ANSI/ASSP A10.13-2011 (R2017)

Safety Requirements for Steel Erection

The American Society of Safety Engineers (ASSE) is now the American Society of Safety Professionals (ASSP). ASSP continues to be the Secretariat for the committee producing this standard and continues to hold the copyright to this standard. There is no change to the content and requirements in the standard. The only change is on the cover indicating the organizational name change of the standards developing organization from ASSE to ASSP.

AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

Approved American National Standard
ANSI

ANSI®
ANSI/ASSE A10.13 – 2011 (R2017)

American National Standard
Construction and Demolition Operations

Safety Requirements for Steel Erection

Secretariat

American Society of Safety Engineers
520 N. Northwest Highway
Park Ridge, Illinois 60068

Approved October 5, 2017

American National Standards Institute, Inc.

American National Standard

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution. The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he/she has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. The American National Standards Institute does not develop standards and will in no circumstance give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretation should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

Caution Notice: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published November by:

American Society of Safety Engineers
520 N. Northwest Highway
Park Ridge, Illinois 60068
(847) 699-2929 • www.asse.org

Printed in the United States of America

Foreword (This Foreword is not a part of American National Standard A10.13-2011 (R2017).)

This standard is one of a series of safety standards that have been formulated by the Accredited Standards Committee on Safety in Construction and Demolition Operations, A10. It is expected that the standards in the A10 series will find a major application in industry, serving as a guide to contractors, labor and equipment manufacturers. For the convenience of users, a list of existing and proposed standards in the A10 series for Safety Requirements in Construction and Demolition Operations follows.

A10.1 Pre-Project & Pre-Task Safety & Health Planning
A10.2 Safety, Health and Environmental Training (under development)
A10.3 Powder-Actuated Fastening Systems
A10.4 Personnel Hoists and Employee Elevators
A10.5 Material Hoists
A10.6 Demolition Operations
A10.7 Transportation, Storage, Handling and Use of Commercial Explosives and Blasting Agents
A10.8 Scaffolding
A10.9 Concrete and Masonry Construction
A10.10 Temporary and Portable Space Heating Devices
A10.11 Personnel Nets
A10.12 Excavation
A10.13 Steel Erection
A10.15 Dredging
A10.16 Tunnels, Shafts and Caissons
A10.17 Safe Operating Practices for Hot Mix Asphalt (HMA) Construction
A10.18 Temporary Roof and Floor Holes, Wall Openings, Stairways and Other Unprotected Edges
A10.19 Pile Installation and Extraction Operations
A10.20 Ceramic Tile, Terrazzo, and Marble Work
A10.21 Safe Construction and Demolition of Wind Generation/Turbine Facilities (under development)
A10.22 Rope-Guided and Non-Guided Workers' Hoists
A10.23 Safety Requirements for the Installation of Drilled Shafts
A10.24 Roofing – Safety Requirements for Low-Sloped Roofs
A10.25 Sanitation in Construction
A10.26 Emergency Procedures for Construction Sites
A10.27 Hot Mix Asphalt Facilities
A10.28 Work Platforms Suspended from Cranes or Derricks
A10.29 Aerial Platforms in Construction (under development)
A10.31 Digger-Derricks
A10.32 Personal Fall Protection Used in Construction and Demolition Operations
A10.33 Safety and Health Program Requirements for Multi-Employer Projects
A10.34 Public Protection
A10.37 Debris Nets
A10.38 Basic Elements of a Program to Provide a Safe and Healthful Work Environment
A10.39 Construction Safety and Health Audit Program
A10.40 Reduction of Musculoskeletal Problems in Construction
A10.42 Rigging Qualifications and Responsibilities in the Construction Industry
A10.43 Confined Spaces in Construction and Demolition Operations
A10.44 Lockout/Tagout in Construction
A10.46 Hearing Loss Prevention
A10.47 Highway Construction Safety
A10.48 Communication Structures
A10.49 Control of Health Hazards

One purpose of these standards is to serve as guides to governmental authorities having jurisdiction over subjects within the scope of the A10 Committee standards. If these standards are adopted for governmental use, the reference of other national codes or standards in individual volumes may be changed to refer to the corresponding regulations.

