Engineering
Building Partnerships

Fall Protection – It's More Than at the Edge

ASSP San Diego Chapter, March 2023

Thom Kramer, P.E., C.S.P., LJB Inc. ; +1 (937) 416-6187; TKramer@LJBinc.com

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Presenter

Thomas Kramer, P.E. CSP

- Managing Principle – LJB Inc.
- Chair – ANSI Z359 Committee
- +1 (937) 416-6187
- TKramer@LJBinc.com

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Learning Outcomes

- Identify the different Z359 standards, and the focus and goals of each
- Discuss the key components of new ANSI standards and how they impact buying decisions
- State ways your organization can apply ANSI standards to decrease risk for workers at height

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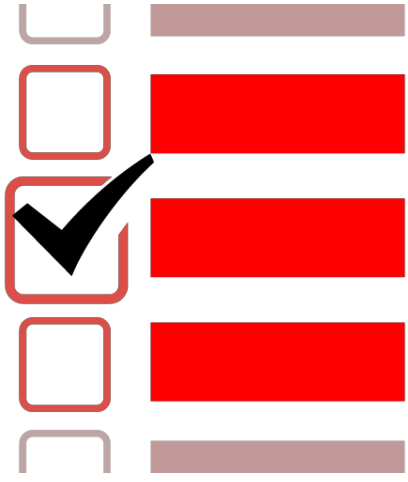
Agenda

- Standards overview
- New standards
- Recommended actions



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Standards Overview

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ANSI/ASSP Z359 Full Committee goal

- Write standards to decrease the number and severity of fall incidents

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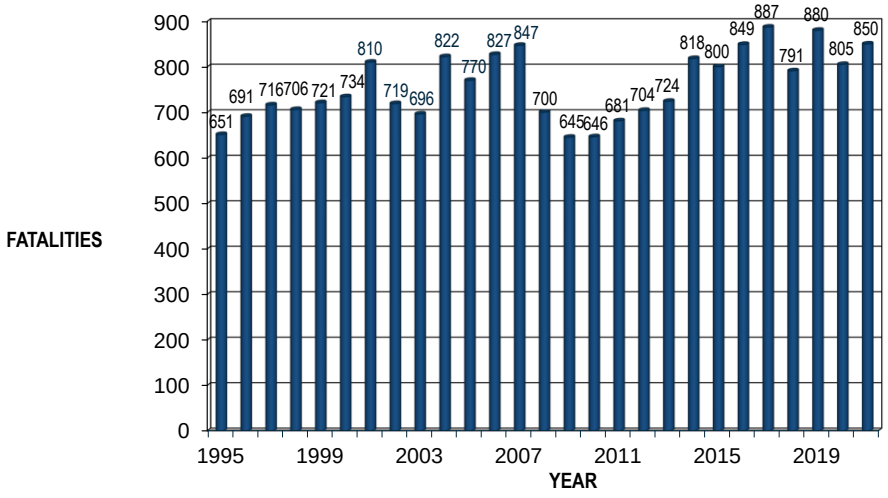
Total Fall Fatalities



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If You See This....

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9

If You See This....

9

History

- 1992-2006: ANSI Z359.1 – systems approach
- 2007: Managed program, definitions, other systems
  - Defined future organization of horizontal and vertical standards
- 2009: Design, components
- 2011: Qualification and testing
- 2012-2017: components to replace existing Z359.1

