ASME A18.1-2011
(Revision of ASME A18.1-2008)

Safety Standard for Platform Lifts and Stairway Chairlifts

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

Date of Issuance: October 31, 2011

The next edition of this Standard is scheduled for publication in 2014. This Standard will become effective 6 months after the Date of Issuance. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

The American Society of Mechanical Engineers
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FOREWORD

This Standard is one of the numerous standards developed and published by The American Society of Mechanical Engineers (ASME) under procedures accredited as meeting the criteria for American National Standards. The consensus committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This Standard is intended to serve as the basis for state, municipal, and other jurisdictional authorities in drafting regulations governing the installation, testing, inspection, maintenance, alteration, and repair of platform lifts and stairway chairlifts. It is also intended as a standard reference of safety requirements for the guidance of architects, engineers, insurance companies, manufacturers, and contractors, and as a standard of safety practices for owners and management of structures where equipment covered in the Scope of this Standard is used.

This Standard is available for public review on a continuing basis. This provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

Safety codes and standards are intended to enhance public health and safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

It should be pointed out that any governmental jurisdiction has authority over any particular installation. Inquiries dealing with problems of a local character should be directed to the proper authority of such jurisdiction. It is recommended that, prior to adoption, all pertinent state and local laws or ordinances be reviewed and where there is a conflict with any of the requirements of this Standard, an exception to such conflicting requirement be noted, quoting the section of the law that applies.

Equipment covered by this Standard was originally incorporated as a 1983 supplement to ANSI/ASME A17.1–1981, Safety Code for Elevators and Escalators. In ANSI/ASME A17.1b–1983, a new Part XXI covering private residence inclined stairway chairlifts and inclined and vertical wheelchair lifts was added. Part XX was added to cover these same devices installed in buildings other than private residences.

In 1996, as a result of the effort to harmonize the ASME A17.1 Code and the CAN/CSA-B44 Safety Code for Elevators, a new Main Committee on Platform Lifts and Stairway Chairlifts was established. The Committee developed the first edition, which incorporates Parts XX and XXI, as well as the applicable cross-references in ASME A17.1–1996, up to and including ASME A17.1a–1997.

The first edition of this Standard was approved by The American Society of Mechanical Engineers' Committee on Platform Lifts and Stairway Lifts, was approved and designated as an ASME Standard by the American National Standards Institute on June 21, 1999, and issued on July 26, 1999. The A18.1a-2001 Addenda was approved on January 30, 2001 and issued on March 26, 2001. The A18.1b-2001 Addenda was approved on December 11, 2001 and issued on April 11, 2002.

The second edition of this Standard was approved by ANSI on July 29, 2003 and was issued on September 12, 2003.

The third edition of this Standard was approved by ANSI on May 6, 2005 and was issued November 29, 2005.

Following approval by the A18 Standards Committee and ASME, and after public review, ASME A18.1-2008 was approved by the American National Standards Institute on July 3, 2008.

The fifth edition of this Standard was approved by ANSI on August 31, 2011.

ASME A18 COMMITTEE
Safety Standard for
Platform Lifts and Stairway Chairlifts

(The following is the roster of the Committee at the time of approval of this Standard.)

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CORRESPONDENCE WITH THE A18 COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, A18 Standards Committee
The American Society of Mechanical Engineers
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New York, NY 10016-5990
E-mail: infocentral@asme.org

Proposing Revisions. 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 Standard. 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 paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Interpretations. Upon request, the A18 Standards Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the A18 Standards Committee.

The request for interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition:	Cite the applicable edition of the Standard 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 inquirer may also include any plans or drawings which 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.

Attending Committee Meetings. The A18 Standards Committee regularly holds meetings, which are open to the public. Persons wishing to attend any meeting should contact the Secretary of the A18 Standards Committee.

ASME A18.1-2011
SUMMARY OF CHANGES

Following approval by the ASME A18 Standards Committee and ASME, and after public review, ASME A18.1-2011 was approved by the American National Standards Institute on August 31, 2011.

The 2011 edition of ASME A18.1 includes revisions that are identified by a margin note, **(11)**. The following is a summary of the latest revisions and changes.

