AMERICAN SOCIETY OF
SAFETY PROFESSIONALS

Coastal Bend Chapter

Chapter Meeting 10-10-2023

KYLE MOULDER, CSP, ASP- PRESIDENT

MIKE BROWN, CSP- VICE PRESIDENT

TERESA MCKENZIE: TREASURER

TERRY FISHER: STUDENT CHAPTER LIAISON

Chapter Meeting Agenda

- Welcome and Introductions
- Chapter Business make note of email addresses updates@cb.assp.org and president@cb.assp.org
- Presentation
- Roundtable
- Questions

Introductions

Attendee Introductions

- Name
- Title/Position
- Company/Organization
- ASSP Role(s)

Chapter Reports

Financial Report

- Made $55 dollars in August
- How do we make money?
  - $15 dollars out of your ASSP Dues go to our Chapter
  - So in August 6 members joined/renewed but $35 every month goes to Website Hosting and Maintenance

Membership Report

- 121 members
- 4 new members in September 2 in October thus far
- We still need a Secretary (if interested please talk to me after)

ASSP Member-Get-A-Member Program

The more of your friends who join as full members, the more you get rewarded:

	REFER 2	REFER 4	REFER 6
FREE On-Demand Webinar	X	X	X
FREE 1-Year Membership Extension		X	X
FREE $50 Amazon Gift Card			X

To qualify, each potential new Member needs to use your name as their sponsor on their ASSP Membership Application.

Grand Prize Drawing:**

For every new paid member you sponsor from January to December, you will receive an entry in our grand prize drawing for a trip to ASSP's annual professional development conference.

This reward includes:

- Full conference registration
- 3 nights hotel accommodations at an ASSP conference hotel
- $250 AMEX card to use for expenses

See **Member-Get-A-Member Offer** for more info

**Grand prize not to exceed $2,000 US. Group memberships excluded.

Job Board & Career Center

ASSP Jobs Board / Career Center Resources

Chapter Jobs Board

Don’t miss out on the perfect OSH job opportunity!

Our Jobs Board is a free service provided by the ASSP Coastal Bend Chapter and is offered to all local safety and health professionals.

If you’re hiring, you may post your job opportunity on our jobs board.

For more information on our Jobs Board:
https://cb.assp.org/jobs/

ASSP Career Center

The Career Center includes a new career resources website from ASSP. It includes training modules on topics such as resumes, cover letters, job boards, and interviewing.

The Networking Partners Program is designed to pair job seekers with individuals that can help them network and search for job leads. Get started today!

For more information on the Career Center:
https://www.assp.org/resources/career-center

Scholarships and Grants

Scholarship Raffle

- Tickets are made 1 ticket for $10, 6 tickets for $50, and 13 tickets for $100
- If interested in helping out to sell please let Mike, Teresa, or I know so we can get you tickets
- Drawing will be held December 14th at the Holiday Party
- Thank you for the donations so far from:
  - Cheniere
  - MMR
  - Valero
  - Stronghold Companies
  - Scott Electric Company
  - Total Safety
  - Blackline
  - Humpal Physical Therapy
  - Bay Ltd.
  - Roger Strickland Night Hawk Safety
  - 24 Hour Safety
  - Trane AC
  - RTFC
  - Turn2
  - B&E
  - Chemours
  - Smokey Stevens

ASSP Student Scholarship Raffle Prizes

ASSP FOUNDATION

Education | Leadership | Research

ASSP Foundation Scholarships and Grants

ASSP Foundation Grants

- **Professional Education Grants** (PEG) are available for individuals within the occupational safety and health field (either students or professionals) who need financial support for certification expenses, conference attendance, webinar attendance, workshop attendance, and similar professional development support.
- **PEG Applications are accepted year-round, with awards made on a rolling basis, based on availability.**

ASSP Foundation Scholarships

- **Academic Scholarships** are available for students within the occupational safety and health field, preparing for their careers or looking to supplement their careers with additional college coursework.
- **Scholarship Applications will be accepted October 2023 – February 2024.**

Upcoming Events & Activities

Upcoming Chapter Meetings

Meeting Date	Topic & Speaker	Location
October 10th	Fall Protection “Common Mis-Uses and Regulatory Updates Frank Carbajal	BBQ Man
November 7th	Slipnot (Slips, Trips, and Falls	
December 12th	TBD	
January 9th 2024	TBD	
February 13th	TBD	
March 12th	TBD	
April 9th	TBD	
May 14th	TBD	
June 11th	TBD	

Upcoming Events and Activities

Local Community	Region III
Example: *Community Health and Safety Fair*	*Region III SLC* November 3-5, 2023 at CCTC in Allen, TX
Chapter	**Society**
December 14th Holiday Party @ CC Yacht Club Sponsored by Brite Star Services Ltd.	*Leadership Conference* November 2nd, 2023 on virtual platform *Society PDC* August 8-10, 2024 in Orlando, FL

Please visit our Chapter's Events Calendar for more information on these events and activities.

