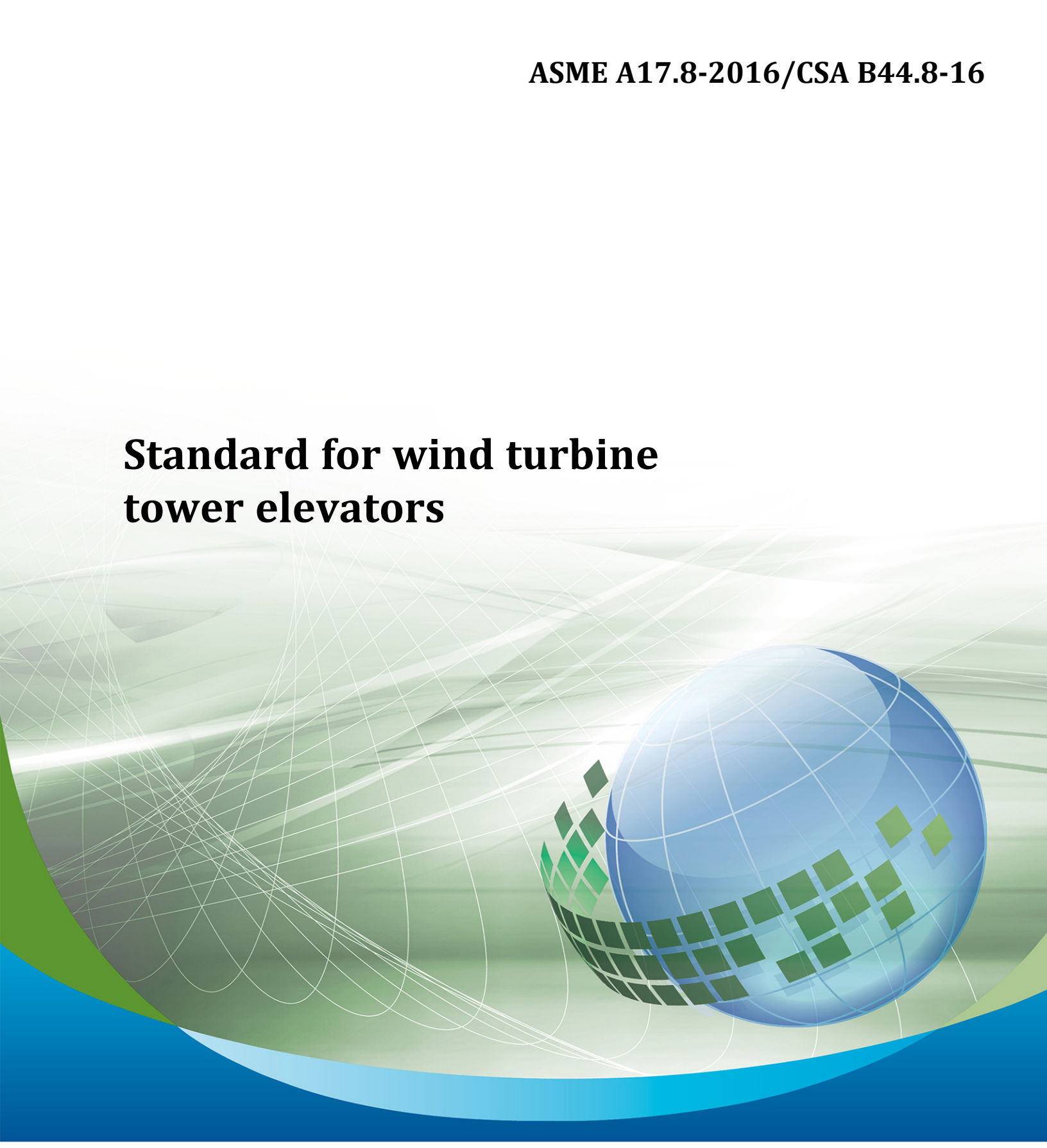
ASME A17.8-2016/CSA B44.8-16

Standard for wind turbine tower elevators



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ASME A17.8-2016/CSA B44.8-16

Standard for wind turbine tower elevators

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ASME 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 Code 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 Code 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 A17.1/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 A17.1/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 was approved as an American National Standard by the American National Standards Institute (ANSI) on January 8, 2016.

ASME Preface

General

This Code is one of numerous codes and standards developed and published by The American Society of Mechanical Engineers (ASME) under the general auspices of the American National Standards Institute (ANSI).

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All correspondence to the Committee must include the individual's name and post office address in case the Committee needs to request further information.

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Revisions are made periodically to the Code 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 Code. 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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Upon request, the A17 Committee will render an interpretation of any requirement of the Code. Interpretations can only be rendered in response to a written request sent to the Secretary of the A17 Standards Committee at: http://go.asme.org/Inquiry.

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Subject:	Cite the applicable Section number(s) and a concise description.
Edition:	Cite the applicable edition and supplement of the Code for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The question shall be phrased, where possible, to permit a specific "yes" or "no" answer. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format will be rewritten in this format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME committee or subcommittee. ASME does not “approve,” “certify,” “rate,” or “endorse” any item, construction, proprietary device, or activity.

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The A17 Standards Committee and the various Working Committees regularly hold meetings and/or telephone conferences all of which are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the Standards Committee. Future committee meeting dates and locations can be found on the committee page at https://cstools.asme.org/.

CSA Preface

This is the first edition of ASME A17.8/CSA B44.8, *Standard for wind turbine tower elevators*.

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

This Code 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. It has been formally approved by the CSA 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 Code is stated in its Scope, it is important to note that it remains the responsibility of the users of the Code 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 available on the* Current Standards Activities *page at* ***standardsactivities.csa.ca***.

5) *This Code 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*
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6) *Attention is drawn to the possibility that some of the elements of this Code 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 Code are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.*

ASME A17.8-2016/CSA B44.8-16
Standard for wind turbine tower elevators

1 Scope, definitions, and references

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.

1.1.1 Effective date

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

1.2 Definitions

The following definitions shall apply in this Code:

Authorized personnel — persons who have been instructed in the operation of the equipment and designated by the owner to use the equipment.

Brake, driving machine, elevator, dumbwaiter, or material lift — an electromechanically or electrohydraulically released spring, or gravity applied device, that is part of the electric driving machine of the elevator, dumbwaiter, or material lift used to apply a controlled force at a braking surface to hold or retard the elevator, dumbwaiter, or material lift.

> **Electromechanically released —** a means of brake release in which an electric current applied to an actuator (such as a solenoid) causes an electromagnetic force that overcomes a resisting force (such as a spring) as long as the electric current flows.

Buffer — a device designed to stop a descending car or counterweight beyond its normal limit of travel by storing or by absorbing and dissipating the kinetic energy of the car or counterweight.

> **Spring buffer —** a buffer utilizing one or more springs to cushion the impact force of the descending car or counterweight.

Bumper — a device other than an oil or spring buffer designed to stop a descending car or counterweight beyond its normal limit of travel by absorbing the impact.

Cable, traveling — see **Traveling cable**.

Capacity — see **Rated load**.

Car, elevator — the load-carrying unit including its platform, car frame, enclosure, and car door or gate.