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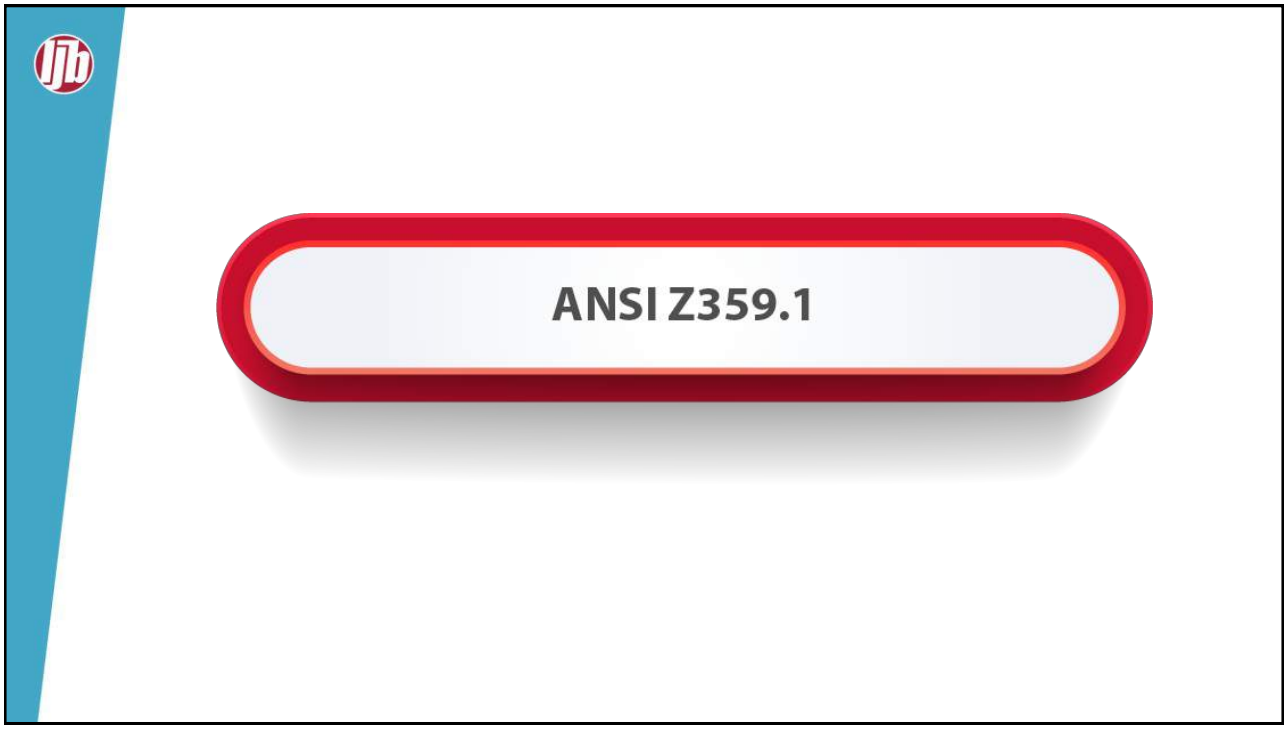
ANSI Z359.1

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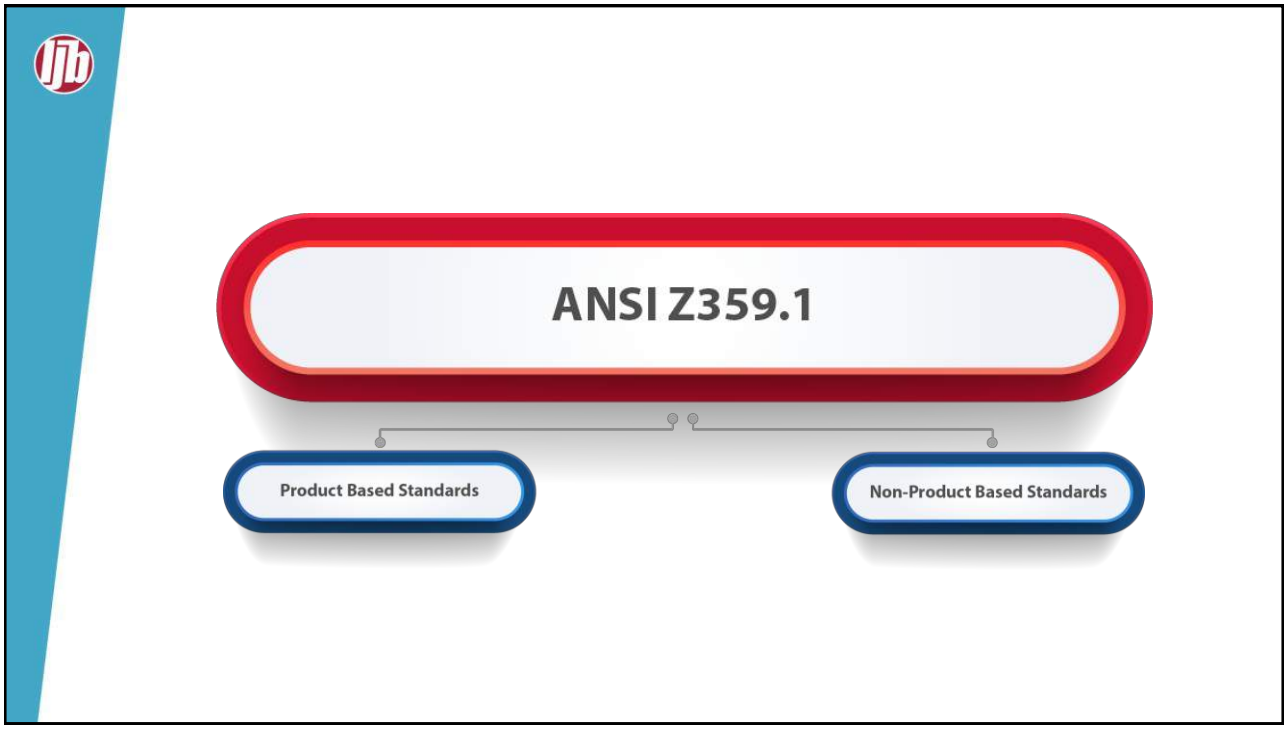
ANSI Z359.1
Product Based Standards
Non-Product Based Standards