Collaborative Partners

TEXO
The Construction Association

GPRS
SUBSURFACE SCANNING SOLUTIONS

ABATIX®
Where Service Meets Supply.

COLLIN COLLEGE | Technical Campus

ASSOCIATED GENERAL CONTRACTORS OF AMERICA
AGC

Any Questions on this Information?

Please contact the following Conference Chair:

- **Region III Student Leadership Conference**
  - Herb Santos – *Conference Chair*
    - 631) 836-5927 or hsantos@osburncontractors.com

Region III Student Leadership Conference

Event Information:

- **Date:** November 3-5 2023
- **Location:** Collin College Technical Campus – Allen, TX
- **Why:**
  - Who wants to be a better safety profesisonal?
  - Professional Networking Opportunities, Dynamic Keynote Speakers, Engaging Breakout Sessions, and Hands-on Learning Activities

Stay Connected

Coastal Bend Chapter

- **Website: https://cb.assp.org/**
- **LinkedIn: Work in Progress**
- **Facebook: Work in Progress**

ASSP Region III

- **Website: www.region3.ASSP.org/**
- **LinkedIn: https://www.linkedin.com/in/region-iii-assp-647657250**
- **Facebook: www.facebook/ASSPregion3/**

ASSP

- **Website: www.ASSP.org**
- **LinkedIn: www.linkedin.com/company/57968**
- **Facebook: www.facebook/ASSPSafety/**

Today’s Presentation

FALLTECH® | TRUST. ELEVATED.

ANSI Z359.14 2021 SRL Update Impacting All SRLs Common Mis-Uses

Frank Carbajal

Strategic Account Mgr. For Industrial

FALLTECH MANUFACTURING

100,000 ft² + 20,000 ft²

300+ employees

Over 85% of our products are Manufactured in the U.S.A.

ISO 9001:2008

ISO 17025 test lab **on the premises**

Agenda

- ANSI different from OSHA
- Common Mis-Uses with SRLS
- ANSI Updates Impacting SRLs
- Grandfathering
- Suggested Best Practices Moving forward

ANSI vs OSHA

- ANSI is a non-profit coordinating and approval agency for voluntary national consensus standards in the United States.
- OSHA, on the other hand , promulgates & enforces workplace safety and health standards as mandated by the Occupational Safety & Health Act 1970 (OSH Act).
- In simple terms, OSHA is law. ANSI is recommended best practices by industry and safety experts.

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Common Mis-Use: SRL Personal Twin/Dual

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While Both SRL types have two connecting legs; **Twin Leg** Configurations possess two energy absorbers, whereas **Dual Leg** configurations utilize one energy absorber.

As a result, the new **ANSI Z359.14 2021** SRL Update has previsions/criteria for testing, specifically addressing the common misuse of 2 legs tied off simultaneously and utilized in a continuous working manner.

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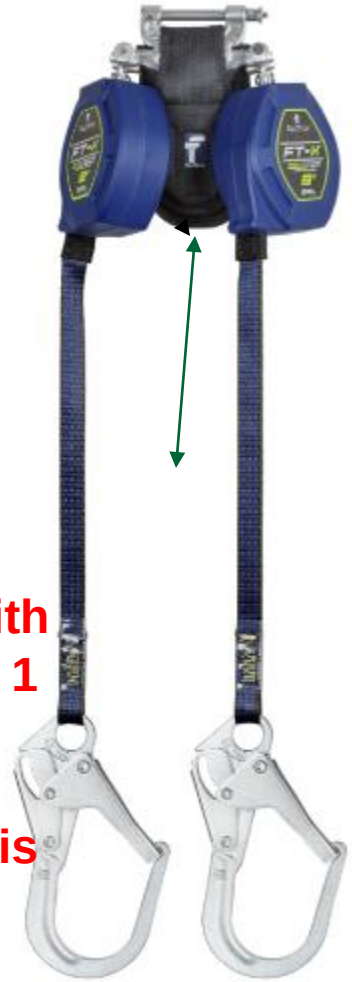
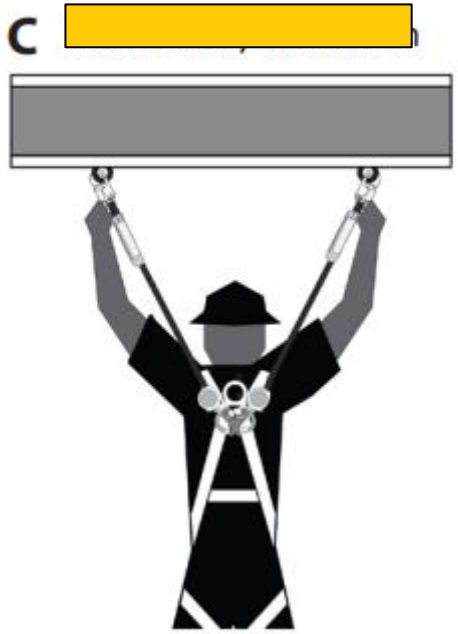
How do these behave in a fall? Both Legs Tied off while working (Figure C)

DAUL SRL-P



When a fall occurs with this unit there is only 1 energy absorber, therefor a more predictable outcome is available

TWIN SRL-P



When a fall occurs with this unit there are 2 energy absorbers, therefor a much less predictable outcome is available.

