North American Elevator Industry Codes and Standards

A history on the governing standard in North America and explanation of how it is put together

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Learning Objectives

After reading this article, you should have:

- Obtained an overview of the A17 code and understanding of how it has been developed and how it is maintained
- Learned how elevator-industry personnel can get involved in the A17 code-development process and participate in A17 code committee meetings
- Learned the history of the development and application of the A17 code from its inception in 1921 to the present
- Learned the format of the A17 code and which parts cover which aspects of elevator-industry equipment design, installation and maintenance
- Learned how the A17 code is administered and enforced and how it can be accessed and utilized by elevator-industry personnel

It has been stated that everyone in the elevator industry should be familiar with the governing of local, as well as national, elevator codes and standards. This is a goal for all of us to strive for, and, for many, goes beyond just having a familiarity with these documents, including how these documents are, have been and will continue to be developed and administered.

This article will provide an overview of our North American elevator-industry code, provide a bit of history on its development, then discuss how the *ASME A17.1/CSA B44 Safety Code for Elevators and Escalators* is administered by the American Society of Mechanical Engineers (ASME) and state and municipal authorities in America. In Canada, the corresponding organization is the Canadian Standards Authority (CSA). Prior to code harmonization between A17 and B44 in 2000, Canada had its B44 in parallel to A17. While A17 provided considerable influence to its Canadian counterpart, the codes were not identical. Now, however, elevator manufacturers doing business on both sides of the border are able to produce to the same governing standard.

History

It is cliché to say that those who don't study history will be doomed to repeat its failures and minimize the chance of replicating some of its successes. In view of this, it is important to consider how and why the A17 codes were initially implemented and where they are today. A detailed history of this is included in the ASME Forward in the *A17.1-2013/CSA B44-13 Safety Code for Elevators and Escalators* (herein after referred to as the A17 code).

The first edition of the A17 code was prepared by the ASME Committee for the Protection of Industrial Workers with the assistance of representatives of several interests, including manufacturers, insurance carriers, regulatory bodies and technical societies, and published in 1921.

Subsequently, ASME requested the American Engineering Standards Committee (AESC) to authorize the organization of a Sectional Committee to undertake a first revision, and, in January 1922, assigned sponsorship for the project jointly to the American Institute of Architects, the National Bureau of Standards and ASME. In July 1925, a revision of the 1921 code was completed, approved by the AESC and published as an American standard.

Value: 1 contact hour (0.1 CEU)

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Subsequent to the publication of the 1925 revision of the code, the necessity for development research on the design and construction of car safeties and oil buffers and for the development of test specifications for various parts of elevator equipment was realized. As time went on, information gained as a result of tests, together with developments that occurred in the design of equipment as a result of installations made in very tall buildings, prompted the Sectional Committee to prepare and issue the third edition of the code in 1931.

Further experience and developments in the design of elevator equipment led the Sectional Committee to prepare the fourth edition in 1937, which was approved by the sponsors and by the American Standards Association (ASA) in July 1937.

A fifth edition of the code was well underway in 1940 when it was necessary to suspend the work due to World War II. However, a number of the revisions already agreed upon by the Sectional Committee and approved by the sponsors and ASA in April 1942 were issued as a supplement to the 1937 edition. They were subsequently incorporated in a reprint of the 1937 edition in 1945, along with requirements for private-residence elevators that were issued in a separate supplement, ASA A17.1.5-1953, and incorporated into Part V of the 1955 edition. Figure 1 shows examples of covers of code editions.

In 1946, special subcommittees were appointed to prepare the revisions of the various code requirements. Fifteen subcommittees were set up with a total membership of more than 150 persons. After review of the comments and correlation of the drafts, the fifth edition of the code was approved by the Sectional Committee, subsequently by the sponsors and by the ASA in June 1955.

In December 1957, a supplement to the code listing a number of revisions was approved by the ASA and published by ASME. In 1958, the scope of the A17 code was enlarged to include moving walks. A subcommittee prepared a Safety Code for Moving Walks, which was published as Part XIII of the A17.1 code and designated ASA A17.1.13-1962. During 1962 and 1963, additional A17.1 changes were approved by the Sectional Committee, the sponsors and the ASA, and were published as the 1963 Supplement to the 1960 edition of the code.

A sixth edition was published in 1960 that incorporated the revisions within the 1957 supplement, as well as revisions approved by the Sectional Committee.

