



ANSI E1.1 – 2018
Entertainment Technology—Construction
and Use of Wire Rope Ladders

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The ESTA Technical Standards Program

The ESTA Technical Standards Program was created to serve the ESTA membership and the entertainment industry in technical standards-related matters. The goal of the Program is to take a leading role regarding technology within the entertainment industry by creating recommended practices and standards, monitoring standards issues around the world on behalf of our members, and improving communications and safety within the industry. ESTA works closely with the technical standards efforts of other organizations within our industry, including USITT and VPLT, as well as representing the interests of ESTA members to ANSI, UL, and the NFPA. The Technical Standards Program is accredited by the American National Standards Institute.

The Technical Standards Council (TSC) was established to oversee and coordinate the Technical Standards Program. Made up of individuals experienced in standards-making work from throughout our industry, the Council approves all projects undertaken and assigns them to the appropriate working group. The Technical Standards Council employs a Technical Standards Manager to coordinate the work of the Council and its working groups as well as maintain a "Standards Watch" on behalf of members. Working groups include: Control Protocols, Electrical Power, Event Safety, Floors, Fog and Smoke, Followspot Position, Photometrics, Rigging, and Stage Machinery.

ESTA encourages active participation in the Technical Standards Program. There are several ways to become involved. If you would like to become a member of an existing working group, as have over four hundred people, you must complete an application, which is available from the ESTA office. Your application is subject to approval by the working group and you will be required to actively participate in the work of the group. This includes responding to letter ballots and attending meetings. Membership in ESTA is not a requirement. You can also become involved by requesting that the TSC develop a standard or a recommended practice in an area of concern to you.

The Rigging Working Group, which authored this Standard, consists of a cross section of entertainment industry professionals representing a diversity of interests. ESTA is committed to developing consensus-based standards and recommended practices in an open setting.

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All donations to the TSP support the Technical Standards Program in general and are not directed to or for the benefit of any particular technical standard project or any Working Group working on any particular standard or project.

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Interest category codes:

CP = custom-market producer	DE = designer
DR = dealer rental company	G = general interest
MP = mass-market producer	U = user

ANSI E1.1 – 2018

Entertainment Technology—Construction and Use of Wire Rope Ladders

Table of Contents

Investors in Innovation, supporters of ESTA's Technical Standards Program.....	iv
1 Scope.....	1
2 Purpose.....	1
3 New and Existing Installations.....	1
4 Mandatory and Advisory Rules.....	1
5 Definitions and References.....	2
5.1 Definitions.....	2
6 Wire Rope Ladder Requirements.....	4
6.1 Components.....	4
6.2 Ladder Geometry.....	4
7 Ladder Installation.....	5
8 Ladder Use.....	5
9 Training.....	5
10 Inspection.....	6

1 Scope

This standard shall apply to the construction and use of wire rope ladders in the entertainment industry.

The entertainment industry includes, but is not strictly limited to, musical productions, live concerts, live theater, film production, video production, corporate events, trade shows, and broadcast production.

Wire rope ladders are distinguished from other ladders by having flexible rails, and are used in applications where ladders with rigid rails are impractical to use, or where a rigid ladder would pose a greater danger to the user or other workers in the area. Wire rope ladders are used for vertical access by personnel to lighting trusses, temporary follow spot platforms, and other areas of a temporary nature. Such areas cannot be practically served by rigid ladders because the floor underneath is not level or clear, the elevated work area is not rigidly fixed in place, or the ladder must coil for storage or to allow clear access beneath the elevated work area.

This standard does not address the construction or use of fixed or portable ladders with rigid rails.

2 Purpose

This standard is designed to:

- (a) prevent most injuries and to minimize the remaining injuries to workers by prescribing safety requirements;
- (b) provide direction to owners, employers, and any other individuals such as supervisors who are responsible for wire rope ladders; and
- (c) guide governments and other regulatory bodies in the development and enforcement of the appropriate safety directives concerning wire rope ladders in entertainment venues.

3 New and Existing Installations

- (a) **Effective Date.** The effective date of this standard for the purpose of defining new and existing installations shall be one year after its date of issuance.
- (b) **New Installations.** Construction, installation, inspection, testing, maintenance, and operation of equipment manufactured after the effective date of this standard shall conform with the mandatory requirements of this volume.
- (c) **Existing Installations.** Inspection, testing, maintenance, and operation of equipment manufactured prior to the effective date of this standard shall be done as applicable, in accordance with the requirements of this standard.

It is not the intent of this standard to require replacement of existing equipment. However, when an item is being modified, its performance requirements shall be reviewed relative to the current Standard. If the performance differs substantially, the need to meet the current requirements shall be evaluated by a competent person selected by the owner (or user). Recommended changes shall be made by the owner (or user) within one year of the evaluation.

4 Mandatory and Advisory Rules

Mandatory rules are characterized by the word "shall." Advisory statements use the word "should."