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Information impacting the scenario

TWIN SRL-P

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Information impacting the scenario

DAUL SRL-P

FALLTECH®

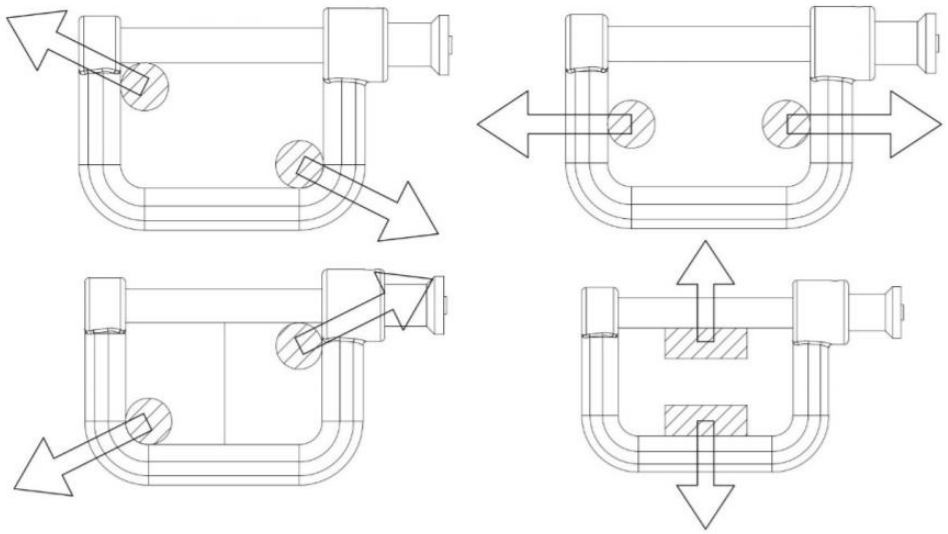

Figure 9: Examples of Load-Orientations for SRL-P Connectors

- Significantly more product testing required
  - **Twin SRL testing (in response to the common misuse occurrence)**
  - Twin SRL connectors (pictured)
  - Tie-back SRL wraparound beam testing
  - Tie-back SRL webbing abrasion testing
  - Locked Pawl Testing
  - SRL-P Misuse Testing
  - Energy Capacity Testing
  - And more

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Summary

The testing checks the box for dual leg engagement, but the message remains the same:

- Single leg connections are the safest, most predictable working position.
- The dual leg is better than no connection during transition but it's not an optimal setup.
- There's no benefit to dual leg connections outside of transitioning. It is in fact less safe to the user than single leg connections because of the unpredictable outcomes.

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Common Mis-Use: SRLs non SRL-P

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Common Mis-Use

WHAT IS THE DIFFERENCE?

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Common Mis-Use

This unit is for overhead use only or north and south use.

This unit is mis used in a horizontal orientation

This unit is for overhead and horizontal use, also leading edge.

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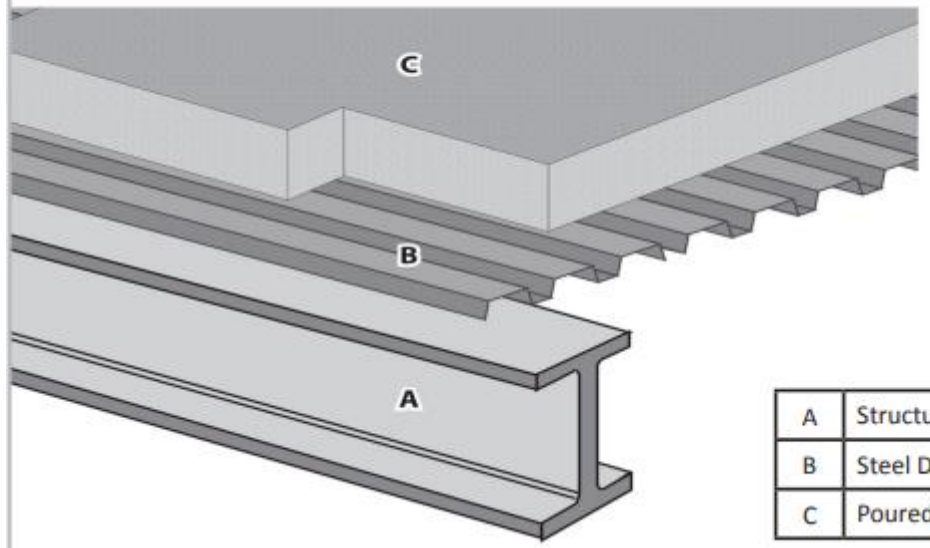
Figure 11 - Typical Extreme Sharp Edges