A seventh edition was published in 1965. This edition incorporated the rules of the Safety Code for Moving Walks, ASA A17.1.13-1962, as Part XIII. Its revisions were covered by the 1963 supplement, as well as other revisions approved by the Sectional Committee, sponsors and ASA. The title of the code was also changed to the *American Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks*.

In 1966, ASA was reconstituted as the United States of America Standards Institute. The designation of standards approved as "American Standards" was changed to "USA Standards." There was no change in the index identification or the technical content of these standards. Four supplements to this edition were published from 1967 through 1970.

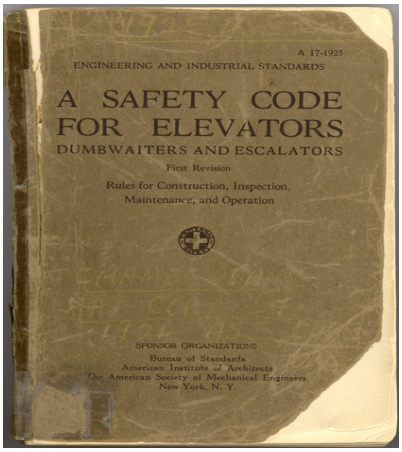
The United States of America Standards Institute later changed its name to American National Standards Institute (ANSI). When the new name became effective, the designation "USA Standard" was changed to "American National Standard," and the name of committees changed from "USA Standards Committees" to "American National Standards Committees." The alphabetical designation of standards documents was changed from "USA" to "ANSI."

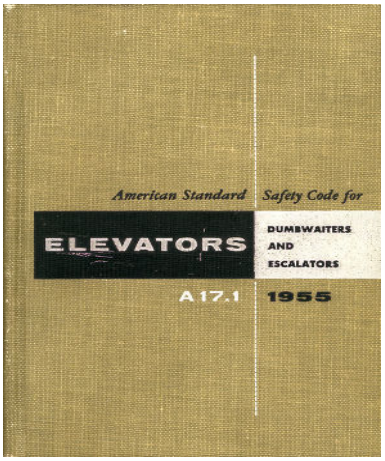
The eighth edition of the code incorporated the revisions covered by the four supplements and additional revisions. Seven supplements were issued from 1972 through 1976. Part XIV: Material Lifts and Dumbwaiters with Automatic Transfer Devices was added in supplement ANSI A17.1d-1975.

The ninth edition of the code incorporated revisions in addition to those covered by the previous supplements. Part XV: Special Purpose Personnel Elevators was added, and the Reference Codes, Standards, and Specifications section was moved from the Preface to a new Part XVI. Two supplements to this edition were issued in 1979 and 1980.

The 10th edition of the code (1981) incorporated the revisions covered by supplements ANSI A17.1a-1979 and A17.1b-1980, as well as new material in Part XVII: Inclined Elevators, Seismic Regulations and Recommended Practice for Accelerating Moving Walks and Private Residence Inclined Lifts moved to Part XVIII.

The Standards Committee was next reorganized in accordance with the ANSI Accredited Organization Method under the sponsorship of ASME. With this reorganization, the National Bureau of Standards and the American Institute of Architects relinquished their roles as co-secretariats. The Standards, Conference and Executive committees were also restructured as the Main Committee, and the National Interest Review





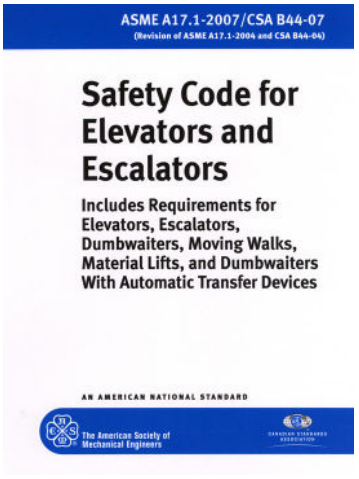


Figure 1

Committee, with the Working Committees (WCs) (subcommittees) continuing to operate as before. This reorganization also prompted a change in the title of the code to the *ANSI/ASME A17.1 Safety Code for Elevators and Escalators*.

Two supplements to the 1981 edition were issued: ANSI/ASME A17.1a-1982 and A17.1b-1983. The 1982 supplement included the new Part XIX: Elevators Used for Construction. In the 1983 supplement, the requirements for Private Residence Inclined Lifts in Part XVIII were expanded and incorporated into the new Part XXI: Private Residence Inclined Stairway Chairlifts and Inclined and Vertical Wheelchair Lifts. Part XX was added to cover these same devices installed in buildings other than private residences. Requirements for screw-column elevators were also added and designated as Part XVIII.

