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

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ESTA has reverted to its original name, and this document has been rebranded with the current corporate name and logo. No changes have been made to the contents of the standard.

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Published by:
Entertainment Services and Technology Association
630 Ninth Avenue, Suite 609
New York, NY 10036
USA
Phone: 1-212-244-1505
Fax: 1-212-244-1502
standards@esta.org

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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.

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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. ESTA is committed to developing consensus-based standards and recommended practices in an open setting.

Contact Information

Technical Standards Manager
Karl G. Ruling
Entertainment Services and Technology Association
630 Ninth Avenue, Suite 609
New York, NY 10036
USA
1-212-244-1505
karl.ruling@esta.org

Assistant Technical Standards Manager
Erin Grabe
Entertainment Services and Technology Association
630 Ninth Avenue, Suite 609
New York, NY 10036
USA
1-212-244-1505
erin.grabe@esta.org

Technical Standards Council Chairpersons

Mike Garl
Mike Garl Consulting LLC
1-865-389-4371
mike@mikegarlconsulting.com

Mike Wood
Mike Wood Consulting LLC
1-512-288-4916
mike@mikewoodconsulting.com

Rigging Working Group Chairpersons

Bill Sapsis
Sapsis Rigging, Inc.
1-215-228-0888 x206
bill@sapsis-rigging.com

Christine Kaiser
Syracuse Scenery & Stage Lighting Co., Inc.
1-315-453-8096
ckaiser@syracusescenery.com

Acknowledgments

The Rigging Working Group members, when this document was approved by the working group on 19 September 2012, are shown below.

Voting members:

Mark Ager; Stage Technologies Group; CP
Tray Allen; James Thomas Engineering, Inc.; MP
Dana Bartholomew; Fisher Technical Services, Inc.; CP
William Beautyman; Limelight Productions, Inc.; DR
Keith Bohn; Vitec Group plc; MP
Ron Bonner; PLASA EU; G
Vincent J. Cannavale; Motion Laboratories; CP
Joseph Champelli; ZFX Flying Inc.; CP
Benjamin Cohen; Reed Rigging, Inc.; DR
Kimberly Corbett; Schuler Shook; DE
Stu Cox; ZFX Flying Inc.; CP
Dan Culhane; SECOA; CP
Bruce Darden; Rigging Innovators, Inc.; CP
Don Dimitroff; Vitec Group plc; MP
Brad Dittmer; Stage Labor of the Ozarks; U
Scott Fisher; Fisher Technical Services, Inc.; CP
Adrian Forbes-Black; Total Structures Inc.; MP
Howard Forryan; Harting KGAA; G
Mike Garl; Vitec Group plc; MP
Ed Garstkiewicz; Harting KGAA; G
Ethan William Gilson; Advanced Lighting and Production Services; U
William B. Gorlin; M.G. McLaren, P.C.; G
Jerry Gorrell; Theatre Safety Programs; G
Pat Grenfell; Mainstage Theatrical Supply; DR
Joshua Grossman; Schuler Shook; DE
Joel A Guerra; Texas Scenic Company; DR
Rod Haney; I.A.T.S.E. Local 891; U
Tim Hansen; Oasis Stage Werks; DR
Pete Happe; Walt Disney Company; U
Herb Hart; Columbus McKinnon Corp.; MP
David Herrmann; Motion Laboratories; CP
Peter Herrmann; Motion Laboratories; CP
Wendy Holt; Alliance of Motion Picture and Television Producers; G
Joseph Jeremy; Niscon Inc.; CP
Rodney F. Kaiser; Wenger Corp.; CP
Christine L. Kaiser; Syracuse Scenery & Stage Lighting Co., Inc.; DR
Theresa Kelley; Total Structures Inc.; MP
Kandie Koed; Total Structures Inc.; MP
Jerald Kraft; SECOA; CP
Edwin S.; Kramer; I.A.T.S.E. Local 1; U
Kyle Kusmer; Steven Schaefer Associates; G
Roger Lattin; I.A.T.S.E. Local 728; U
Michael Lichter; Electronic Theatre Controls, Inc.; MP
Dan Lisowski; University of Wisconsin - Madison; U
Joseph McGeough; Foy Inventerprises, Inc.; CP
Orestes Mihaly; Production Resource Group; DR
Jeff T. Miller; Walt Disney Company; U
John (Jack) Miller; I Weiss; CP
Rick Montgomery; R&M Materials Handling; MP
Reid Neslage; H & H Specialties Inc.; MP
Mark Newlin; Xtreme Structures and Fabrication; MP