A	Structural Steel I-Beams and Purlins
B	Steel Deck and Metal Roofing
C	Poured Concrete and Concrete Block

Figure 4 - MRFC Non-Overhead Anchorage

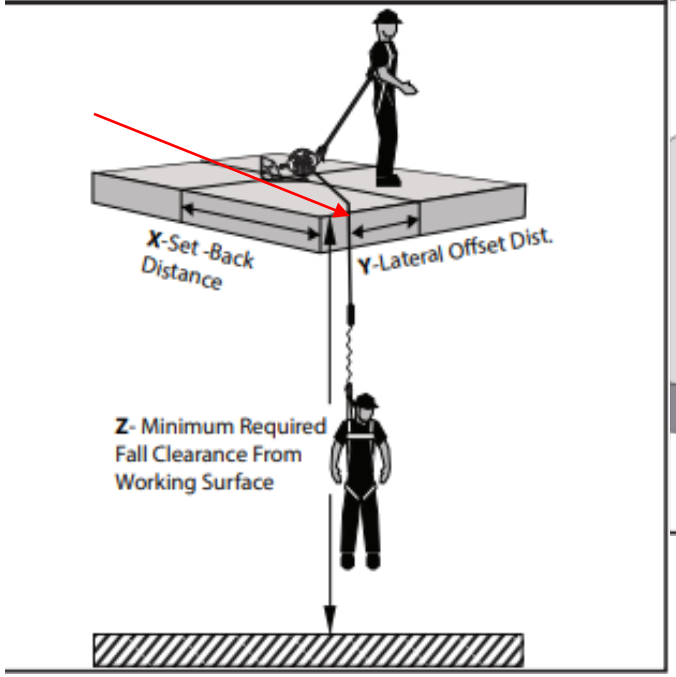
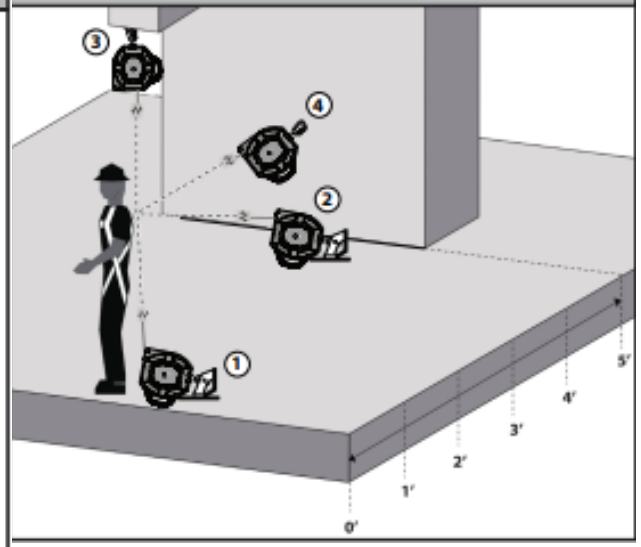


Figure 2 - Anchorage Locations



Where is the force on a fall over an edge?

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Summary

Identifying the mis use can positively impact at heights safety culture:

- SRLs with no Energy Absorber (EA) are not designed to be used in an edge fall hazard. They are designed to be used in a vertical or north and south orientation.
- SRLs with Energy Absorber (EA) are designed to be used horizontally and vertical orientations, provided they meet leading edge testing criteria.
- There is an added risk to mis-using a unit not designed for horizontal use/leading edge use. From a safety standpoint but also a performance standpoint you will see nuisance lock up due to mis use.

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- ANSI Z359: The Fall Protection Code
  - Currently 18 individual standards on just fall protection

- ANSI A10.32 – Personal Fall Protection Used in Construction and Demolition Operations

- ANSI Z117.1 – Confined Spaces

ANSI
American National Standards Institute

AMERICAN SOCIETY OF SAFETY PROFESSIONALS

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General Z359 Direction for Future Updates

- 310 lb. test mass will replace 282 lb. test mass
  - This will be implemented as each standard gets updated individually and is not an immediate global change
- More and more standardized labeling and user instruction information
  - Focus is on simplifying the information for the end user
- Based on Membership Balance, there is a desire for more End User members
  - More feedback from end users is needed to move most of the standards forward beyond theoretical/behind the desk concepts

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Z359 Standard Approval/Effectivity Timeline