The 11th edition of the code (1984) incorporated the changes made in the 1982 and 1983 supplements, as well as additional revisions. This edition was updated with five supplements, which were issued approximately every six months in 1985 through the spring of 1987.

The 12th edition of the code incorporated the changes made in supplements A17.1a-1985 through A17.1e-1987, as well as additional revisions. Among these changes was a complete revision of the requirements for dumbwaiters in Part VII. The format of the code was also changed editorially to incorporate Exceptions into the body of the Rules.

The 13th edition of the code incorporated the changes made in A17.1a-1988 and A17.1b-1989, as well as additional revisions. Part XXII: Shipboard Elevators was added in A17.1b-1989. Part XXIII: Rooftop Elevators appeared for the first time in this edition.

The 14th edition of the code incorporated the changes made in A17.1a-1991 and A17.1b-1992, as well as the revisions shown in the Summary of Changes.

The 15th edition of the code incorporates the changes made in A17.1a-1994 and A17.1b-1995, as well as the revisions shown in the Summary of Changes. Part XXV: Limited Use/Limited Application Elevators was added in A17.1b-1995. The rules in Part III were harmonized with *CAN/CSA B44 Elevator Safety Standard* Sections 4 and 11, and Appendix G4.

The 16th edition of the code incorporates changes made in A17.1a-1997 through A17.1d-2000. In addition, the entire code was reformatted to incorporate a decimal numbering system.

The 17th edition of the code incorporates changes made in A17.1a-2002 and A17.1b-2003. Additionally, in sections 8.10 and 8.11, cross-references have been updated to reflect the *ASME A17.2-2001 Guide for Inspection of Elevators, Escalators and Moving Walks*.

The 18th edition of the code is a fully binational standard. All former deviations between A17.1 and B44 have been fully addressed within this one code. Additionally, this edition incorporates revisions to address the advancement of technologies used in the design and construction of elevator equipment. This has enabled installation of the equipment in other than traditional locations, such as machine rooms. New requirements have also been added to address programmable electronic systems in safety-related applications of elevators.

The 19th edition of the code incorporates changes made in A17.1a-2008 and A17.1b-2009. Major changes include former periodic inspections now being covered under maintenance requirements. New requirements were added to address the suspension means and governor systems for elevators. These new requirements are covered in detail through reference to ASME A17.6. They include the requirements for steel wire rope, aramid fiber rope and noncircular elastomeric-coated steel suspension members, and provide direction for future constructions as new technology develops.

The 20th edition of the code contains more than 100 revisions made to existing requirements. Some new requirements were also added to address new types of elevator equipment being used in the industry -- specifically, wind turbine elevators and outside emergency elevators. In addition, requirements were added to address a new feature called Occupant Evacuation Operation, which allows for the use of elevators for evacuation of building occupants during emergencies.

It is important to note that, although the latest edition of A17 is the applicable code in many jurisdictions, there are still many areas of the U.S. in which earlier editions of the code are applicable. Practitioners are, therefore, cautioned to be sure that they become fully aware of and familiar with the A17 code edition that has been adopted by local and/or state legislation and enforced by the governmental and/or privately contracted authorities having jurisdiction (AHJs) that approve and inspect elevator-industry equipment in their particular area. In addition, there might be local code requirements over and above A17 in effect. The practitioner would be wise to inquire about these to determine if the vertical-transportation equipment in question must also comply with these requirements.

Format

The A17 code is comprised of nine parts, each of which covers design and installation requirements for various types of vertical-transportation equipment. They are identified in the A17 Table of Contents as follows:

- Part 1: General
- Part 2: Electric Elevators
- Part 3: Hydraulic Elevators
- Part 4: Elevators with Other Types of Machines
- Part 5: Special Application Elevators
- Part 6: Escalators and Moving Walks
- Part 7: Dumbwaiters and Material lifts
- Part 8: General Requirements
- Part 9: Reference Codes, Standards and Specifications
- Figures (includes the identification and location of graphics incorporated into the other parts)
- Tables (includes the identification and location of tables incorporated into the other parts)
- Nonmandatory Appendices (includes clarifying graphics, charts and explanatory text for items described throughout the code)
- Index (provides references to parts, sections, requirements, tables, figures and appendix designations incorporated into and referenced throughout the code)

Each part is divided into sections, which cover the specific requirements for the design, construction, operation, inspection, testing, maintenance, alteration and repair of the equipment identified therein.