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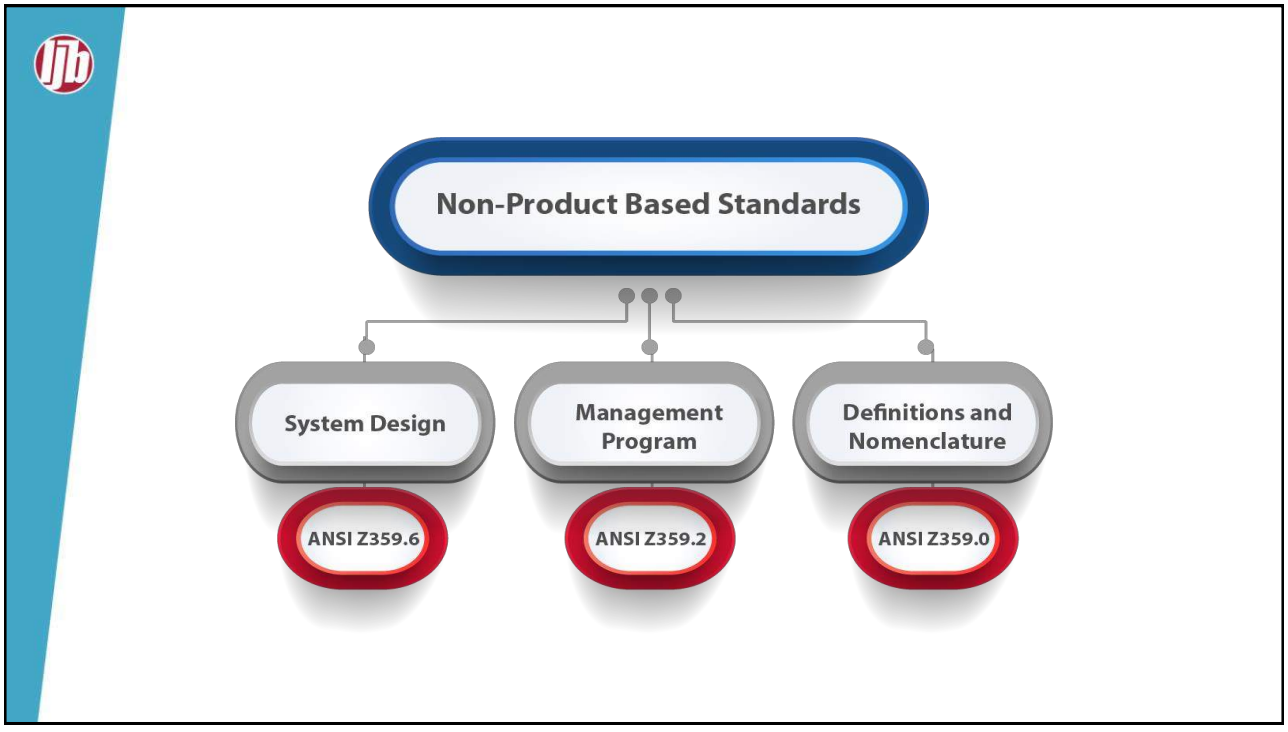
Non-Product Based Standards
System Design
Management Program
Definitions and Nomenclature
ANSI Z359.6
ANSI Z359.2
ANSI Z359.0