Revisions: The A10 Committee welcomes proposals for revisions to this standard. Revisions are made to the standard periodically (usually five years from the date of the standard) to incorporate changes that appear necessary or desirable, as demonstrated by experience gained from the application of the standard. Proposals should be as specific as possible, citing the relevant section number(s), the proposed wording and the reason for the proposal. Pertinent documentation would enable the A10 Committee to process the changes in a more-timely manner.

Interpretations: Upon a request in writing to the Secretariat, the A10 Committee will render an interpretation of any requirement of the standard. The request for interpretation should be clear, citing the relevant section number(s) and phrased as a request for a clarification of a specific requirement. Oral interpretations are not provided.

No one but the A10 Committee (through the A10 Secretariat) is authorized to provide any interpretation of this standard.

Approval: Neither the A10 Committee nor American National Standards Institute (ANSI) approves, certifies, rates or endorses any item, construction, proprietary device or activity.

Appendices: Appendices are included in most standards to provide the user with additional information related to the subject of the standard. Appendices are not part of the approved standard.

Checklists: Checklists included in A10 standards may be copied and used in non-commercial settings only.

Committee Meetings: The A10 Committee meets twice per year. Persons wishing to attend a meeting should contact the Secretariat for information.

Standard Approval: This standard was processed and approved for submittal to ANSI by the American National Standards Committee on Safety in Construction and Demolition Operations, A10. Approval of the standard does not necessarily imply (nor is it required) that all Committee members voted for its approval. At the time ANSI approved this standard, the A10 Committee had the following members:

Richard King, CSP, Chair
Steven Rank, Vice Chair
Timothy R. Fisher, CSP, CHMM, ARM, CPEA, Secretary
Lauren Bauerschmidt, MS Engr, CSP, Assistant Secretary
Jennie Dalesandro, Administrative Technical Support

Organization Represented	Name of Representative
3M	Raymond A. Mann
	Mike Boraas
A-Z Safety Resources, Inc.	Jane F. Williams, CPEA, CCA
Accident Prevention Corporation	Frank Burg, CSP, P.E.
	Terry Krug, CSP, CIH
AGC of America	Michael McCaffrey
	Kevin Cannon
American Insurance Services Group	Thad Nosal
	James G. Borchardt, CSP, CPE, CPSM, CRIS
American Society of Civil Engineers	John O'Connor, P.E.
	Harlan Fair, P.E.
American Society of Safety Engineers	Ken Shorter, CSP, ARM, TCDS
	A. David Brayton, CSP, CPC
American Wind Energy Association	Christopher Daniels
	Michele Myers Mihelic
American Work Platform Training, Inc.	Dennis W. Eckstine
APT Research, Inc.	Saralyn Dwyer
Associated Builders and Contractors, Inc.	Stephen Wiltshire, MSc
	Greg Sizemore
Barton Malow Company	Jeffrey Oliver, CSP, CHST
	Mark Haggenmaker
Black & Veatch	Richard F. King, CSP
	John H. Johnson, CSP
Building & Construction Trades Department	Chris Cain, CIH
	Gary Gustafson
Century Elevators	Paula Manning
	Eric Schmidt, P.E.
Clark Construction Group	Kurt Dunmire, CSP, CHST
Cole-Preferred Safety Consulting, Inc.	Barry Cole
Construction & Realty Safety Group, Inc.	Ron Lattanzio
	Frank Marino
CPWR - Center for Construction Research & Training	Bruce Lippy, Ph.D., CIH, CSP
	Babak Memarian
Edison Electric Institute	Jonathan Kerns
	Adam Frederick
Elevator Industry Work Preservation Fund	Michael D. Morand
	James Demmel
Ellis Fall Safety Solutions, LLC	J. Nigel Ellis, Ph.D., P.E., CSP, CPE
	John T. Whitty, P.E.
Engineering Systems, Inc.	David Ahearn, P.E.
	Edward J. Tuczak, P.E.
Fluor Corporation	Michael Weatherred, CSP
	Jim Bates, CSP
Gilbane Building Co.	Robert Hinderliter, ASP
	Thomas Trauger