Administration

ASME publishes the A17 code using voluntary experts from various segments of the elevator industry to develop and

administer it. These experts participate on the 28 Working Groups (WGs) that report to the Standards Committee. The requirements for the elevator-industry equipment described in the code are developed and maintained by representatives of various interests, which include equipment owners, manufacturers, installers, component suppliers, employees affected by the standards (labor), government bodies (enforcing authorities), specialists having expert knowledge of the equipment covered in the code (consultants) and insurance providers/inspectors. The assignment of personnel to the Standards Committee and the various WGs is done to provide and maintain a proper balance of personnel representing the various interests.

Standards Committee meetings are held three times a year during the months of January, May, and September or October, along with meetings of the WGs, many of which also have additional in-person and web-based meetings throughout the year. The meeting locations vary and are usually held in places that can be easily accessed by industry personnel, equipment owners and other parties that may be interested in the A17 code development work. Meeting dates and locations are published on www.ASME.org, and people are encouraged to sit in on and participate in all of the meetings, although only the official committee members and their acting alternates may vote on any of the items proposed and/or discussed during the meetings.

Code Requirements, Inquiries and Revisions

The code requirements are developed by the WGs and proposed to the Standards Committee for consideration, approval and adoption into forthcoming editions of A17. Additionally, inquiries of code requirements that do not appear to provide clear direction to those using the code can be submitted to the code administration staff as Requests for Interpretation (RFIs) for consideration and processing by the A17 Standards Committee and its WGs. The RFIs must be submitted in a specific format and may include any clarifying material that may assist the code specialists in resolving the issue in question. Inquiries must be formatted as specific questions related to specific code requirements and include the specific number of the code requirement being questioned, along with the specific code part, requirement and rule designations and the A17 code edition in which the item being questioned appears. The inquiry must also be worded so that it can be provided with a "Yes" or "No" answer. Although these RFI procedures are very stringent, the actual RFI process as it is implemented by the experts does accommodate some leeway relative to the specific and precise requirements specified in these procedures. However, precise compliance with them will ensure a prompt and effective response to any RFI submitted for processing.

In the past (and as indicated in the "History" section of this article), the A17 code was updated every five years, with annual revisions made and issued yearly. However, the current process is for the A17 code to be revised on a three-year cycle without annual revisions. This has proven to be a more effective and efficient means of keeping the A17 code up to date and current relative to improvements in the elevator industry state of the art. This process also appears to make it easier for the industry and the AHJs to keep their code knowledge and documentation current, and it has proven to be a more effective way to respond to and enforce code revisions deemed necessary.

Participation in Development

Participation in the code-development process is open to all personnel involved in the elevator industry or who may be able and willing to represent the interest categories previously described. Application to participate as a member of any of the committees listed in the A17 code can be made through the code secretariat listed in the Forward of the code. In addition to the technical committees that cover specific types of equipment and engineering aspects of all elevator-industry equipment, there is also a National Interest Review Group, which is open to all elevator-industry personnel, and a Regulatory Authorities Committee, which is open to AHJ representatives. While these groups do not develop new regulations or respond to RFIs, they do review all copies of proposed responses to RFIs and proposed code revisions, and their input on these activities is encouraged and welcomed.

Application

As stated in A17.1 Section 1.2.1, "The purpose of the code is to provide for the safety of life and limb, and to promote the public welfare." This is accomplished by code requirement compliance by the elevator industry's equipment manufacturers, installers and maintainers. It is further assured by means of the enforcement of the code requirements by AHJs. It is, therefore, extremely important for these entities to keep up to date on the legislative dictates in place in their specific area to be sure all of the specific A17 code requirements for the installations for which they are responsible are met and continually adhered to. While this is usually less of an issue for the employees of AHJs, it is of particular importance for equipment designers and manufacturers who may not be working in the location where the equipment will be installed. It is also important for installation mechanics, adjusters and maintenance personnel who often travel around the country to work on various projects for which they are responsible. In many cases, this may include a myriad of equipment located in different parts of North America.