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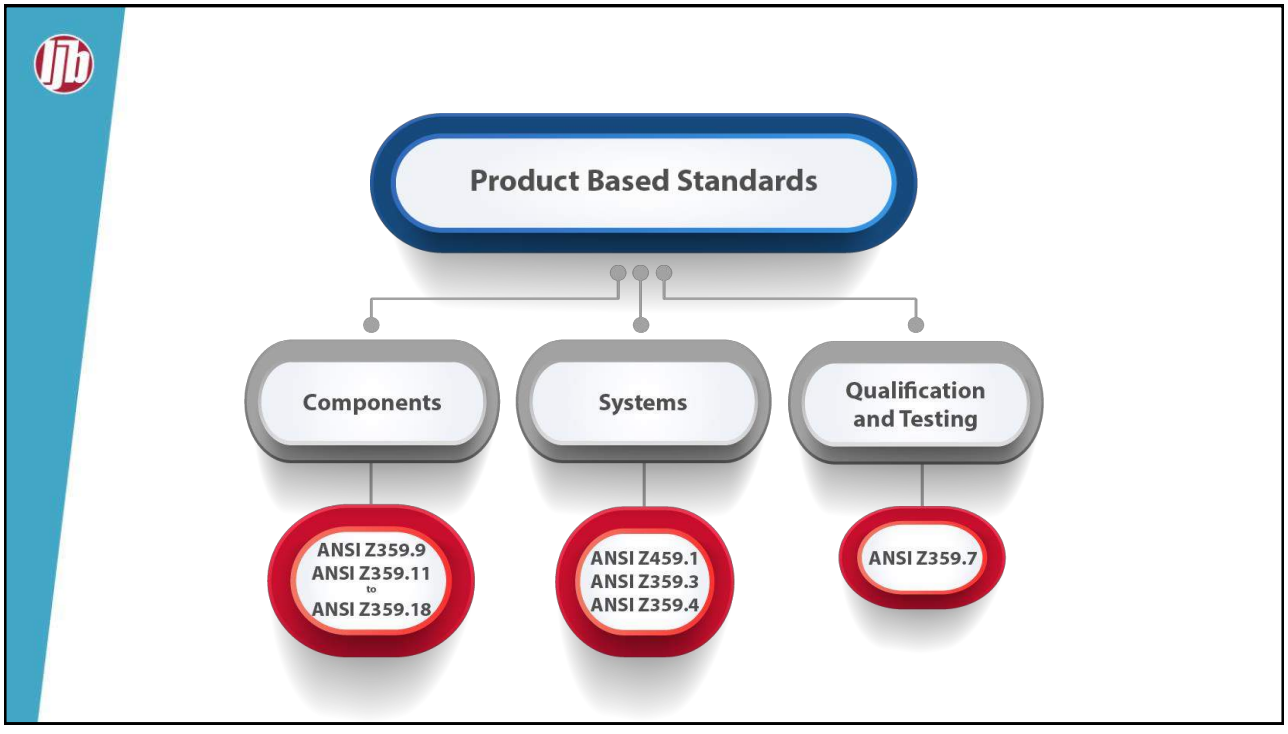
Product Based Standards
Components
Systems
Qualification and Testing
ANSI Z359.9
ANSI Z359.11
to
ANSI Z359.18
ANSI Z459.1
ANSI Z359.3
ANSI Z359.4
ANSI Z359.7

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ANSI Z359.2

FALL PROTECTION

Managed Fall Protection Program Assessment

Managing the major risks presented by falls is a smart and ethical business investment—in addition to a legal requirement. Aligning your fall protection program with the program elements outlined in the ANSI Z359.2-2017 standard below will assist your organization in creating and maintaining an effective program that reduces risk and enhances safety.

#	Fall Potection Program Element	Current Grade (A-F)	Priority (H/M/L)	Notes/Steps to Improve
1	**Policy Statement: (Section 3.1)** Does your organization have a managed fall protection policy statement?			
2	**Employer Responsibilities: (Section 3.2)** Does your organizational leadership dedicate resources for the fall protection program?			
3	**Program Administrator: (Section 4.2)** Has your organization identified a fall pro-tection Program Administrator?			
4	**Qualified Person: (Section 4.3)** Does your organization have access to a fall protection Qualified Person?			
	Competent Person(s): (Section 4.4)			(See Competent Person Assessment)