James Niesel; Arup; DE
Richard J. Nix; Steven Schaefer Associates; G
Shawn Nolan; Production Resource Group; DR
Tracy Nunnally; Hall Associates Flying Effects; CP
Edward A. (Ted) Paget; Daktronics Inc. ; CP
Miriam Paschetto; Geiger Engineers; G
Rocky Paulson; Freeman Companies; DR
Troy Post; R&M Materials Handling; MP
Woody Pyeatt; A V Pro, Inc.; DR
Gregory Quinkert; Motion Laboratories; CP
John Ringelman; Freeman Companies; DR
Rick Rosas; Texas Scenic Company; DR
Shawn Sack; Columbus McKinnon Corp.; MP
Bill Sapsis; Sapsis Rigging, Inc.; U
Steven C. Shaw; Aerial Rigging; DR
Stephen G. Surratt; Texas Scenic Company; DR
Peter V. Svitavsky; Wenger Corp.; CP
Harvey Sweet; Electronic Theatre Controls, Inc.; MP
Will Todd; Vitec Group plc; MP
Elmer Veith; Total Structures, Inc.; MP
Steve Walker; Steve A. Walker & Associates; G
Charlie Weiner; Charlie Weiner; U
Michael Wells; Xtreme Structures and Fabrication; MP
Marty Wesstrom; Mountain Productions Inc.; DR
Jeff Wilkowski; Thern, Inc.; MP
Frank Willard; Syracuse Scenery & Stage Lighting Co., Inc.; DR
R. Duane Wilson; Amer. Society of Theatre Consultants; DE
Robert Young; Arup; DE
Art Zobal; Columbus McKinnon Corp.; MP

Observer (non-voting) members:

Brent Armstong; U
William Ian Auld; Auld Entertainment; U
Warren A. Bacon; U
Rinus Bakker; Rhino Rigs B.V.; G
Robert Barbagallo; Solotech Inc.; DR
Roger Barrett; Star Events Group Ltd.; DR
F. Robert Bauer; F.R. Bauer & Associates, LLC; G
Maria Bement; MGM Grand; U
Roy Bickel; G
Lee J. Bloch; Bloch Design Group, Inc.; G
David Bond; Show Restraint Ltd.; U
William Bradburn; Aerial Arts, Inc.; U
Louis Bradfield; U
Buddy Braile; Bestek Lighting & Staging; U
Barry Brazell; U
André Broucke; André Broucke; G
David M. Campbell; Geiger Engineers; G
Michael J. Carnaby; Mikan Theatricals; DR
Daniel J. Clark; Clark-Reder Engineering, Inc.; G
Ian Coles; Total Structures, Inc.; MP
Gregory C. Collis; I.A.T.S.E. Local 16; G
Randall W. A. Davidson; Risk International & Associates, Inc.; U
Robert Dean; ZFX Flying Inc.; DR
François Deffarges; Nexo; MP
Cristina Delboni; Feeling Structures; MP
Jim Digby; Linkin Park Touring/The Collective; U

Noga Eilon-Bahar; Eilon Engineering Industrial Weighing Systems; MP
James B. Evans; Mountain Productions Inc.; DR
Tim Franklin; Theta-Consulting; G
Luca Galante; Alfa System Sas; CP
Jay O. Glerum; Jay O. Glerum & Associates, Inc. ; U
Rand Goddard; W.E. Palmer Co.; CP
Reuben Goldberg; Technic Services; U
Thomas M. Granucci; San Diego State University; U
Sean Harding; High Output, Inc.; G
Greg Hareld; Kleege Industries; U
Dean Hart; Freeman Companies; U
Ben Hayes; Freedom Flying; G
Marc Hendriks; Prolyte; MP
Ted Hickey; OAP Audio Products; MP
Chris Higgs; Total Solutions Group; G
Daniel Lynn Houser; Real Rigging Solutions, LLC; U
Donald Hoffend III; Avista Designs, LLC; G
Wes Jenkins; Down Stage Right Industries; CP
Peter Johns; Total Structures, Inc.; MP
Ted Jones; Chicago Spotlight, Inc.; U
Kent H. Jorgensen; IATSE Local 80; G
Donald A. Hoffend_Jr.; Avista Designs, LLC; G
Gary Justesen; Oasis Stage Werks; DR
John Kaes; John Kaes; U
JoAnna Kamorin-Lloyd; Vincent Lighting Systems; U
Nevin Kleege; Kleege Industries; U
Ken Lager; Pook, Diemont & Ohl, Inc.; DR
Jon Lagerquist; South Coast Repertory; U
Eugene Leitermann; Theatre Projects Consultants, Inc.; G
Jon Lenard; Applied Electronics; MP
John Van Lennep; Theatrix Inc.; DR
Mylan Lester; Creation Logics Ltd.; U
Baer Long; Act 1 Rigging Inc.; G
Dennis J. Lopez; Automatic Devices Co.; MP
Darren Lucier; North Guard Fall protection Inc.; U
Sam Lunetta; Michael Andrews; DR
Aleksandrs Lupinskis; Real Rigging Solutions, LLC; U
Gary Mardling; Kish Rigging; DR
Chuck McClelland; Jeamar Winches Inc.; MP
Richard C. Mecke; Texas Scenic Company; DR
Orestes Mihaly; Production Resource Group; DR
Hank Miller; W.E. Palmer Co.; CP
Shaun Millington; SEW-Eurodrive, Inc.; MP
Timothy Mills; Geiger Engineers; G
Scott Mohr; R&R Cases and Cabinets; G
Martin Moore; Martin Moore; G
John "Andrew" Munro; animaenagerie; U
Bob Murphy; Occams Razor Technical Services; G
Steve Nelson; Educational Theatre Association; U
Rikki Newman; U
Michael Patterson; Pook Diemont & Ohl, Inc.; CP
Rocky Paulson; Freeman Companies; DR
G. Anthony Phillips; I.A.T.S.E. Local 16; U
Philip J. Pisczak; The National Telephone Supply Company; G
Michael Powers; Central Lighting & Equipment, Inc.; DR
Kurt Pragman; Pragman Associates, LLC; G
Michael Reed; Reed Rigging, Inc.; DR