- Process is standardized as of March 2018

- APPROVED
  - Date that the standard is approved by Main Committee vote
- PUBLISHED
  - Date that the standard is published on ASSP/ANSI
  - Typically, 3-6 months after Approval date (reconcile comments/formatting)
- EFFECTIVE
  - Standard becomes effective 1 year after Publication date
  - Previous versions superseded
  - Date of Manufacture becomes relevant for compliance

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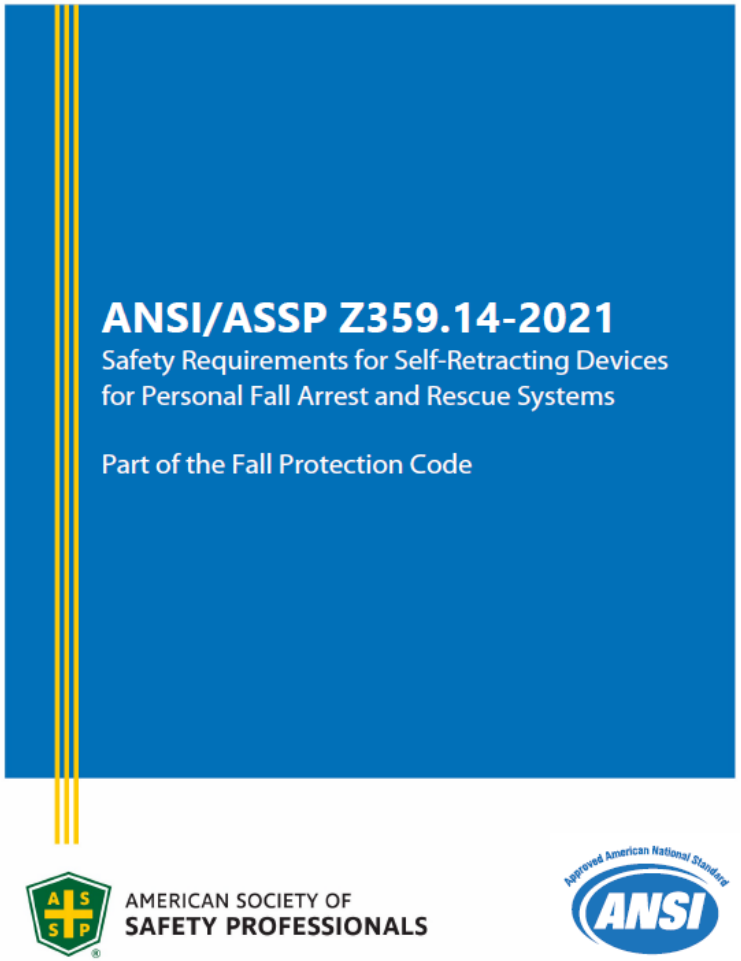

- At a high level, the 2021 changes to the ANSI Z359.14 standard are designed to:

1. Simplify types and classes of SRDs so end users can quickly identify a compliant product's capabilities.
2. Load charts added to SRLs label to ensure users knows minimum fall clearances
3. Increase factors of safety on multiple components and tests.
4. Introduce a new testing regime for personal SRDs or SRL-P's (those worn on the back, connected to the full body harness), including specific tests to address product issues that led to a manufacturer recall.
5. Further standardize labels and markings to make clear an ANSI compliant product's capabilities.

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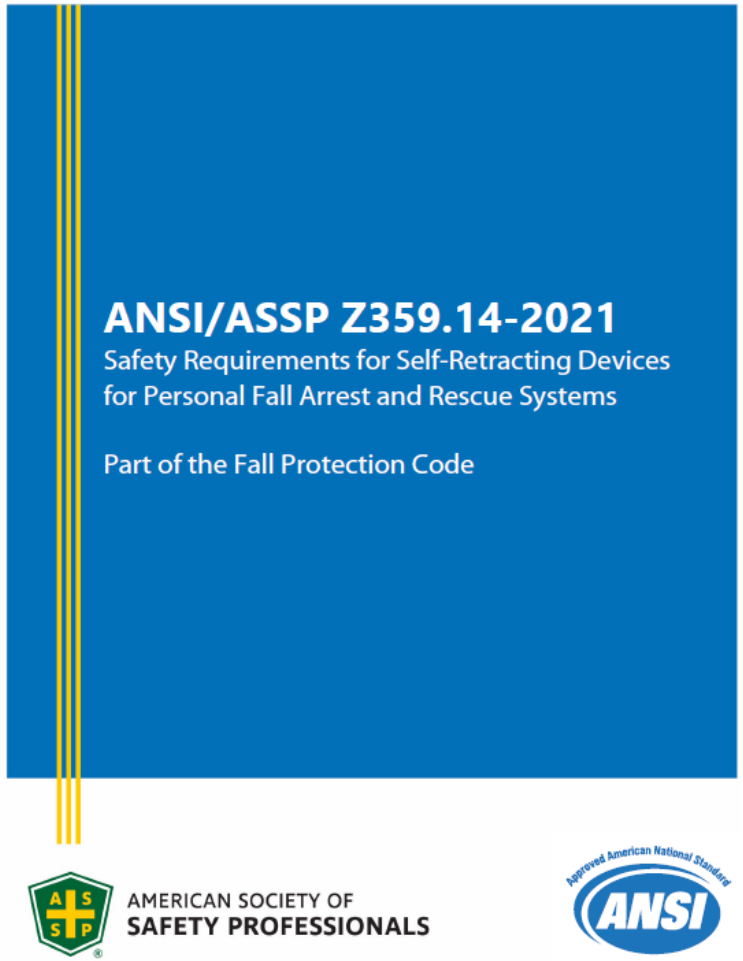