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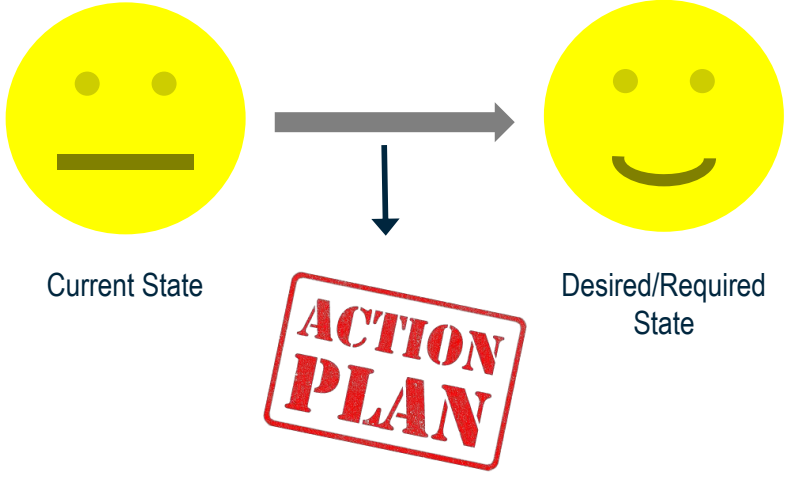
Z359.2 Gap Analysis



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"Newer" Standards

- 2016
  - Z359.1: Fall protection code
  - Z359.16: Ladder climbing fall arrest systems
  - Z359.6: Design of Active Systems
- 2017
  - Z359.2: Managed fall protection program
  - Z359.3: Lanyards and positioning lanyards
  - Z359.18: Anchorage connectors

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"Newer" Standards

- 2019
  - Z359.12: Connecting components
  - Z359.7: Qualification and verification testing
- 2020
  - Z359.1: Fall protection code

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Future Standards

- Other Z359 standards projects:
  - Z359.17: Horizontal lifelines
  - Z359.19: Rigid rail systems
  - Z359 National Work at Height Task Force

Fall Protection & Fall Restraint (Z359)

AMERICAN SOCIETY OF SAFETY PROFESSIONALS

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Standards since 2020

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Newest Standards

- 2020
  - Z359.1: Fall protection code
- 2021
  - Z359.11: Full body harnesses
  - Z359.14: Self-retracting devices
  - Z459.1: Rope access
  - Z359.9: Descenders
- 2022
  - Z359.4 and Z359.13 – reaffirmed

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ANSI Z359.1 – Fall Protection Code

- Effective date: December 15, 2021
- Single column format
- Interrelationship and sections of other Z359 standards
- Scope of current Z359 standards
  - Purchase standards: https://bit.ly/ASSP-Z359

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ANSI Z359.11 - Harnesses

- Effective date: May 1, 2022
- Modified head-first dynamic test procedure
- Alternative fall arrest indicator testing

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ANSI Z359.11 - Harnesses

- New stretch-out requirements for frontal connections
- Allowance for harnesses with integrated energy absorbers
- Minor changes to labeling requirements

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Demonstrate

- Focus areas:
  1. Dorsal dee-ring location
  2. Chest or sternal strap location
  3. Sub-pelvic straps – location and how tight

  BONUS: Use of suspension trauma straps

- How long can your workers safely suspend and will they react when it occurs?

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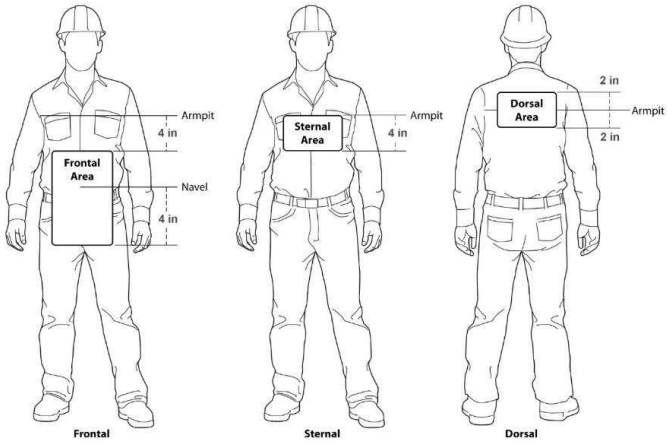
DRing locations