Employees of National Elevator Industry Inc. (*NEII*®) member companies should be able to obtain access to the *NEII*-developed and -maintained CodeFinder database through their employers. This tool provides specific guidance as to which code is to be followed for a specific geographic location in North America. Private inspectors and consultants who work in different parts of North America must check with local legislation and/or AHJs to determine which edition of the A17 code is to be applied and enforced.

Although there are areas where the latest edition of the code is automatically adopted by legislation, there are also those where this is not the case. In the latter case, the adopted and enforced code may lag behind the date of the installation by a number of years (and, subsequently, a few editions of the code). It is always imperative for sales personnel, equipment designers, installers, adjusters and maintenance personnel to check to be sure with which edition of the code the installation they are working on must comply. If assistance with this is needed, Code Data Plate (www.codedataplate.com) can be contacted. This organization maintains an extensive database that identifies which A17 code edition applies in specific locations throughout North America. It is also able to provide the code-required code data plates that must be installed on elevator industry equipment. In many areas, the applicable code might be adopted through the building code as a reference standard.

Approved, Issued and Effective Dates of A17.1 and Supplements

First edition: 1921, January 1921

Second edition: A17–1925, April 1925

Third edition: ASA A17–1931, July 1931

Fourth edition: ASA A17.1–1937, July 1937
Supplements: ASA A17.3–1942, April 1942 and ASA A17.1.5–1953, June 9, 1953

Fifth edition: ASA A17.1–1955, June 15, 1955
Supplements: ASA A17.1a–1957, December 10, 1957

Sixth edition: ASA A17.1–1960, August 29, 1960
Supplements: ASA A17.1.13–1962, March 20, 1962 and ASA A17.1a–1963, August 16, 1963

Seventh edition: ASA A17.1–1965, July 29, 1965
Supplements: USAS A17.1a–1967, July 7, 1967; USAS A17.1b–1968, December 11, 1968; USAS A17.1c–1969, May 6, 1969; and ANSI A17.1d–1970, March 2, 1970

Eighth edition: ANSI A17.1–1971, July 27, 1971
Supplements: ANSI A17.1a–1972, February 16, 1972; ANSI A17.1b–1973, October 11, 1973; ANSI A17.1c–1974, April 26 and September 15, 1974; ANSI A17.1d–1975, February 26 and October 31, 1975; ANSI A17.1e–1975, March 26 and October 31, 1975; ANSI A17.1f–1975, April 2 and October 31, 1975; and ANSI A17.1g–1976, August 12 and November 30, 1976

Ninth edition: ANSI A17.1–1978, May 4, June 15 and September 15, 1978
Supplements: ANSI A17.1a–1979, February 5, March 30 and June 30, 1979, and ANSI A17.1b–1980, March 20, May 15 and August 15, 1980

Tenth edition: ANSI/ASME A17.1–1981, September 8 and October 22, 1981, and April 22, 1982
Supplements: ANSI/ASME A17.1a–1982, October 5 and November 30, 1982, and May 30, 1983, and ANSI/ASME A17.1b–1983, October 24, December 23, 1983, and June 23, 1984

Eleventh edition: ANSI/ASME A17.1–1984, August 16, 1984 September 16, 1984 and March 16, 1985
Supplements: ANSI/ASME A17.1a–1985, February 27, April 15 and October 15, 1985; ANSI/ASME A17.1b–1985, August 6 and October 15, 1985, and April 15, 1986; ANSI/ASME A17.1c–1986, March 5, April 30 and October 31, 1986; ANSI/ASME A17.1d–1986, September 8 and November 30, 1986, and May 31, 1987; and ANSI/ASME A17.1e–1987, February 18, April 30 and October 30, 1987

Twelfth edition: ASME/ANSI A17.1–1987, October 20, 1987, and January 15 and July 16, 1988
Supplements: ASME/ANSI A17.1a–1988, October 6 and November 15, 1988, and May 16, 1989, and ASME/ANSI A17.1b–1989, November 10 and November 30, 1989, and May 31, 1990

Thirteenth edition: ASME A17.1–1990, October 8, 1990, and February 8 and August 9, 1991
Supplements: ASME A17.1a–1991, October 21, 1991, and February 28 and August 29, 1992, and ASME A17.1b–1992, October 28 and December 29, 1992, and June 30, 1993

Fourteenth edition: ASME A17.1–1993, October 18 and December 31, 1993, and July 1, 1994
Supplements: ASME A17.1a–1994, August 17 and December 31, 1994, and July 1, 1995, and ASME A17.1b–1995, October 5, 1995, and January 31 and August 1, 1996