Mark Riddlesperger; LA ProPoint, Inc.; CP
Timo Risku; Akumek; DE
Jean-Philippe Robitaille; Show Distribution Group, Inc.; DR
Peter A. Scheu; Scheu Consulting Services, Inc.; G
Peter "Punch" Christian Schmidtke ; Hollywood Lighting, Inc.; DR
Monica Skjonberg; Skjonberg Controls, Inc.; CP
Knut Skjonberg; Skjonberg Controls, Inc.; CP
William Scott Sloan; U
John C. Snook; Thermotex Industries Inc.; CP
Michael L. Savage, Sr.; Middle Dept. Inspection Agency, Inc.; G
Rob Stevenson; SEW-Eurodrive, Inc.; MP
Joachim Stoecker; CAMCO GmbH; MP
Andy Sutton; AFX UK Ltd.; U
Katherine Tharp; LA ProPoint, Inc.; CP
Stephen Vanciel; U
Bill Waters; Conductix-Wampfler; MP
Michael G. Wiener; Aerial Rigging & Leasing, Inc.; U
Jiantong Wu; Beijing Special Engineering Design & Research Institute; G

Interest category codes:

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

Contents

An asterisk (*) next to a clause number indicates there is a matching explanatory clause in Appendix A.

Foreword

The ANSI E1.8 project was initially conceived, developed and subsequently approved as an American National Standard to improve safety with respects to loudspeaker enclosures intended for overhead suspension.

This standard presents a coordinated set of rules that may serve as a guide to regulatory bodies, municipalities and others having jurisdiction responsibilities for inspection of the equipment covered by its scope. The suggestions leading to accident prevention are given both as mandatory and advisory provisions; compliance with both types may be required by employers of their employees.

Safety codes and standards are intended to enhance public safety. This revision of the original standard considers evolving changes in industry technology and acceptable practice occurring since the original standard's publication. Revisions do not imply that previous editions were inadequate. Compliance with this Standard does not itself confer immunity from legal obligations.

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1 Scope

1.1 General

This standard covers the requirements for enclosures specifically intended for overhead suspension, but addresses only the structural characteristics of the enclosure pertaining to its suspension, such as enclosure construction, component part security, enclosure suspension hardware, manufacturing control systems, structural testing, and product representation.

1.2 Annex Note References

This document uses annex notes to provide additional reference information about certain specific section requirements, concepts, or intent. Subject matter with a corresponding annex note reference is identified by the asterisk (*) symbol, and the associated reference text is found in the Annex section, identified with the referring text section number – e.g. an Annex Note to section 3.2 will be identified in the annex section as 3.2.

2 Definitions

2.1 competent person: A person who is capable of identifying existing and predictable hazards in the workplace and who is authorized to take prompt corrective measures to eliminate them.

2.2 component: Parts of a whole.

2.3 design factor: A ratio between working load limit and the material strength, expressed as either yield point or failure point depending upon the context of use**.** Example: a design factor of 10 relative to ultimate failure means that the enclosure component or assembly has a design capacity of 10 times the working load limit.

2.4 enclosure: All parts of the loudspeaker system housing or assembly exclusive of the enclosure suspension hardware, electrical wiring, electrical components, acoustical radiating elements and any cover material intended to be user-removable.

2.5 enclosure suspension hardware: Suspension components permanently affixed to the enclosure by the manufacturer.

2.6 manufacturer: Person or company that fabricates enclosures.

2.7 permanent: Not temporary. Affixed and formed in a fashion intended to be functional for the lifetime of use.

2.8 qualified person: a person who, by possession of a recognized degree or certificate of professional standing, or who, by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.

2.9 shall: Denotes a mandatory requirement.

2.10 should: Denotes an advisory suggestion or recommendation; not mandatory.

2.11 ultimate failure: Stress causing fracture, rupture or other similar catastrophic failure of a component or material, generally designated as F*u* in material properties information.

2.12 ultimate strength: The capacity to resist the maximum force that can be applied without ultimate failure occurring.

2.13 user: Person or company who assembles or uses enclosures.

2.14 working load limit (WLL): Maximum allowable static or equivalent load intended to be applied to an enclosure or a component of an enclosure; rated load.