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ANSI Z359.14 Updates

- Effective date: August 1, 2023
  (previously August 1, 2022)
- Types:
  - SRLs, SRL-Rs and SRL-Ps
- Classes:
  - Established classes applicable to all types
- Static Strength:
  - Increased by 20% and meets 2:1 expectations

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ANSI Z359.14 Updates

- Energy Capacity:
  - Increased for SRL-Ps to improve outcomes in common misuse
- End-User Guidance:
  - Appendix B provides actionable information to users of SRDs

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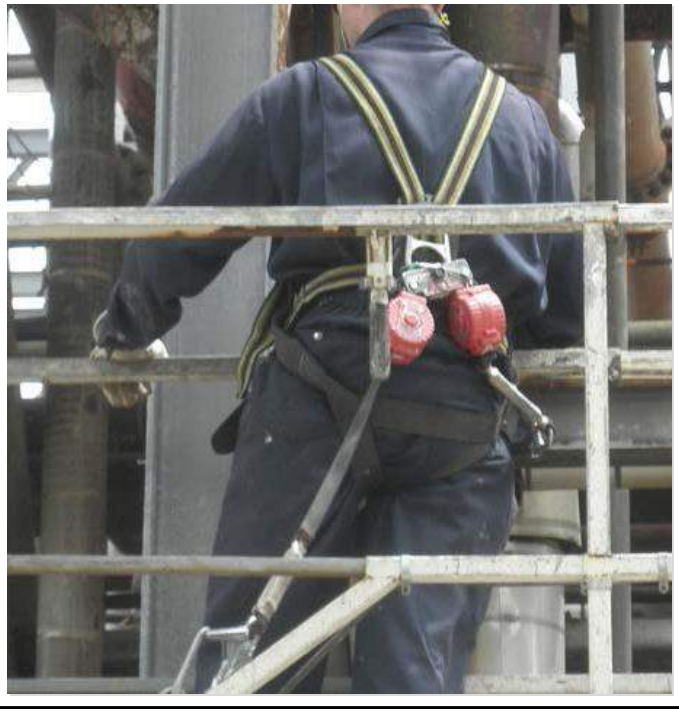

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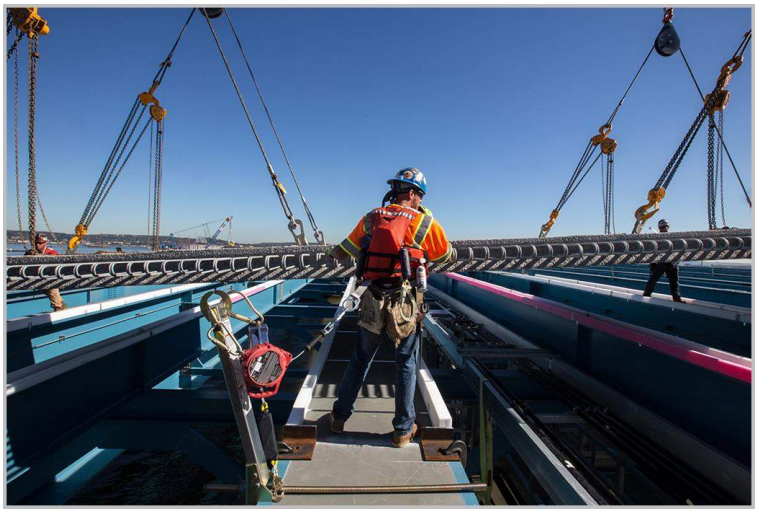

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How much additional free fall can/should SRDs take? And what happens when it does?

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Edge Rated SRLs

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Protection
Solutions
Performance
You work hard and have the pride and performance to take on the biggest challenges. The jobs can be dangerous and we know you depend on not just your equipment, but in a company offering protection solutions including safety evaluations, products, training, and expertise. A company that has your back and gives you the power to do your job safely—
To learn more about complete line of safety solutions or request a FREE, no obligation safety evaluation, visit
WE KNOW WHAT'S AT STAKE

