

# ANSI/ASSP Z359.15 – 2024

Safety Requirements for Single Anchor Lifelines  
and Fall Arresters for Personal Fall Arrest Systems

PREVIEW ONLY



AMERICAN SOCIETY OF  
SAFETY PROFESSIONALS



PREVIEW ONLY

The information and materials contained in this publication have been developed from sources believed to be reliable. However, the American Society of Safety Professionals (ASSP) as secretariat of the ANSI Z359 committee or individual committee members accept no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. By publication of this standard, ASSP or the Z359 committee does not ensure that adherence to these recommendations will protect the safety or health of any persons or preserve property.

**ANSI/ASSP Z359.15 – 2024**

**American National Standard**

**Safety Requirements for Single Anchor Lifelines and  
Fall Arresters for Personal Fall Arrest Systems**

Secretariat

**American Society of Safety Professionals**  
520 N. Northwest Highway  
Park Ridge, IL 60068

**Approved May 2, 2024**

**Effective Date: December 15, 2025**

**American National Standards Institute**

# 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 they have 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 June 2024 by

**American Society of Safety Professionals**  
**520 N. Northwest Highway**  
**Park Ridge, IL 60068**  
**(847) 699-2929 • [www.assp.org](http://www.assp.org)**

Copyright ©2024 by American Society of Safety Professionals  
All Rights Reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Printed in the United States of America

## Foreword

(This Foreword is not a part of American National Standard Z359.15 - 2024.)

This standard, national in scope, was developed by the Z359 Standards Committee functioning under the procedures of the American National Standards Institute, with the American Society of Safety Professionals (ASSP) as secretariat. It is intended that every employer whose operations fall within the scope and purpose of the standard will adopt the guidelines and requirements detailed in this standard.

**History:** Requirements for single anchor lifelines and fall arresters were originally included in the ANSI/ASSP Z359.1-1992 (R1999) and 2007 versions of the standard. Since that time the Z359 series of standards has expanded and broadened, resulting in the creation of this standard which was first published in 2014. This revision contains improvements to performance and testing requirements, as well as general document improvements.

**Need for a Standard:** The need for this standards activity grew out of the continuing development of a series of fall protection-related standards. Neither the standards committee, nor the secretariat, states that this standard is perfect or in its ultimate form. It is recognized that new developments are to be expected, and that revisions of the standard will be necessary as the state-of-the-art progresses and further experience is gained. It is felt, however, that uniform guidelines for fall protection programs are very much needed and that the standard in its present form provides for the minimum criteria necessary to develop and implement a comprehensive managed fall protection program.

**Standard Perspective:** This standard is written from an equipment design perspective, with the intention that it will be used by equipment manufacturers and test labs in the design and testing of single anchor lifelines and fall arresters for personal fall arrest systems.

**Normative Requirements:** This standard uses the single column format. The normative requirements appear aligned to the left margin. To meet the requirements of this standard, users must conform to these normative requirements. These requirements typically use the verb "shall."

*NOTE: The informative or explanatory note in this standard appears indented, in italics, in a reduced font, in an effort to provide a visual signal to the reader that this is an informative note, not normative text, and is not to be considered part of the requirements of this standard; this text is advisory in nature only. The suppliers and users are not required to conform to the informative note. The informative note is presented in this manner in an attempt to enhance readability and to provide explanation or guidance to the sections they follow.*

**Figures:** Figures provided in the standard are used to show basic concepts of testing, types of products, examples of labels or other information from the standard. These figures are not to scale. They are for educational and informational purposes to explain content within a standard.

**Suggestions for Improvements:** Suggestions for improvements to this standard are welcome. They should be sent to: American Society of Safety Professionals (ASSP), 520 N. Northwest Highway, Park Ridge, IL 60068 Attention: Z359 Secretariat.

**Revisions:** The Z359 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 paragraph number(s), the proposed wording and the reason for the proposal. Pertinent documentation would enable the Z359 Committee to process the changes in a timely manner.

**Interpretations:** Upon a request in writing to the Secretariat, the Z359 Committee will render an interpretation of any requirement of the standard. The request for interpretation should be clear, citing the relevant paragraph number(s) and phrased as a request for a clarification of a specific requirement. Oral interpretations are not provided.

Only the Z359 Committee (through the Z359 Secretariat) is authorized to provide any interpretation of this standard.

**Approval:** Neither the Z359 Committee nor the 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.

**Committee Meetings:** The Z359 Committee meets on a regular basis. Persons wishing to attend a meeting should contact the Secretariat for information.