Fifteenth edition: ASME A17.1–1996, October 3 and December 31, 1996, and July 1, 1997
Supplements: ASME A17.1a–1997, January 8, February 27 and August 28, 1998; ASME A17.1b–1998, November 13, 1998, and February 19, 1999, and August 20, 1999; ASME A17.1c–1999, May 13, June 30, 1999 and December 31, 1999; and ASME A17.1d–2000, October 12 and November 30, 2000, and January 31, 2001

Sixteenth edition: ASME A17.1–2000, October 16, 2000, March 23, 2001, and March 23, 2002
Supplements: ASME A17.1a–2002, February 26, April 4 and October 4, 2002, and ASME A17.1b–2003, April 10, May 30 and November 30, 2003

Seventeenth edition: ASME A17.1–2004, January 14, April 30 and October 31, 2004
Supplements: ASME A17.1a–2005, March 18, April 29 and October 29, 2005, and ASME A17.1S–2005, March 23 and August 12, 2005, and February 12, 2006

Eighteenth edition: ASME A17.1-2007/CSA B44-07, February 20, April 6 and October 6, 2007
Supplements: ASME A17.1a-2008/CSA B44a-08, September 19 and December 5, 2008, and June 5, 2009, and ASME A17.1b-2009/CSA B44b-09, November 17 and December 30, 2009, and June 30, 2010

Nineteenth edition: ASME A17.1-2010/CSA B44-10, October 19 and December 30, 2010, and June 30, 2011

Twentieth edition: ASME A17.1-2013/CSA B44-13, May 31 and October 21, 2013, and April 21, 2014

Learning-Reinforcement Questions

Use the below learning-reinforcement questions to study for the Continuing Education Assessment Exam available online on the following pages.

- How many editions of A17.1 have been issued since its inception in 1921?
- Which part of the A17.1 code covers requirements for escalators and moving walks?
- Which elevator-industry association manages the A17 code database?
- How many WGs support the A17 Standards Committee, and which subjects do they cover?
- Which specific references must be included in all RFIs of A17 requirements?
- In addition to the *NEII* CodeFinder database, which other organization can assist with determining which code edition is in effect in any given area of the U.S.?
- Which A17 standard covers the inspection of elevators and escalators?
- Which A17 subcommittee is comprised of jurisdictional authorities?
- In which year was the first edition of the *A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks* published?

Approved, Issued and Effective Dates of A17.2 with Supplements

First edition: ASA A17.2–1937, July 1937

Second edition: ASA A17.2–1945, October 22, 1945

Third edition: ASA A17.2–1960, August 10, 1960
Addenda: ASA A17.2a–1965, July 29, 1965
Supplement: USAS A17.2b–1967, July 7, 1967

Fourth edition: ANSI A17.2–1973, May 29, 1973

Fifth edition: ANSI A17.2–1979, February 18 and May 15, 1979
Supplement: ANSI A17.2a–1980, August 11 and September 15, 1980; ANSI A17.2b–1981, November 23, 1981; and January 15, 1982

Sixth edition: ANSI/ASME A17.2–1982, September 22 and November 30, 1982
Supplement: ANSI/ASME A17.2a–1983, September 23 and December 20, 1983; and August 16 and September 16, 1984

Seventh edition: ANSI/ASME A17.2–1985, July 23 and October 31, 1985
Supplement: ANSI/ASME A17.2a–1986, September 8 and October 31, 1986; and ANSI/ASME A17.2b–1987, September 11 and October 30, 1987

Eighth edition: ANSI/ASME A17.2–1988, August 25 and October 31, 1988
Addenda: ANSI/ASME A17.2a–1989, November 10 and December 31, 1989, and ANSI/ASME A17.2b–1990, October 8, 1990, and January 21, 1991

First edition: ASME A17.2.1–1993, January 22 and May 31, 1993
Addenda: ASME A17.2.1a–1994, August 18 and December 31, 1994, and ASME A17.2.1b–1995, August 10, 1995, and January 29, 1996

Second edition: ASME A17.2.1–1996, September 6, 1996, and January 31, 1997
Addenda: ASME A17.2.1a–1997, December 16, 1997, and January 30, 1998, and ASME A17.2.1b–1998, November 13, 1998, and February 19, 1999