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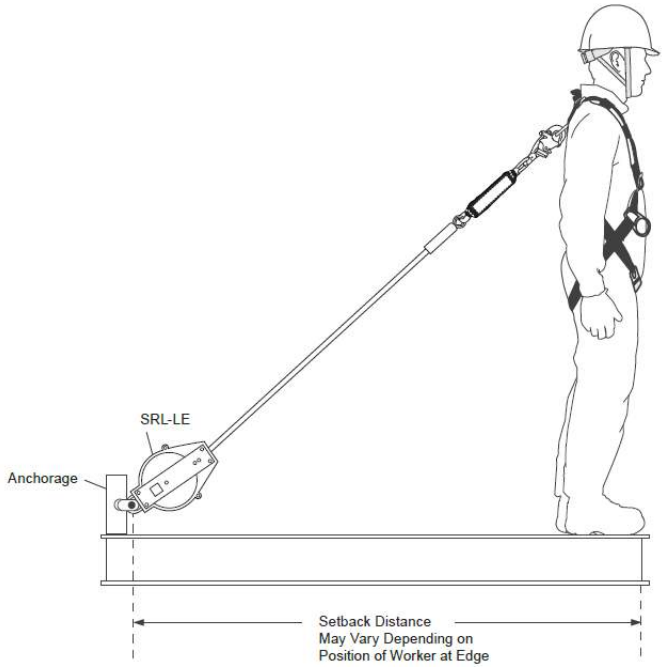
SRL-LE
Anchorage
Setback Distance
May Vary Depending on
Position of Worker at Edge

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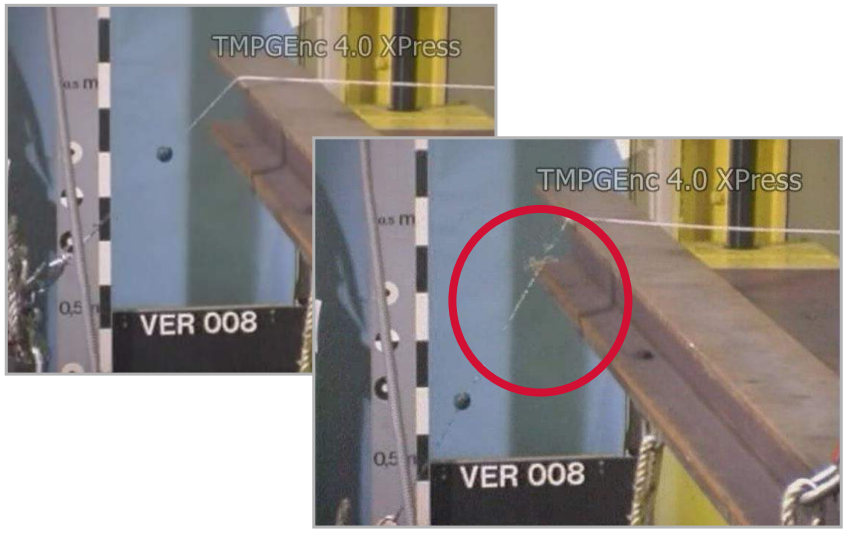
LEADING EDGE TESTING



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Critical SRL-LE "Survivability" Input

- Site specific – controlled by user's organization
  - Worker weight
  - Setback (greater = better) and offset (greater = more severe)
  - Edge – type and sharpness
- Equipment specific
  - Line constituent – wire rope or webbing
  - Energy absorber
  - SRL brake type
  - Part of line constituent that strikes the edge
  - Tolerances associated with product elements

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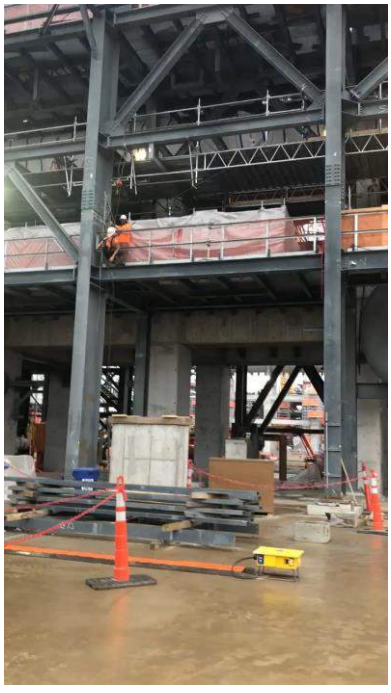

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ANSI Z359.14: Self-Retracting Devices

- Twin leg lanyard vs. SRL-P

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Twin Leg Lanyard vs. SRL-P

Compare and contrast

- Resiliency to misuse/overload
- Criteria in ANSI
  - Personal EA lanyards
  - SRDs
- Edge confusion
- OSHA strength requirements