Page	*Location*	*Change*
iv	Foreword	Updated
1	1.1.2	Subparagraph (d) revised
	1.3	Definition of *building code* revised
6, 7	Table 1.5-1	Revised
	2.1.1.4.1	Added
8, 9	Table 1.5-2	Revised
	2.1.1.8	Revised
	2.1.2.5.1	Added
10	2.1.3.4.2	Subparagraph (e) revised
11	2.1.3.8.1	Added
12	2.1.4.7.1	Added
	2.1.6.3	Added
	2.1.6.4	Added
13	2.1.6.5	Added
	2.1.6.6	Added
	2.1.7.1	Revised
	2.1.7.2	Editorially revised
15	2.3.1.5	Revised
	2.3.9.1	First paragraph revised
17	2.6.7	Revised
	2.6.7.1	Added
21	2.10.9.1	Revised
	2.10.9.2	Editorially revised
	2.11.3	Revised
22	3.1.4	Revised
	3.1.6.1	Revised
	3.1.6.2	Editorially revised
23	3.3.1.5	Revised

Page	*Location*	*Change*
	3.3.6.1	First paragraph revised
25	3.6.4	Revised
	3.6.8.1.1	Added
26	3.7.1	Revised
28	3.10.2.4	Last sentence added
29	3.10.9.1	Revised
	3.10.9.2	Editorially revised
	3.10.10	Revised
	4.1.3	Revised
	4.1.4	Editorially revised
30	4.3.1.2	Revised
	4.3.6.1	First paragraph revised
33	4.10.3.1	Revised
	4.10.3.2	Editorially revised
	5.1.1.1.1	Added
35	5.1.4.1	Revised
	5.1.4.2	Editorially revised
36	5.3.1.5	Revised
37	5.3.9.1	First paragraph revised
41	5.10.9.1	Revised
	5.10.9.2	Editorially revised
	6.1.2	Last sentence deleted
	6.1.5.1	Revised
	6.1.5.2	Editorially revised
42	6.3.1.5	Revised
43	6.3.6.1	First paragraph revised
44	6.6.2	Revised
45	6.7.1	Revised
47	6.10.6.1	Revised
	6.10.6.2	Editorially revised
	6.10.10	Revised
48	7.1.2	Revised
	7.1.3	Editorially revised
	7.3.1.2	Revised
	7.3.6.1	First paragraph revised
51	7.10.3.1	Revised
	7.10.3.2	Editorially revised

Page	*Location*	*Change*
54	8.1.7.1	Subparagraphs (a) and (d) revised
	8.1.7.2.1	Subparagraphs (a) and (b) revised
	8.1.7.3	Revised
55	9.1.1	First paragraph revised
	9.1.2	Revised
59, 60	9.9	Added

SAFETY STANDARD FOR PLATFORM LIFTS AND STAIRWAY CHAIRLIFTS

1 INTRODUCTION

1.1 Scope

1.1.1 Equipment Covered by This Standard. This safety Standard covers the design, construction, installation, operation, inspection, testing, maintenance, and repair of inclined stairway chairlifts and inclined and vertical platform lifts intended for transportation of a mobility impaired person only. The device shall have a limited vertical travel, operating speed, and platform area. Operation shall be under continuous control of the user/attendant. The device shall not penetrate more than one floor. A full passenger enclosure on the platform shall be prohibited.

(11) **1.1.2 Equipment Not Covered by This Standard.** Equipment not covered by this Standard includes, but is not limited to, the following:

(a) elevators, escalators, moving walkways, material lifts, and dumbwaiters within the scope of ASME A17.1b–1997 and later edition

(b) personnel hoists within the scope of ANSI/ASSE A10.4

(c) manlifts within the scope of ASME A90.1

(d) powered platform and equipment for exterior and interior building maintenance within the scope of ASME A120.1

(e) portable equipment

(f) amusement devices

(g) stage and orchestra lifts

1.1.3 Application. This Standard applies to new installations only.

1.1.4 Effective Date. The requirements of this edition to the Standard are effective as of the date established by the local regulations of the authority having jurisdiction. Where the Standard has not been adopted by local regulation and a specific edition has not been stipulated by contractual agreement, compliance with this edition is recommended as of the effective date listed in the front of the document.

1.2 Purpose and Exceptions

The purpose of this Standard is to provide for the safety of life and limb, and to promote public welfare.

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.

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.