- 2014 Classifications are gone
  - SRL, SRL-R, and SRL-LE
  - Class A and Class B

- 2021 replaces with:
  - SRL, SRL-P, and SRL-R
  - Class 1 and Class 2

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ANSI/ASSP Z359.14-2021 (SRLs)- Types

SRL

SRL-P

SRL-R

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ANSI/ASSP Z359.14-2021 (SRLs)-Classification

Class

1

Anchor at or above dorsal D-ring

Class

2

Anchor above or below dorsal D-ring

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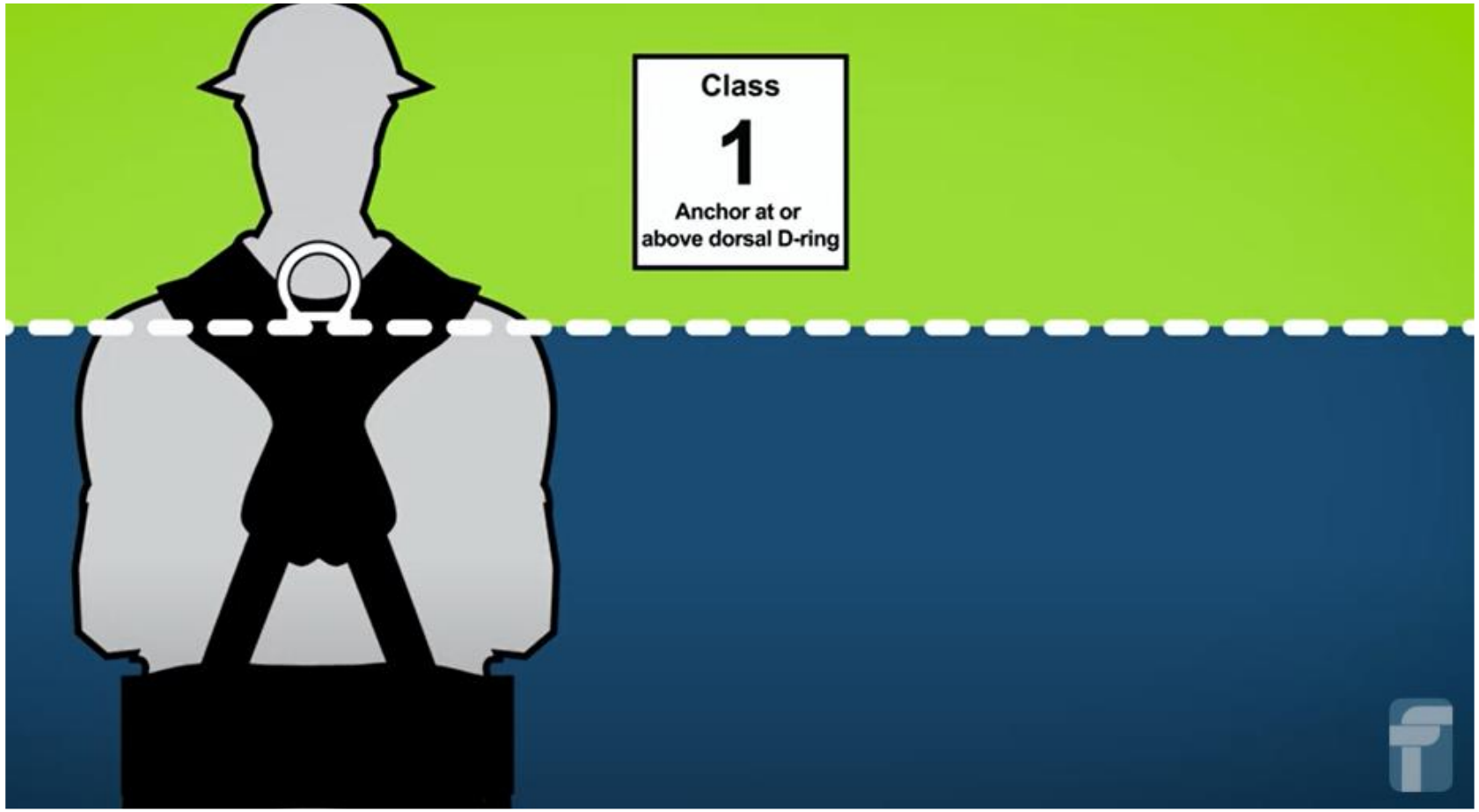
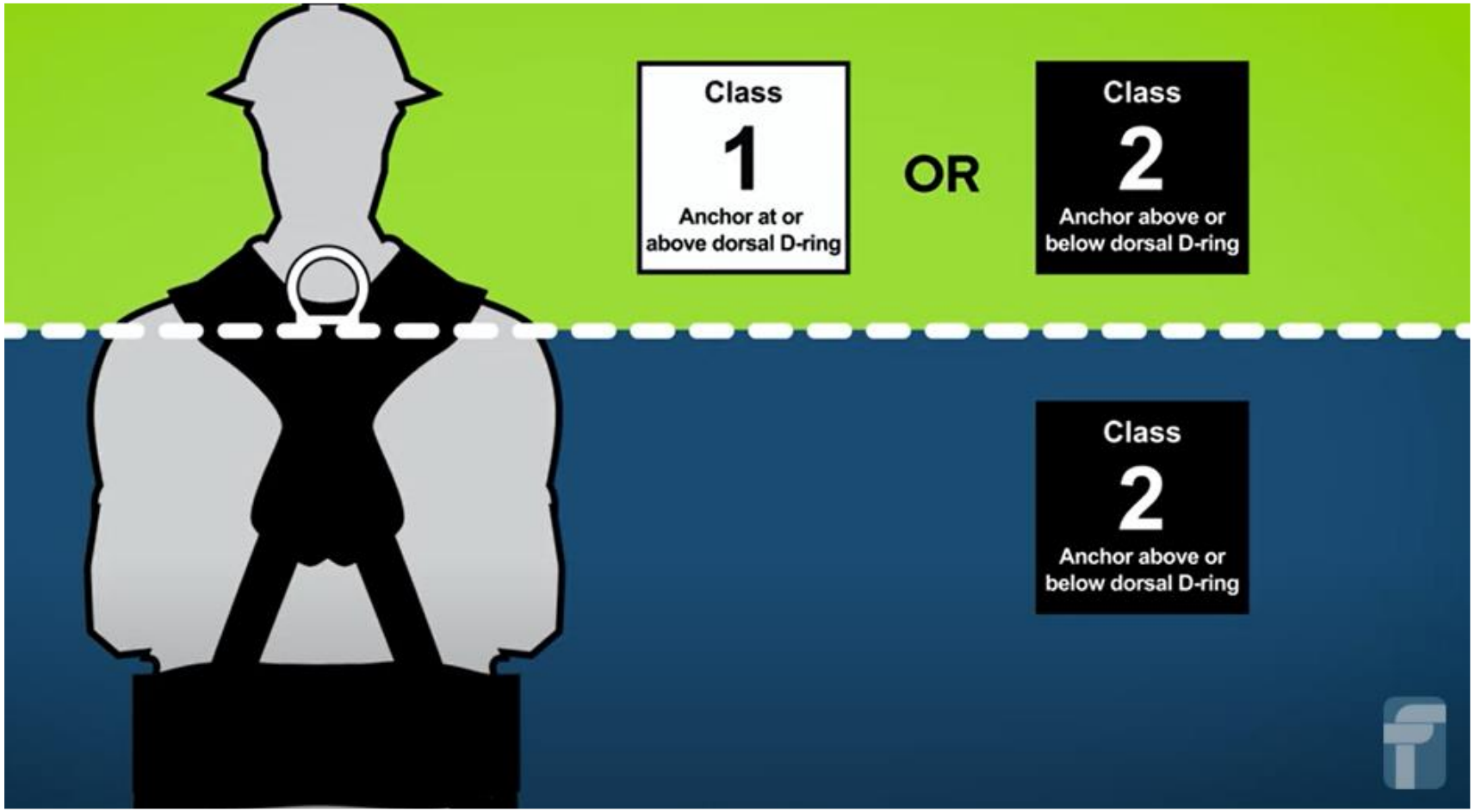
ANSI/ASSP Z359.14-2021 (SRLs)



ANSI/ASSP Z359.14-2021 (SRLs)



2014 Class A & Class B

- MAF: 1,800 lbf
- AAF: 1,350lbf (A) / 900 lbf (B)
- AD: 24″ (A) / 54″ (B)

2021 Class 1 & Class 2

- MAF: 1,800 lbf
- AAF: 1,350 lbf
- AD: 42″(does this matter)

