ASME A17.8-2021/CSA B44.8:21
National Standard of Canada
American National Standard

Standard for wind turbine tower elevators

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ASME A17.8-2021/CSA B44.8:21
December 2021

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(ED) # *Foreword*

Equipment covered by this standard was originally codified and incorporated into ASME A17.1-2013/ CSA B44-13, Section 5.11, in October 2013. The first edition of this Standard was published in November 2016 and prepared by The American Society of Mechanical Engineers (ASME), Wind Turbine Tower Elevator Committee with the assistance of representatives of a number of interests including manufacturers, certifying organizations, regulatory bodies, and technical consultants from North America and Europe.

The work to develop this Standard originated when the A17 Standards Committee was presented information on the numbers of these elevators already installed and the estimate of projected number of elevators to be constructed in North America.

The A17 Standards Committee voted that these elevators were under the Scope of ASME A17.1/CSA B44, Safety Code for Elevators and Escalators and in January 2009, assigned the project of developing language to the Special Purpose Personnel Elevator (SPPE) Committee. The SPPE Committee created a Project Team consisting of A17/B44 representatives, technical advisors from the American Wind Energy Association (AWEA), specialists in the design of these types of elevators, manufacturers from Denmark, Belgium, Spain, and Canada, and two members from Accredited Elevator/Escalator Certifying Organizations (AECOs) from the Netherlands and the United States.

The first Project Team meeting was held in March 2009. A number of meetings of the Team were held during the next three years, using the Special Purpose Personnel Elevator language, Section 5.7, as a basis for developing Wind Turbine Elevator Code language. The Team performed hazard assessment to establish equivalent levels of safety considering the very unique environment these elevators are installed where current ASME A17.1/CSA B44 codes do not address specific circumstances and structural requirements. In 2012, the Project Team was converted to a full Working Committee of A17, and the ASME A17.1/CSA B44, Section 5.11 was completed, approved by ANSI, and published as an American National Standard, ASME A17.1-2013/CSA B44-13. In 2013, the A17 Standards Committee approved the conversion of Section 5.11 into ASME A17.8/CSA B44.8 to provide a global code to international manufacturers in an effort to harmonize worldwide construction, installation, operation, testing, inspection, maintenance, alteration, and repair requirements.

ASME A17.8-2016/CSA B44.8-16 was approved as an American National Standard by the American National Standards Institute (ANSI) on January 8, 2016.

The second edition of ASME A17.8-2021/CSA B44.8:21 includes revisions listed in the summary of changes section. This edition adds requirements for engineering tests, type tests, and certifications; maintenance, repair, replacements, testing, and alterations; as well as suspension means and their connections. These additions were to create a document not dependent on ASME A17.1/CSA B44, but separate their unique requirements into a separate standard. This 2021 edition is also being changed from periodic maintenance to a five-year cycle continuous maintenance publication. This Standard was approved as an American National Standard by the American National Standards Institute (ANSI) on October 27, 2021.

Correspondence with the A17 Committee

General

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Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the procedures, and in order to conform to developments in the elevator art. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible: citing the Section number(s), the proposed wording, and a detailed description of the reasons for the proposal including any pertinent documentation.

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Preface

This is the second edition of ASME A17.8/CSA B44.8, *Standard for wind turbine tower elevators*. It supersedes the previous edition published in 2016.

Originally, wind turbine tower elevators were covered in ASME A17.1-2013/CSA B44-13, Section 5.11, published in October 2013. This Standard supersedes those requirements. This is a fully harmonized binational Standard.

This Standard was prepared for use in Canada by the CSA Technical Committee on the Elevator Safety Code under the jurisdiction of the CSA Strategic Steering Committee on Mechanical Industrial Equipment Safety, and has been formally approved by the CSA Technical Committee.

This standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

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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 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) *designation;*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*
6) *Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. CSA Group is not to be held responsible for identifying any or all such patent rights. Users of this Standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.*

Summary of Changes

Following approval by the ASME A17 Elevator and Escalator Committee and ASME, and after public review, ASME A17.8-2021/CSA B44.8:21 was approved by the American National Standards Institute on October 27, 2021.