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Twin Leg Lanyard vs. SRL-P

SRL-P sold as a "safer" alternative

- Tensile strength
- Wishbone test
- Dual attachment test
- Side dee-ring test
- Cost: $100-200 vs. $300-600




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ANSI Z459.1 – Rope Access

- Effective date: August 15, 2022
- Baseline criteria for employers to use in establishing and evaluating rope access systems for work at height

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ANSI Z459.1 – Rope Access

- Resources
  - Podcast
    - » https://bit.ly/ASSP-ANSIZ459
    - » Also available on Apple & Spotify
  - Blog posts
    - » https://bit.ly/Z459RopeAccess
    - » See entries from August 17; September 2, September 3

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ANSI Z459.1 – Rope Access

- Requirements consistent with OSHA / ANSI Z359
  - Two-rope system for rope access
  - Full body harness
  - Limiting falls on sternal attachments
  - Using auto-locking connectors with 3,600-pound gates

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ANSI Z359.9 - Descenders

- Effective date: September 15, 2022
- 5 “types” outlined
  - Type 1 to Type 6 (Type 2 not used)
- Decision tree (Figure 2)
  - Automatic control?
  - Hands free locking?
  - Panic locking function?
  - Mechanically variable function?

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Recommended Actions

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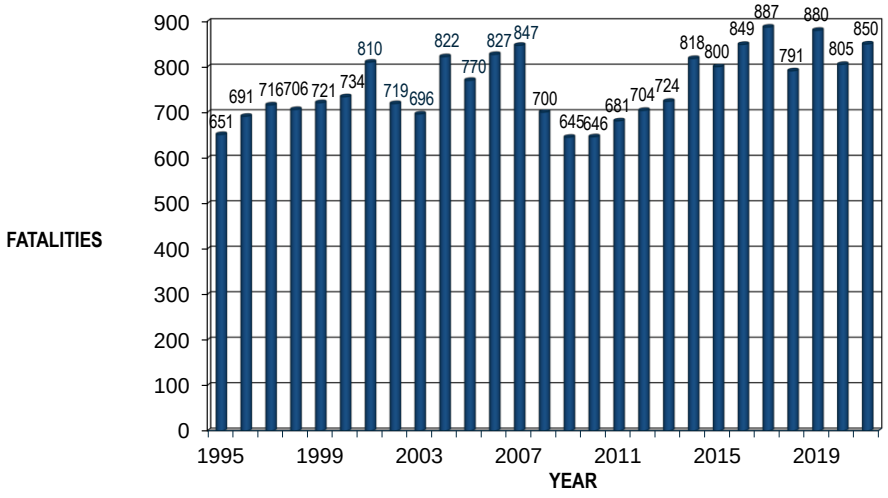
Total Fall Fatalities



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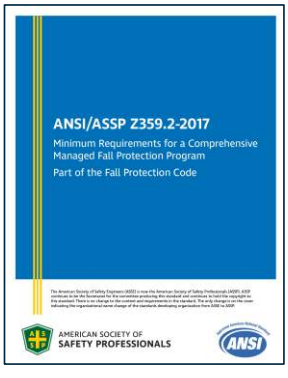
Recommended Actions – #1

- Evaluate your organization's use of the standards
  - ANSI Z59.1 (available free)
  - ANSI Z359.2 (program)



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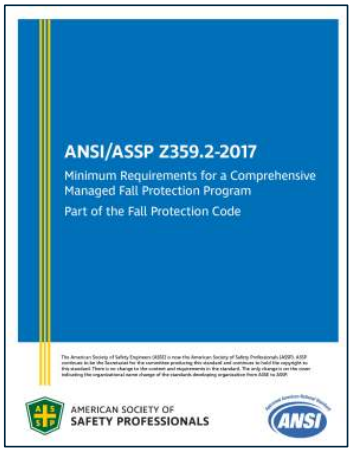
Recommended Actions – #2



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Recommended Actions – #3

- Join the committee
  - Especially users
  - Next meeting: April 25-27, 2023
  - Lauren Bauerschmidt LBauerschmidt@ASSP.org
  - Jennie Dalesandro JDalesandro@ASSP.org

ANSI

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Recommended Actions – #4

- Evaluate your equipment inventory and systems






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Closing Exercise: Imagine!

Imagine every year on May 22nd at precisely 10:15 am, all your workers simultaneously "tested" their fall protection systems.

What would happen? Are you good, or just lucky?

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Questions?

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