**Standard Approval:** This standard was developed and approved for submittal to ANSI by the Z359 Secretariat. Committee approval of the standard does not necessarily imply (nor is it required) that all members voted for its approval. At the time this standard was approved, the Z359 Committee had the following members:

Dan Henn, Chair  
Kevin Denis, Vice-Chair  
Lauren Bauerschmidt, CSP, Secretary  
Assistant Secretary, Rick Blanchette  
Jennie Dalesandro, Administrative Technical Support

<b>Organization Represented</b>	<b>Name of Representative(s)</b>
3M	Raymond Mann Steven McPherson
AES Indiana	Nick Hutchinson Michael Wright
American Contractors Insurance Group	Michael Overholt, CSP, ARM, CIT, CRIS Mike Dickerson, CSP, MS, CRIS
American Society of Safety Professionals	Jubal Hamernik, Ph.D., P.E., DPE John Stephen Frost, CSP, CSM
Ballantyne Gear, Inc.	Flent Ballantyne Steven Ballantyne
Bashlin Industries, Inc.	Caleb Williams Bradley McGill
Battelle Energy Alliance, LLC	Darrin Stark Stephen Stapleton, CSP
Bayer AG	Adam Chapin Chad McDanel
Boeing	Segis Wright, CSP, SMS Hannah Lee, P.E.
Buckingham Manufacturing Company	DeForest Canfield Justin Drake
CB&I Storage Solutions	Jeff Eggert, P.E. David Freeman
Certified Access	Dave Pasco Matthew Waskiewicz
Diversified Fall Protection	Kynan Wynne Travis Nelson, P.E., CSP
Elevated Insight & Engineering Ltd. Elk River, Inc.	Greg Small, P.Eng., M.Eng. Mark Conover Delisa Calhoun
Ellis Fall Safety Solutions, LLC	John Whitty, P.E. Alan Goard, MS, CSP
FallTech	Zachary Winters Bradley Rohlf
General Motors Company	Graham Parr Scott Shields, P.E.
GME Supply Company	Daniel Pobst Chris Heitkamp

Gorbel Inc.	Allen Baughman
	Todd Wagner
Gravitec Systems, Inc.	David Lough
	Kyle Van Wyck
Guardian Fall	Andre Pelland
Harken, Inc.	Heather Robertson
	Matt Luedtke
Honeywell	Giovany Gil, MS, ID
	Jesus Velasco Garcia
International Safety Equipment Association	Diana Jones
	Kevin Denis
Jelco	Philip Clemmons
Kee Safety, Inc.	William Parsons, P.Eng.
	Michael Bailey, P.E.
Kiewit Corporation	Rusty Brown, CSP
	Steve Sanders, P.E., P.Eng.
Lawrence Berkeley National Laboratory	Kevin Goodwin, MS, CSP, SMS
	Jeffrey Barras, MS, CSP, CHST
Lawrence Livermore National Security, LLC	Kathy Brown, MS, ASP
Liberty Mutual	Brandon Rohlfs, ARM, CHST, CPCU, CRIS, CSP
	Cory Gaye, CSP, CHST
LJB Inc.	Dan Henn
	Jake Williams, P.E., CSP
Malta Dynamics, LLC	David Ivey
	Isaac Bocook
Martin/Martin Consulting Engineers	Fumitoshi Hirose, P.E.
	Andrew Emmons, P.E.
MSA	Rob Willis
	Grant Myers
Murdock Webbing Company, Inc.	Peter Cook
	Stephan Gelinias
NATE: The Communications Infrastructure Contractors Association	Kathryn Stieler
	Justin Miller
Pensafe Inc.	Keith Smith
Petzl	Jeremiah Wangsgard
	Eddie Stevens
Pigeon Mountain Industries	Loui McCurley
	Jeff Bowles
Port of Seattle	Robert McMurtray
	Tim Mitchell
Reliance Industries	Tim Ecker
	Daniel Adams
Rigid Lifelines	Arnie Galpin, P.E.
Safety and Health Consulting	Ed Grosse
Schreiber Foods	Jim Turek



Shell USA, Inc.	Kevin Lord
SKYLOTEC North America LP	Joshua Elkins, MS, CSP, STS
SPRAT	Douglas Mercier
STE	Ross Balquist
Sturges Manufacturing, Inc.	Charley Rankin, MS
SureWerx/PeakWorks	Cedric Smith
Surface Solutions	Michael Wright, P.E., CPE, CSP
TEiC Construction Services, Inc.	Mark Williams
Terracon	Tyler Griffith
Travelers	Mike Allen
Tritech Fall Protection Systems, Inc.	James (Rusty) Franklin
U.S. Air Force	Gabriele Fusco, P.Eng.
U.S. Army Corps of Engineers	Samuel Terry
U.S. Bureau of Reclamation	Art Schneider
U.S. Department of Energy	Shayne Powers
U.S. Department of Interior - BSEE	Sarah Baker
U.S. Navy	Matt McElvogue, P.E., RWC, RRO
UAW	Adam Maier, CSP
UL	Scott Richert, CSP, ARM, ALCM
Wagman, Inc.	Thomas Rankin, CSP, ARM
Walt Disney Parks & Resorts	Meridith Conser, P.E.
Werner Co.	Katherine Dietz, EIT
	Robert Baker
	Robert Foster
	Jason Walsh, CSP, SMS
	Daniel Juracek
	Brian Calliari
	Corey Dickson
	Kristina Fehringer, CIH, CSP
	Scott Wenholz, CIH, CSP
	John Cushing, Jr.
	David Nedorostek
	Charles Gum, CSP, ASP
	Robert Steele
	Matthew Uptmor, OHST
	Matt Slade
	Beverly Stutts
	Andrew White
	Emily Cook
	Thomas Haag
	Ian Bevan
	Tyler Bland
	Michael Cameron
	Cody Rappoport