The 2021 edition of ASME A17.8/CSA B44.8 includes revisions that are identified by a margin note, **(21)**.

Changes made to correct errors, as well as other editorial changes, are identified by **(ED)**. The following is a summary of the latest revisions and changes:

Page	Location	Change
1–5	Contents	Revised
6–15	Committee Rosters	Updated
16	ASME Foreword	Updated
25–35	Part 1, Scope, Definitions, and References	Title Revised
25	1.1.1	Editorially revised, “code” revised to “standard” throughout document
25	1.2	Added
	1.2, 1.3	Redesignated to 1.3, 1.4
25–33	1.3 Definitions	“*Accredited certifying organization*” Added
		“*Accrediting body*” Added
		“*Alteration*” Added
		“*Approved*” Added
		“*Authority having jurisdiction*” Added
		“*Brake, driving machine, elevator dumbwaiter, or material lift*” Revised
		“*Car door or gate electric contact*” Added
		“*Clearance, top car, inclined elevators*” Revised
		“*Control, AC motor*” Added
		“*Control, two speed AC*” Added
		“*Operation, automatic*” Revised
		“*Control system*” Added
		“*Controller, motion*” Added
		“*Door or gate closer*” Added
		“*Elevator personnel*” Revised
		“*Emergency personnel*” Added

Page	Location	Change
		"*Emergency stop switch*" Revised
		"*Fail safe*" Added
		"*Guiding means, ladder*" Added
		"*Hard copy*" Added
		"*Hoistway (shaft), elevator, dumbwaiter, or material lift*" Revised
		"*Hoistway gate separate mechanical lock*" Revised
		"*Installation*" Revised
		"*Landing, elevator or material lift*" Revised
		"*Landing, bottom terminal*" Deleted
		"*Landing, top terminal*" Deleted
		"*Landing, terminal*" Deleted
		"*Maintenance control program (MCP)*" Revised
		"*Maintenance interval*" Added
		"*Maintenance task*" Added
		"*Mechanical lock*" Revised
		"*Periodic tests, category*" Added
		"*Rated load, elevator, dumbwaiter, material lift, or escalator*" Revised
		"*Rated speed*" Revised
		"*Elevator, dumbwaiter, or material lift*" Revised
		"*Regulatory authority*" Added
		"*Residual strength*" Added
		"*Rise*" Added
		"*Rope, suspension (hoisting)*" Revised
		"*Sound engineering practice*" Added
		"*Terminal stopping device, normal*" Revised
		"*Trailing Cable*" Added
		"*Travelling Cable*" Revised
33–35	1.4	Revised
35	2.1.3.2	Revised
37	2.5	Revised
37	2.7	Title Revised
38	2.7.1.1	Revised

Page	Location	Change
38	2.9	Revised
38	2.9.1.5	Added
39	2.9.2	Revised
39	2.9.3	Deleted
	2.9.4	Redesignated
	2.9.4.1	Redesignated
	2.9.4.2	Redesignated
39	2.10.1	Revised
40	2.11	Revised
41	2.12	Title Revised
41	2.12.1	Revised
41	2.12.2	Revised
41	2.12.3	Revised
41	2.12.3.1	Revised
42	2.12.3.2	Revised
42	2.12.3.3	Revised
	2.12.3.5.1	Redesignated and Revised
	2.12.3.5.2	Redesignated and Revised
	2.12.3.5.3	Redesignated and Revised
42	2.12.4	Added
44	2.14.8.3	Deleted
	2.14.8.4	Redesignated
45	2.14.9.2	Revised
45	2.14.9.3	Revised
46	2.14.12	Revised
46	2.14.13	Revised
46	2.15	Revised
46	2.15.1	Revised
47	2.15.8	Revised
47	2.15.10.1	Revised
47	2.15.10.2	Revised
39	2.15.11	Revised
48	2.16.4	Revised
49	2.17.1.1	Revised
50	2.20	Revised