Richard D. Hislop	Richard Hislop
	Shawn Bradfield
Independent Electrical Contractors, Inc.	Paul Dolenc
	Jerry Rivera
Innovative Safety, LLC	Daniel M. Paine
	Barbara Paine
Institute of Makers of Explosives	Susan JP Flanagan
	Ronald Thomas
International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Steven Rank
International Association of Heat & Frost Insulators & Allied Workers	Tim Keane
International Brotherhood of Boilermakers	Mark Garrett
	Bridget Connors
International Brotherhood of Electrical Workers	David Mullen
	Dan Gardner
International Brotherhood of Teamsters	LaMont Byrd, CIH
	Asher Tobin
International Safety Equipment Association	Cristine Fargo
International Union of Bricklayers & Allied Craftworkers	Michael Kassman, CHST
	Gerard Scarano
International Union of Operating Engineers	Christopher Treml
	Barbara McCabe
Kiewit Power Constructors Co.	Rusty Brown, CSP
	Dave Hinz
Laborers' International Union of North America	Walter A. Jones, MS, CIH
	Travis Parsons
Lamar Advertising	Chuck Wigger, CSP
	Beth Phelps
Lendlease Corporation	Joel Pickering, CET, CHMM
	Michael Lentz
Liberty Mutual	Daniel P. Lavoie, CSP, ARM
	Stan Williams, ARM, CHST
Marsh LLC	Timothy Bergeron, CSP
Maryland Occupational Safety & Health	Mischelle Vanreusel
	Michael Daughaday
Mechanical Contractors Association of America	Peter Chaney, MS, CSP
	Dennis Langley
Miller & Long Concrete Construction	Frank Trujillo
	Alex Rodas, CHST
National Association of Home Builders	Robert Matuga
	Chelsea Vetick
National Association of Railroad Safety Consultants & Investigators	Lewis Barbe, P.E., CSP, CRSP
National Electrical Contractors Association	Michael J. Johnston
	Wesley Wheeler
National Institute for Occupational Safety & Health	Thomas G. Bobick, Ph.D., P.E., CSP, CPE
	G. Scott Earnest, Ph.D., P.E, CSP
National Railroad Construction & Maintenance Association	Jeffrey D. Meddin, CSP, CHEP, CHCM
National Roofing Contractors Association	Harry Dietz
	Tom Shanahan
National Society of Professional Engineers	E. Ross Curtis, P.E., DFE, F.ASCE, F.NSPE
	Paul Swanson, P.E.
NESTI, Inc.	Michael Hayslip, P.E., CSP
	Jack Madeley, P.E., CSP

Operative Plasterers and Cement Masons International Association	Deven Johnson
PATMI	James A. Borchers
	Craig Pratt
Phoenix Fabricators and Erectors, Inc.	Luke Humphrey
	Frank Massey
Power Consultants, Incorporated	David Goldsmith
Professional Safety Consultants, Inc.	Jim E. Lapping, MS, P.E., CSP
	Kathryn Stieler
Safety Environmental Engineering, Inc.	Matthew Murphy
Scaffold & Access Industry Association	Ted Beville
	DeAnna Martin
Shafer Safety Solutions, LLC	Carmen Shafer, CSP, CHST
Sheet Metal & Air Conditioning Contractors' National Association	Mike McCullion, CSP, ARM
SMART Union	Randall Krocka
	Charles Austin, MS
SPA Incorporated	Stanley Pulz, CSP, P.E.
Stock Enterprises	Steve Stock, P.E., PLS
TAUC	Wayne Creasap, II
	Kathleen Dobson, CSP, CHST, STS.C
Turner Construction Company	Cindy L. DePrater, ALCM
	Abdon Friend, CSP
U.S. Army Corps of Engineers	Muhamed El-Zoghbi
	Bonnie Rathbun, CIH, CET
U.S. Department of Energy	Terry Meisinger
	Maurice Haygood
United Association	Cheryl Ambrose, CHST, OHST
	Rich Benkowski
United Brotherhood of Carpenters and Joiners of America	William Irwin
	Dale Shoemaker
United Union of Roofers, Waterproofers & Allied Workers	Keith J. Vitkovich
West Virginia University Extension Service	Brandon Takacs, CSHM
	Mark Fullen, Ed.D., CSP
ZBD Constructors, Inc.	Greg Thompson, CSP
	Jeffrey D. Meddin, CSP, CHEP, CHCM