First edition: ASME A17.2.2–1994, April 14 and May 31, 1994
Addenda: ASME A17.2.2a–1995, August 10, 1995, and January 10, 1996, and ASME A17.2.2b–1996, September 6 and December 31, 1996

Second edition: ASME A17.2.2–1997, November 18 and December 31, 1997
Addenda: ASME A17.2.2a–1998, November 13, 1998, and February 5, 1999

First edition: ASME A17.2.3–1994, August 19 and October 21, 1994
Addenda: ASME A17.2.3a–1996, September 6 and November 22, 1996, and ASME A17.2.3b–1997, November 18 and December 31, 1997

Second edition: ASME A17.2.3–1998, November 16, 1998 and February 26, 1999
Addenda: ASME A17.2.3a–2000, June 22 and August 10, 2000

First edition: ASME A17.2–2001, October 4 and December 31, 2001

Second edition: ASME A17.2–2004, July 22, 2004 and March 31, 2005

Third edition: ASME A17.2–2007, July 11 and October 5, 2007

Fourth edition: ASME A17.2–2010, September 8 and December 9, 2010

Fifth edition: ASME A17.2–2012, September 14 and October 22, 2012

Inspection

Shortly after the publication of the 1925 edition of the code, requests were made by the elevator industry for ASME to develop a handbook or manual covering the inspection of elevators. The request was fulfilled when the A17 committee appointed experts to develop an elevator inspection handbook based on information obtained from and used by cities, states, insurance companies, elevator manufacturers, maintenance companies and field personnel obtained from the federal government. When a final draft was finished, it was reviewed and approved by the committee members, and the first edition of the elevator inspector's manual was published in 1937 in conjunction with the fourth edition of the A17 code. Beginning with this resource, the *A17.2-1937 American Recommended Practice for the Inspection of Elevators,* editions of the inspectors manual were published for various types of elevator industry equipment through 1999, when the A17 Main Committee approved the Inspector's Manual Committee proposal to consolidate previously published manuals for elevators, escalators and moving walks into one inspector's guide named the *A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks*. Included were winding-drum, inclined, limited-use/limited-access and private-residence elevators. This guide is currently in its fifth edition, and the committee responsible for its development is one of the most active and has extensive elevator-industry participation. It currently has 44 members and alternate members, and, as one would expect, it is comprised mostly of jurisdictional and private elevator inspectors.

Inspector's Guide Organization and Application

The inspector's guide should be thoroughly studied by both inspectors and elevator-industry members responsible for the acceptance of its equipment by inspectors. Of particular interest (and of great use to inspectors) is a series of inspection checklists for all of the equipment included in the guide and provided in its Nonmandatory Appendices. The organization and content of the inspector's guide is clearly indicated in its Table of Contents as follows:

- Introduction
- Part 1: Elevator – Inside the Car
- Part 2: Elevator – Machine Room
- Part 3: Elevator – Top of Car
- Part 4: Elevator – Outside the Hoistway
- Part 5: Elevator – Pit
- Part 6: Elevator – Firefighter's Service
- Part 7: Escalator – External
- Part 8: Escalator – Internal
- Part 9: Moving Walk – External
- Part 10: Moving Walk – Internal
- Part 11: Elevator – Machine-Room-Less (MRL)
- Figures
- Tables
- Mandatory Appendices
- Nonmandatory Appendices

Additional Codes and Standards

In addition to A17.1, ASME publishes and administers the following additional elevator-industry codes and guides:

- *A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks*
- *A17.3 Safety Code for Existing Elevators*
- *A17.4 Guide for Emergency Personnel*
- *A17.5 Elevator and Escalator Electrical Equipment*
- *A17.6 Standard for Elevator and Suspension, Compensation and Governor Systems*
- *A17.7 Performance-Based Safety Code for Elevators and Escalators*
- *A18.1 Safety Standard for Platform Lifts and Stairway Chairlifts*
- *QEI-1 Standard for Qualification of Elevator Inspectors*

Conclusion

It is essential for elevator industry personnel to not only know which edition of the A17 code is applicable in their area of responsibility, but also how it is or will be administered and maintained. The elevator industry is one of the few that, due to its nearly 100-year participation in code development and maintenance, has a very good safety record, especially when compared to the number of elevator trips experienced by the public each year. To continue this legacy and fulfill our responsibility as members of our industry, we need to be sure to keep up to date on which codes are applicable in the areas in which we work and, if we can, assist with their maintenance and improvement.