Page	Location	Change
51	2.20.1	Revised
51	2.20.1.1	Revised
51	2.20.1.2	Revised
51	2.20.1.3	Revised
51	2.20.2	Revised
51	2.20.2.1	Revised
51	2.20.2.2	Revised
51	2.20.2.3	Revised
51	2.20.2.5	Revised
52	2.20.2.9	Revised
52	2.20.2.10	Revised
	2.20.2.11	Redesignated and Revised
53	2.20.2.12	Revised
	2.20.2.13	Redesignated
	2.20.3	New Para. Added, Revised, and Redesignated
53	2.21	Revised
54	2.23.1	Revised
54	2.23.1.1	Revised
54	2.23.1.3	Revised
55	2.23.1.6	Revised
55	2.23.1.9	Revised
55	2.23.1.12	Added
56	2.23.2	Revised
56	2.23.2.3	Revised
56	2.23.2.9	Added
57	2.24	Revised
	2.24.3	Deleted
	2.24.4	Redesignated
	2.24.4.1	Redesignated
	2.24.5	Redesignated
	2.24.6	Redesignated and Revised
	2.24.7	Redesignated
	2.24.8	Redesignated
	2.24.9	Redesignated and Revised
	2.24.9.1	Redesignated

Page	Location	Change
	2.24.9.2	Redesignated
	2.24.9.3	Redesignated
	2.24.9.4	Redesignated
	2.24.9.5	Redesignated
	2.24.9.6	Redesignated
	2.24.9.7	Redesignated
	2.24.10	Redesignated
60	2.25.1.1	Revised
61	2.25.2.4	Revised
61	2.25.2.5	Added
62	2.26.1.2	Revised
63	2.26.2.7	Added
63	2.26.2.8	Added
66	2.29	Revised
67	2.30	Revised in its entirety
71	2.31	Revised
	2.32	Deleted
	2.33	Deleted
72	3	Added
95	Annex B (informative)	Maintenance Control Program Records Added
96	Table B-1	Maintenance Control Program Records Added
97	Annex C (informative)	Acceptance Tests Added

ASME A17.8-2021/CSA B44.8:21
Standard for wind turbine tower elevators

(ED) ## 1 General

1.1 Scope

ASME A17.8/CSA B44.8 applies to elevators permanently installed in a wind turbine tower to provide vertical transportation of authorized personnel and their tools and equipment only.

Such elevators are typically subjected to extreme temperatures, humidity variations, and substantial horizontal motions where, by reason of their limited use and the types of construction of the structures served, full compliance with ASME A17.1/CSA B44 Part 2 is not practicable or necessary.

(ED) ### 1.1.1 Effective date

The requirements of this edition and subsequent addenda to the Standard are effective as of the date noted on the copyright page of this document. The authority having jurisdiction will establish the effective date for its local regulations.

(21) ### 1.2 Purpose and exceptions

1.2.1 Purpose

The purpose of this Standard is to provide for the safety of life and limb, and to promote the public welfare. Compliance with this Standard shall be achieved by

a) conformance with the requirements in ASME A17.8/CSA B44.8; or
b) conformance with some of the requirements of ASME A17.8/CSA B44.8 and for systems, subsystems, components, or functions that do not conform with certain requirements in ASME A17.8/CSA B44.8, conform with the applicable requirements in ASME A17.7/CSA B44.7; or
c) conformance with the requirements in ASME A17.7/CSA B44.7

1.2.2 Exceptions to ASME A17.8/CSA B44.8

The provisions of this Standard are not intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety to those prescribed by this Standard, provided that there is technical documentation to demonstrate the equivalency of the system, method, or device.

1.2.2.1

The specific requirements of this Standard shall be permitted to be modified by the authority having jurisdiction based upon technical documentation or physical performance verification to allow alternative arrangements that will assure safety equivalent to that which would be provided by conformance to the corresponding requirements of this Standard.

1.2.2.2

Exceptions shall be based on the requirements of 1.2.2.1.

(21) ### 1.3 Definitions

The following definitions shall apply in this Standard: