ANSI-ASC A14.1-2017

American National Standard for Ladders — Wood Safety Requirements

American National Standards

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Revision of ANSI A14.1 2007

American National Standard for Ladders — Wood Safety Requirements

Secretariat
American Ladder Institute

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American National Standard

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Foreword

(This Foreword is not a part of American National Standard A14.1-1994.)

This standard is a revision of American National Standard Safety Requirements for Portable Wood Ladders, ANSI A14.1-2007. It is one of a series of many standards prepared under the supervision of American National Standards Committee on Safety in the Construction, Care, and Use of Ladders, A14. All of the standards have been developed by subcommittees reporting to American National Standards Committee A14. The subcommittees are: A14.1, Portable Wood Ladders; A14.2, Portable Metal Ladders; A14.3, Fixed Ladders; A14.4, Job-Made Ladders; A14.5, Portable Reinforced Plastic Ladders; and A14.9, Ceiling Mounted Disappearing Climbing Systems.

All standards, with the exception of A14.7-1991, Mobile Ladder Stands, derive from the original American National Standard Safety Code for Construction, Care, and Use of Ladders, A14, which was first approved in 1923. Revisions were approved in 1935, 1948, and 1952.

The earlier editions contained some treatment of metal and fixed ladders. Requirements for these types of ladders were removed from the 1948 revision because rapid development in the metal ladder field warranted special consideration and treatment of metal ladders and fixed ladders (usually metal) in separate standards. In 1948, the code was revised and its title and designation changed to American National Standard Code for Wood Ladders, A14.1. In 1952, it was again revised and retitled American National Standard Safety Code for Portable Wood Ladders. It was further revised in 1959, 1968, 1980, and 1982.

Responding to a Consumer Product Safety Commission challenge in August 1975, the A14 Committee mounted a three-prong attack to upgrade the portable ladder standards within the consensus framework of developing standards. Three Task Forces — Anthropometric, Testing, and Labeling — were established in October 1975.

Without question, the most massive and technically difficult task, which included a significant amount of human-factors work, was carried out by the Testing Task Force. Over 100 known ladder experts were solicited to join this task force and provide their technical expertise. The work involved 50 meetings, over 400 test documents, and the use of numerous test ladders over a period of nearly two years. The cost of the project has been conservatively estimated at over $300,000.

At the August 11, 1977, joint meeting of the Testing Task Force and the A14 Advisory Committee, 23 procedures were presented. These procedures, with an accompanying rationale based upon statistical and human-factors data, were distributed to the three portable-ladder subcommittees for review and incorporation into the standards. Recommendations for nomenclature and for care and use of ladders have been included in the Appendixes, had been previously balloted in order that this more technical material from the Testing Task Force receive the full attention of the three subcommittees.

Test procedures were developed for three different applications; namely, design verification, quality control, and in-service testing. Design verification tests would generally be conducted on a one-time basis during the original design development of the product and would usually be destructive tests. Quality control tests would be conducted by the manufacturer on an on-going basis; some of the tests would be destructive and some would be nondestructive. In-service tests would be conducted by the user on a periodic basis and would be nondestructive in nature.

The A14 Committee adopted June 4, 1982*, as the effective date of ANSI A14.1-1981. This was to allow the manufacturers the necessary lead time to evaluate their products for conformance to the 1981 edition of the three portable-ladder standards, to redesign and test their products where applicable, to design and build the required manufacturing tooling and machinery, and to convert their manufacturing operations to produce the revised products.

In 1981, experience by some of the manufacturers indicated that the inclined load test was not practical when applied to all available lengths of extension ladders. Also, recommendations were received for clarifications in test procedure descriptions.

In the course of resolving these questions, evidence was produced to warrant modifications in the label test requirements. As a result, it became necessary to postpone the effective date of these standards from June 4, 1982, to October 4, 1982, to allow investigations which brought about needed changes in label test specifications.

In September 1991, an errata sheet was added to allow an extension beyond November 10, 1991, of 90 days to use existing stocks of labels.

On November 17, 1994, the A14 committee agreed to specify residential non-waxed vinyl sheet floor covering for test surfaces as needed.

In the 1994 revision, two new sections on double front ladders were added along with two new labels/markings for these ladders.

The 2007 standard contains editorial changes which align the presentation with ANSI A14.2 and A14.5 standards for metal and plastic ladders, respectively.

This 2017 edition is a largely a reissue of the 2007 standard with some changes to reflect the introduction of new test protocols shared with A14.2 and A14.5 as well as some minor updates on material properties.

Suggestions for improvement of this standard will be welcomed. They should be sent to the American Ladder Institute.

