



ANSI E1.50-1 — 2017

Entertainment Technology -

Requirements for the Structural Support of

Temporary LED, Video & Display Systems

Approved as an American National Standard by the ANSI Board of Standards Review on 14 August 2017.

Rig/2013-2056r7

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The Rigging Working Group, which authored this Standard, consists of a cross section of entertainment industry professionals representing a diversity of interests related to rigging and stage machinery for theatrical events. ESTA is committed to developing consensus-based standards and recommended practices in an open setting. Future Rigging Working Group projects will include updating this publication as changes in technology and experience warrant, as well as developing new standards and recommended practices for the benefit of the entertainment industry.

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Key to codes:

CP Custom-market producer
DE Designer
DR Dealer
G General interest
MP Mass-market producer
U User

Table of Contents

Investors in Innovation.....	iv
Contact Information.....	vi
1. Introduction.....	1
1.1 Scope.....	1
1.2 Intent.....	1
1.3 Annex Notes.....	1
1.4 Reference Standards.....	1
2. Definitions.....	2
3. General requirements.....	2
3.1 Reference Standards Compliance.....	2
3.2 Documentation.....	3
3.3 Component Part Security.....	4
3.4 Installation conditions*.....	5
3.5 Suspended systems.....	5
3.6 Planning.....	5
3.7 Component selection.....	5
3.8 Assembly, erection, disassembly.....	6
3.9 Personnel access*.....	6
3.10 Use.....	6
3.11 Training.....	6
3.12 Inspections & Maintenance.....	6
4.0 Example diagram.....	7
5.0 Annex.....	7

1. Introduction

1.1 Scope

The scope of this standard covers temporary installations of large format modular display systems, LED, video and other self-illuminating display structures not otherwise addressed by existing standards. The scope of this standard includes planning and site preparedness, assembly and erection, suspension and safety of components, special access requirements, use and dismantling of these systems. The scope of this standard includes LED, video and self-illuminating display systems that in any way rely on rigid structural support frames, overhead suspensions, ground-supported stands or wall-mounted techniques during any use or installation, and applies to any of these systems in areas where failure of any support or anchorage could cause personal injury, loss of life or property damage.

1.2 Intent

This standard intends to increase safety awareness and understanding of risks associated with the use of these systems. This standard does not intend to address aesthetics, image quality or visual intensity, content delivery or other factors not associated with risk or safety. It does not intend to provide a final, thorough or exhaustive list of potential hazards, nor does it intend to restrict development of new technology or techniques.

1.3 Annex Notes

This standard uses annex notes to supplement normative requirements with explanatory information. Additional Annex note information is indicated by the use of an asterisk (*) after the term or subject matter within the referring section, and refers to an Annex note having a corresponding section number preceded by the letter "A" - e.g. the annex note for a reference in section 4.5* will be labeled A4.5.

1.4 Reference Standards

The following reference standards contain information or supplemental requirements pertaining to this standard. The complete standard name is given here, but in the normative requirements the standards are referenced by an abbreviated title, e.g. ANSI E1.2:

ANSI E1.1-2012, *Entertainment Technology - Construction and Use of Wire Rope Ladders*

ANSI E1.2-2012, *Entertainment Technology - Design, Manufacture and Use of Aluminum Trusses and Towers*

ANSI E1.4-2013, *Entertainment Technology - Manual Counterweight Rigging Systems*

ANSI E1.6-1-2012, *Entertainment Technology - Powered Hoist Systems*,

ANSI E1.6-2-2013, *Entertainment Technology - Design, Inspection and Maintenance of Electric Chain Hoists for the Entertainment Industry*.

ANSI E1.6-3-2012 *Entertainment Technology - Selection and Use of Electric Chain Hoists in the Entertainment Industry*.

ANSI E1.8-2012, *Entertainment Technology - Loudspeaker Enclosures Intended for Overhead Suspension -- Classification, Manufacture and Structural Testing*

ANSI E1.15-2006 (R2011), *Entertainment Technology - Recommended Practices and Guidelines for the Assembly and Use of Theatrical Boom & Base Assemblies*.

ANSI E1.21-2013, *Entertainment Technology - Temporary Structures Used for Technical Production of Outdoor Entertainment Events*

ANSI E1.39-2014, *Entertainment Technology – Selection and Use of Personal Fall Arrest Systems on Portable Structures Used in the Entertainment Industry*

NFPA 70 - *National Electric Code*

ANSI/ASSE Z359, *Fall Protection Code*

ASM1-10 *Aluminum Design Manual 2010*

D1.1/D1.1M:2010, *Structural Welding Code – Steel*

D1.2/D1.2M:2008, *Structural Welding Code - Aluminum*

AISC 360, *Manual of Steel Construction 14th Edition*