Western Area Power Administration  
WJE

Zachry Group

**Observing/Non-Voting Members:**

High Engineering Ltd.  
National Institute for Occupational Safety & Health

U.S. Department of Labor - OSHA

Kevin Ripplinger  
Daniel Gach  
Kurt Holloway, P.E., SE  
Don Hurley, CSP

Brendon Kerber, M.Eng., P.Eng.  
James Harris, Ph.D., P.E.  
Tony McKenzie, Ph.D., P.E.  
Mark Hagemann  
William Zettler

**Subgroup Z359.15 had the following members:**

Jeremiah Wangsgard, Chair  
Keith Smith, Vice-Chair  
Lynn Camp  
Paul Clarke, CEng, MIMechE  
Kevin Denis  
Raymond Mann  
Loui McCurley  
Andre Pelland  
Greg Small, P.Eng., M.Eng.  
Samuel Terry  
Segis Wright, CSP, SMS  
Kynan Wynne

PREVIEW ONLY

# Table of Contents

1. Scope, Purpose and Application, Exceptions, and Interpretations.....	11
1.1. Scope.....	11
1.2. Purpose and Application .....	11
1.3. Exceptions .....	11
1.4. Interpretations .....	12
2. Definitions .....	12
3. Design and Performance Requirements.....	12
3.1. General .....	12
3.2. Component and Element Requirements.....	13
3.3. Single Anchor Lifeline Requirements.....	13
3.4. Fall Arrester Requirements.....	16
3.5. System Requirements .....	18
4. Testing .....	19
4.1. Test Equipment and Test Specimens.....	19
4.2. Single Anchor Lifeline Qualification Testing.....	31
4.3. Fall Arrester Qualification Testing.....	31
4.4. System Qualification Testing .....	35
4.5. Testing Summary Table .....	38
5. Marking and Instructions .....	38
5.1. General Marking Requirements.....	38
5.2. Specific Marking Requirements.....	39
5.3. General Instruction Requirements.....	39
5.4. Specific Instruction Requirements .....	40
6. Inspection, Maintenance and Storage .....	41
6.1. General Requirements .....	41
7. References .....	41
Appendix A – User Guide for ANSI/ASSP Z359.15-2024: Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems (Informative) .....	43

**AMERICAN NATIONAL STANDARD Z359.15  
SAFETY REQUIREMENTS FOR  
SINGLE ANCHOR LIFELINES AND  
FALL ARRESTERS FOR PERSONAL FALL ARREST SYSTEMS**

## **1. Scope, Purpose and Application, Exceptions, and Interpretations**

### **1.1. Scope**

This standard establishes requirements for the design, performance, qualification testing, test methods, marking, instruction, training, maintenance, and removal from service of single anchor lifelines and fall arresters for users within the capacity range of 110 to 310 pounds (50 to 140 kg).

### **1.2. Purpose and Application**

**1.2.1.** The purpose of this standard is to provide minimum requirements for the design, testing, marking and instruction of single anchor lifelines and fall arresters.

**1.2.2.** This standard applies to single anchor lifelines and fall arresters used in fall arrest applications. It was written for manufacturers, distributors, testing organizations, regulators, purchasers, and authorized users of personal fall protection equipment, as well as personnel responsible for the design and implementation of fall protection systems.

**1.2.3.** Before any equipment shall bear the marking ANSI/ASSP Z359.15-2024 or be represented in any way as conforming with this standard, all applicable requirements of this standard shall be met. Such conformity shall be established in accordance with the requirements specified in ANSI/ASSP Z359.7, *Qualification and Verification Testing of Fall Protection Products*.

**1.2.4.** Users of active fall protection systems require proper training and instruction, including detailed procedures for the safe use of such equipment in their work application. Refer to ANSI/ASSP Z359.2, *Minimum Requirements for a Comprehensive Managed Fall Protection Program*, for training requirements.

**1.2.5.** This standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed in section 7. For dated references, subsequent amendments to or revisions of any of these publications apply to this American National Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

### **1.3. Exceptions**

The requirements of this standard do not apply to:

#### **1.3.1. Horizontal lifelines.**

*NOTE: Single anchor lifelines can be used in vertical, sloped, and horizontal applications. Single anchor lifelines are characterized by only a single anchor or anchor system being loaded when arresting a fall.*