The standard was processed and approved for submittal to ANSI by American National Standards Committee on Safety in the Construction, Care, and Use of Ladders, A14. Committee approval of the standard does not necessarily imply that all the committee members voted for its approval. At the time it approved this standard, the A14 Committee had the following members:

* The original effective date was March 4, 1982.

At the time it approved this standard, the A14 Committee had the following members:

Organization Represented	Name of Representative
American Insurance Association	George Earhart
American Ladder Institute	Ron Schwartz
	Marc McConnell (Alt)
American Society of Safety Engineers	Michael Lorenzo
	Tim Fisher (Alt)
Associated General Contractors of America	Charles E. Bird
	Tim Fischer (Alt)
Canadian Standards Association	Dave Shanahan
Cosco Home and Office Products	Eric Kruse
	Larry Voris (Alt)
Cotterman Company	Don Gibson
	Pete Catlos (Alt)
Ellis Fall Safety Solutions, LLC Div. of DSC	J. Nigel Ellis
	Cody Snyder (Alt)
Grainger Industrial Supply	Richard Martin
	John Foston (Alt)
International Brotherhood of Electrical Workers	Christian Duva
International Union of Painters and Allied Trades	Greg Renne
	Dan Penski (Alt)
International Union of Bricklayers & Allied Craftsworkers	Gerald Scarano
	Mike Kassman (Alt)
Little Giant Ladder Systems	Ben Cook
Louisville Ladder, Inc.	Tom Schmitt
National Association of Home Builders	Jerry Passman
	Robert Matuga (Alt)
National Frame Builders Association	Stan Virkler
NIOSH	Peter Simeonov, Ph. D
	Hongwei Hsiao, Ph. D (Alt)
Precision Ladders	Don McKinney
	Steve Richey (Alt)
Risk Retention Services	Paul B. Junius
	Robert G. Stuligross (Alt)
Scaffold Access Industry Association	Alan D. Kline
State University of New York	George H. Kyanka
Steel Plate Fabricators Association	Ken Wade
Switalski Engineering, Inc.	William Switalski
Technology Associates, LLC	Irving U. Ojalvo
	Kristopher Selgua (Alt)
Tri-Arc Manufacturing Co., Inc.	Ron Schwartz
	Eric Pucek (Alt)
U.S. Consumer Product Safety Commission	Thomas Caton*
	Mark E. Kumagai* (Alt)
Ver Halen Engineering, P.C.	Jon Ver Halen
Werner Ladder	Brett Latimer
	Dale King (Alt)

World/General Window Cleaning Companies
(formerly Illinois Association of Building Maintenance Contractors). . . . . Carl Pedersen
Noa W. Pedersen (Alt)
Independent Specialists. . . . . Dr. Donald Bloswick
Dr. George H. Kyanka
Dr. Irving Ojalvo

*non-voting advisory member

Subcommittee A14-1, which developed this standard, had the following members:

George H. Kyanka, Chairman
A.L. DeBonis
Alan Kline
Tom Harrison
Dale King

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American National Standard for Ladders — Wood Safety Requirements

1. Scope and Purpose

1.1 Scope

This standard prescribes rules and establishes minimum requirements for the construction, testing, care, and use of the common types of portable wood ladders described herein in order to ensure safety under normal conditions of usage. Ladder Types included are:

Duty Rating	Ladder Type	Working Load (pounds)
Extra Heavy-Duty	IA	300
Heavy-Duty	I	250
Medium-Duty	II	225
Light-Duty	III	200

It does not cover ladder accessories, including, but not limited to, ladder shoes, ladder levelers, ladder stabilizers or standoff devices, ladder jacks, or ladder straps and hooks, that may be installed on or used in conjunction with ladders.

Note: While ladder type stools are covered by A14.1, it is recognized that a step stool standard is under development. When the step stool standard is approved, A14.1 will no longer cover ladder type step stools under 48 inches in height. The new standard will be A14.11.

These requirements are also intended to prescribe rules and criteria for labeling/marking of the kinds of portable ladders cited in this standard, but exclusive of furniture type step stools and special purpose ladders. These labeling/marking requirements do not apply to those situations where training, supervision, or documented safety procedures would be in conflict, or serve in lieu of, these labeling/marking requirements.

1.2 Purpose

The purpose of this standard is to provide reasonable safety for life, limb, and property. In order to develop an effective safety program, the standard may serve also as a basis for purchase requirements and for instructions in personnel training. It may also assist in the preparation of motivational/instructional material such as safety practices, manuals, posters, and the like. This standard is also intended to provide the manufacturer, purchaser, and user of wood ladders with a set of specifications and requirements against which a ladder may be compared.

It is not the purpose of this standard to specify all the details of construction of portable wood ladders. The limitations imposed are for the purpose of providing adequate general requirements and testing methods needed for consistency.