1.3 Definitions (11)

This section defines various terms used in this Standard.

alteration: any change to equipment other than maintenance, repair, or replacement.

approved: acceptable to the authority having jurisdiction.

authority having jurisdiction: organization, office, or individual responsible for approving equipment. Where compliance with this Standard has been mandated by law, the "authority having jurisdiction" is the federal, state, or local department or individual so designated in the enacting legislation or administrative regulation.

authorized personnel: persons who have been instructed in the operation, maintenance, or both, of the equipment and designated by the owner to use or maintain the equipment.

building code: an ordinance that sets forth requirements for building design and construction, or where such an ordinance has not been enacted, the International Code Council (ICC), International Building Code (IBC), and International Residential Code (IRC) are the code standards.

cable, traveling: see *traveling cable*.

capacity: see *rated load*.

certified: a certification by a testing laboratory, a professional engineer, a manufacturer, or a contractor that a device or an assembly conforms to the requirements of this Standard.

combination mechanical lock and electric contact: a combination mechanical and electrical device with two related but entirely independent functions, which are

(a) to prevent operation of the driving machine by the normal operating device unless the door or gate is in the closed position

(b) to lock the door or gate in the closed position and prevent it from being opened from the landing side unless the platform is within the specified distance from the landing

compensating-rope sheave switch: a device that automatically causes the electric power to be removed from the driving-machine motor and brake when the compensating sheave approaches its upper or lower limit of travel.

contacts: see *door or gate electric contact*.

control: the system governing the starting, stopping, direction of motion, acceleration, speed, and retardation of the moving member.

controller: a device or group of devices that serves to control in a predetermined manner the apparatus to which it is connected.

door or gate: the movable portion(s) of the platform or runway entrance that closes the opening providing access to the platform or landing. It consists of one or more panels that may be equipped with a vision panel.

door or gate, manually operated: door or gate that is opened and closed by hand.

door or gate, power-operated: a door or gate that is opened and closed by a door or gate power-operator.

door or gate, self-closing: a manually operated door or gate that closes when released or a power-operated door or gate.

door or gate closer: a device that closes a door or gate by means of a spring or gravity.

door or gate electric contact: an electrical device, the function of which is to prevent operation of the driving machine by the normal operating device unless the door or gate is in the closed position.

door or gate power-operator: a device or assembly of devices that opens a door or gate by power other than by hand, gravity, springs, or the movement of the platform; and that closes them by power other than by hand, gravity, or the movement of the platform.

driving machine: see *machine, driving*.

emergency stop switch: a device that, when manually operated, causes the lift to halt its motion.

enforcing authority: see *authority having jurisdiction*.

entrance hardware: all components of an entrance, exclusive of the frame, door panels, and locks, that are necessary to maintain the position of the panels within the assembly.

factor of safety: the ratio of the ultimate strength to the working stress of a member under maximum static loading, unless otherwise specified in a particular rule.

full passenger enclosure: an assembly inclusive of the platform top, minimum 2 000 mm (79 in.) tall walls, minimum 2 000 mm (79 in.) tall platform doors and platform floor.

gate: see *door or gate*.

governor: see *speed governor*.

governor pull-retarding means: a mechanical means of developing a sufficient force in the governor rope to activate the platform or counterweight safeties or to trip the governor rope releasing carrier, where used. Such mechanical means include, but are not limited to, rope-gripping jaws, clutch mechanisms, and traction arrangements.

governor pull-through tension (force): the magnitude of the tensile load developed in the moving governor rope after the governor rope-retarding means is actuated.

inclined platform lift: a powered hoisting and lowering mechanism designed to transport mobility-impaired persons on a guided platform that travels on an incline.

inclined stairway chairlift: a powered hoisting and lowering mechanism that is guided, equipped with a seat, to transport seated passengers along stairways.

inspection and tests

acceptance: the initial inspection and tests of new or altered equipment to check for compliance with the applicable requirements.

periodic: routine inspection and tests plus additional detailed examination and operation of equipment at specified intervals witnessed by an inspector to check for compliance with the applicable requirements.

routine: the examination and operation of equipment at specified intervals by an inspector to check for compliance with the applicable requirements.

installation: a complete platform lift or stairway chairlift, including all machinery and equipment necessary for its operation.

installation, existing: an installation that has been completed or is under construction prior to the effective date of this Standard.

installation, new: any installation not classified as an existing installation by definition, or an existing platform lift or stairway chairlift moved to a new location subsequent to the effective date of this Standard.

installation, placed out of service: an installation whose power feed lines have been disconnected from the machine disconnect switch.

labeled: equipment or materials to which has been attached a label, symbol, or other identifying mark of an independent certifying organization concerned with product evaluation, that maintains periodic inspection