with physical disabilities

C22.1-12
Canadian Electrical Code, Part I

CAN/CSA-C22.2 No. 0-10
General Requirements — Canadian Electrical Code, Part II

C22.2 No. 0.2-93 (R2013)
Insulation coordination

CAN/CSA-C22.2 No. 0.4-04 (R2013)
Bonding of electrical equipment

CAN/CSA-C22.2 No. 0.17-00 (R2013)
Evaluation of properties of polymeric materials

CAN/CSA-C22.2 No. 4-04 (R2009)
Enclosed and dead-front switches

C22.2 No. 5-13
Molded-case circuit breakers, molded-case switches and circuit-breaker enclosures

C22.2 No. 14-13
Industrial control equipment

C22.2 No. 66.3-06 (R2011)
Low voltage transformers — Part 3: Class 2 and Class 3 transformers

CAN/CSA-C22.2 No. 94.2-07 (R2012)
Enclosures for electrical equipment, environmental considerations

C22.2 No. 235-04 (R2013)
Supplementary protectors