Robert S. Caporale began his career in the construction industry in 1964 as a draftsman at the engineering firm of Jaros Baum & Bolles. There, he advanced to the position of associate and was the principal designer, field engineer and inspector on some of the world's largest vertical-transportation and materials-handling projects. In this capacity, Caporale provided oversight of new installation and modernization projects and was the company's principal elevator, escalator and materials-handling-systems project manager. In 1990, he joined DTM Elevator Consulting and Drafting Services, where he was director of engineering. In 1991, he joined Syska and Hennessy Engineers as vice president and director of the Transport System Group, where he continued to manage numerous elevator and escalator installation and modernization projects throughout the U.S. In 1993, he began working for Elevator World, Inc. as associate editor. He was appointed editor in 1997, a post he held until March 2014, when he retired and was given the honor of editor emeritus. His current work includes operating his own firm RSC Consulting, working as a forensic analyst/elevator consultant for Unified Investigations & Sciences and serving as editor of the NAESA International newsletter *Progress*. He holds an associate's degree in Electrical Technology from the State University of New York and an MSc in Lift Engineering from the University College Northampton. He is a member of NAESA, the International Association of Elevator Engineers, the American Society of Mechanical Engineers and the Elevator Conference of New York. Caporale is also a founding member of the International Association of Elevator Consultants and Elevator U, a QEI and State of Florida certified elevator inspector, and is a member of numerous ASME A17 committees.

ELEVATOR WORLD Continuing Education Assessment Examination Questions

Read the article "**North American Elevator Industry Codes and Standards**" and study the learning-reinforcement questions at the end of the article.

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1. The first edition of A17 that included moving walks was published in which year and by which organization?
   a. 1921, ASME.
   b. 1921, ANSI.
   c. 1925, ANSI.
   d. 1962, ASME.

2. Which edition of the A17 code includes requirements for wind turbine elevators?
   a. None, as requirements for wind turbine elevators are still being developed.
   b. ASME A17.1-2013/CSA B44-13.
   c. The 19th edition, in a special "Wind Turbine Elevator" section.
   d. The 17th edition, in cross references between Section 8.10 and the *A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks*.

3. How many parts are there in the A17.1 code?
   a. One.
   b. Seven.
   c. Nine.
   d. Eleven.

4. How many times a year and where does the A17 Standards Committee meet?
   a. Four, in New York City.
   b. Three, at ASME headquarters.
   c. Three, twice in the U.S. and once in Canada.
   d. Three, either in Las Vegas or Clearwater Beach, Florida.

5. Which A17 committee(s) develop(s) revisions to the A17 code?
   a. The Editorial Committee.
   b. The Standards Committee.
   c. The WGs.
   d. A special task group with representatives from each of the WGs.

6. When submitting RFIs, which information must be included?
   a. The city and state in which the equipment being questioned is located.
   b. The A17 edition and page number of the requirement being questioned.
   c. The date of the installation being questioned.
   d. The A17 edition, part, section and rule number of the item being questioned.

7. Which interest categories are represented among the members of the A17 standards committee?
   a. AHJs.
   b. Manufacturers.
   c. Owners.
   d. Suppliers.
   e. All of the above.

8. Which of the standards covers the evacuation of passengers from stalled elevators?
   a. A17.2.
   b. A17.1.
   c. A17.4.
   d. A17.6.

9. The development and maintenance of the A17 family of codes and standards is currently administered by:
   a. ASME.
   b. ASA.
   c. USAS.
   d. ANSI.

10. In which edition of A17.1 did it become a fully binational code?
    a. 19th.
    b. 18th.
    c. 20th.
    d. None of the above.

11. How often is the A17.1 code revised?
    a. Every three years.
    b. Every five years.
    c. Whenever it is determined to be necessary by the A17 Standards Committee members.
    d. When new technology warrants code revisions.

12. In which section of the current edition of the A17 code are requirements for suspension means of elevators, compensation systems and governors covered?
    a. A17.7.
    b. A17.8.
    c. A17.6.
    d. A17.2.

13. Application to participate as a member of any of the committees listed in the A17.1 code can be made through:
    a. The ASME A17 code secretariat.
    b. The applicant's immediate supervisor.
    c. The chairman of the committee in which the applicant is interested.
    d. The chairman of the A17 Standards Committee.

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