Independent Experts & Observers:

Alliance of Hazardous Materials Professionals	Carl Heinlein, CSP, ARM, CRIS
J.A. Montgomery Risk Control	Eric Voight
	Ken Bogdan
Lockton Companies	Jason Scollin, CSP, ASP, MS, STC-C
National Association of Tower Erectors	John P. Jones
	Kathryn Stieler
U.S. Department of Labor – OSHA	Dean McKenzie
	Scott Ketcham
Warfel Construction Company	Jeffrey I. Pierce
	Kevin Stoltzfus

Subgroup A10.13 had the following members:

Steven Rank (Chair)
Wayne Creasap, II (Vice Chair)
Daniel Paine (Liaison)
Barry Cole
Kathleen Dobson, CSP, CHST, STS.C
Robert George
Michael Hayslip, P.E., CSP
Mark Klimbal
Homer Peterson, II
Darlaine Taylor

Contents

AMERICAN NATIONAL STANDARD A10.13
SAFETY REQUIREMENTS FOR STEEL ERECTION

1. SCOPE, PURPOSE AND EXCEPTIONS

1.1 Scope. This standard establishes safety requirements for erecting, handling, fitting, fastening, reinforcing and dismantling of structural steel, plate steel, steel joist and metal deck at a final in-place field site during construction, maintenance and dismantling operations.

1.2 Purpose. This standard is designed to:

1. Reduce the incidence of workplace fatalities, workers injuries and property damage by prescribing minimum safety requirements.

2. Provide direction to persons concerned with, or responsible for, its applications.

3. Guide governments and other regulatory bodies in the development and promulgation of appropriate safety directives.

1.3 Exceptions. In cases of practical difficulties, unnecessary hardships or new developments, the enforcing authority may grant exceptions to literal requirements of this standard. These exceptions may permit use of other devices or methods, but only when it is clearly indicated that equivalent safety and permanent installation are thereby secured.

2. REFERENCED AND RELATED STANDARDS

2.1 Referenced American National Standards. This standard is intended to be used in conjunction with the latest approved revision of all the American National Standards.

3. DEFINITIONS

3.1 Anchored Bridging. The steel joist bridging that is connected to a bridging terminus point.

3.2 Bolted Diagonal Bridging. Diagonal bridging which is bolted to a steel joist or joists.

3.3 Bridging Clip. A device that is attached to the steel joist to allow the bolting of the bridging to the steel joist.

3.4 Choker. A wire rope or synthetic fiber rigging assembly used to attach a load to a hoisting device.

3.5 Clipped Connection. The connection material on the end of a structural member intended for use in a double connection, which has a notch at the bottom and/or top to allow the bolt(s) of the first member placed on the opposite side of the central member to remain in place. The notch(es) fits around the nut or bolt head of the opposing member to allow the second member to be bolted up without removing the bolt(s) holding the first member.

3.6 Cold-Formed Joist. An open web joist fabricated with cold-formed steel components.

3.7 Cold Forming. The process of using press brakes, rolls or other methods to shape steel into desired cross sections at room temperature.

3.8 Come-A-Long. A portable, hand-operated device consisting of a housing, a length of chain or wire rope, two hooks, and