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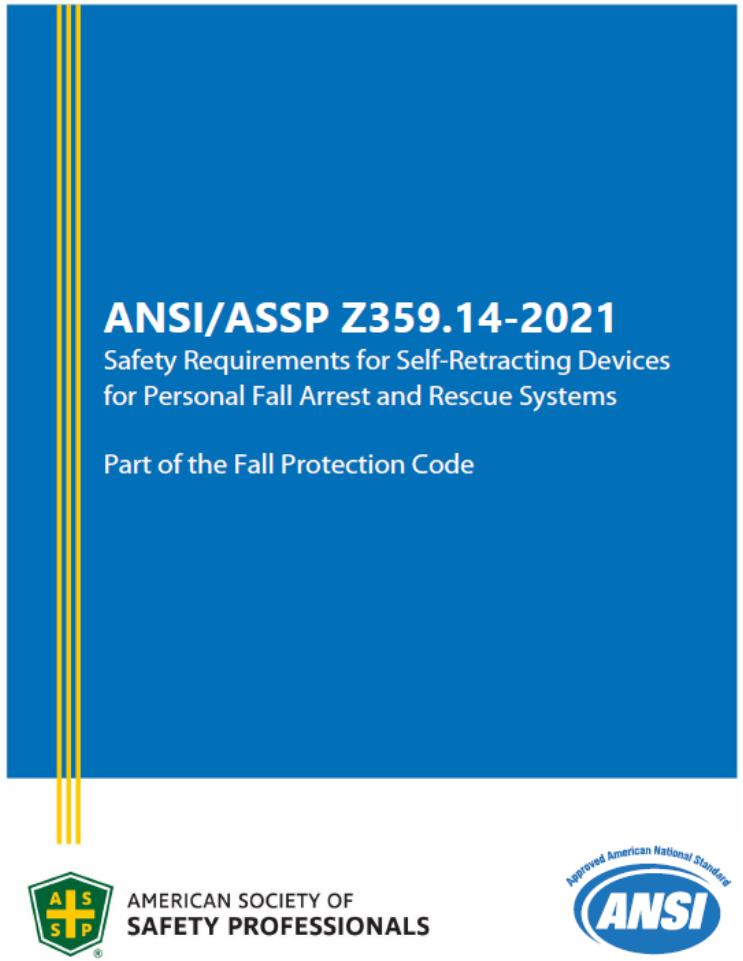

- Testing requirements changes
  - Test mass move up to 310 lbs. for all testing
    - Previously 282 lbs. or 300 lbs.
  - Static testing requirement moves up to 3,600 lbf
    - Previously 3,000 lbf
    - Presents a challenge to 3/16" cable design units
    - Presents significant compliance challenge for Stainless Steel cable units

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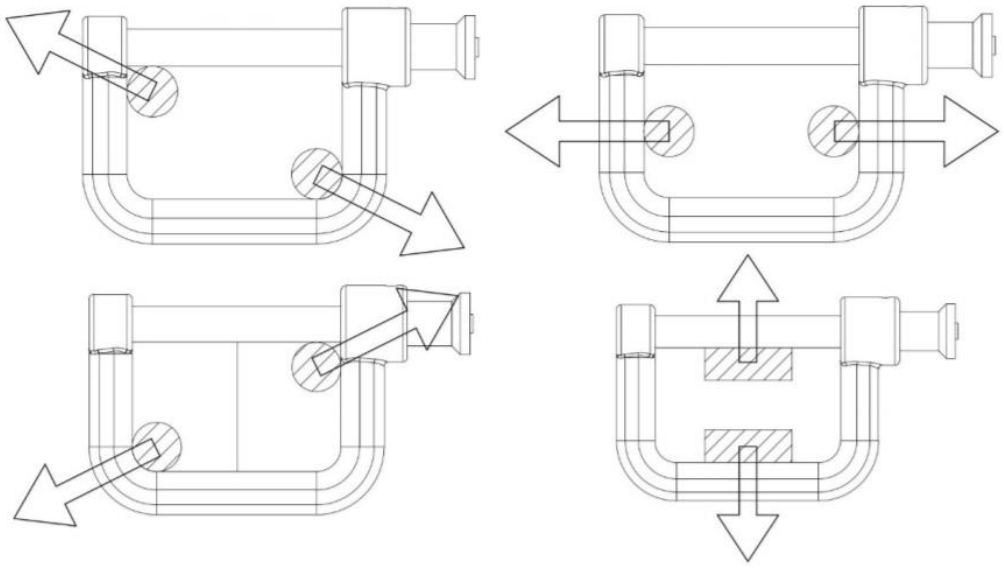

Figure 9: Examples of Load-Orientations for SRL-P Connectors

- Significantly more product testing required
  - **Twin SRL testing (in response to a Large Recall)**
  - Twin SRL connectors (5073J)
  - Tie-back SRL wraparound beam testing
  - Tie-back SRL webbing abrasion testing
  - Locked Pawl Testing
  - SRL-P Misuse Testing
  - Energy Capacity Testing
  - And more

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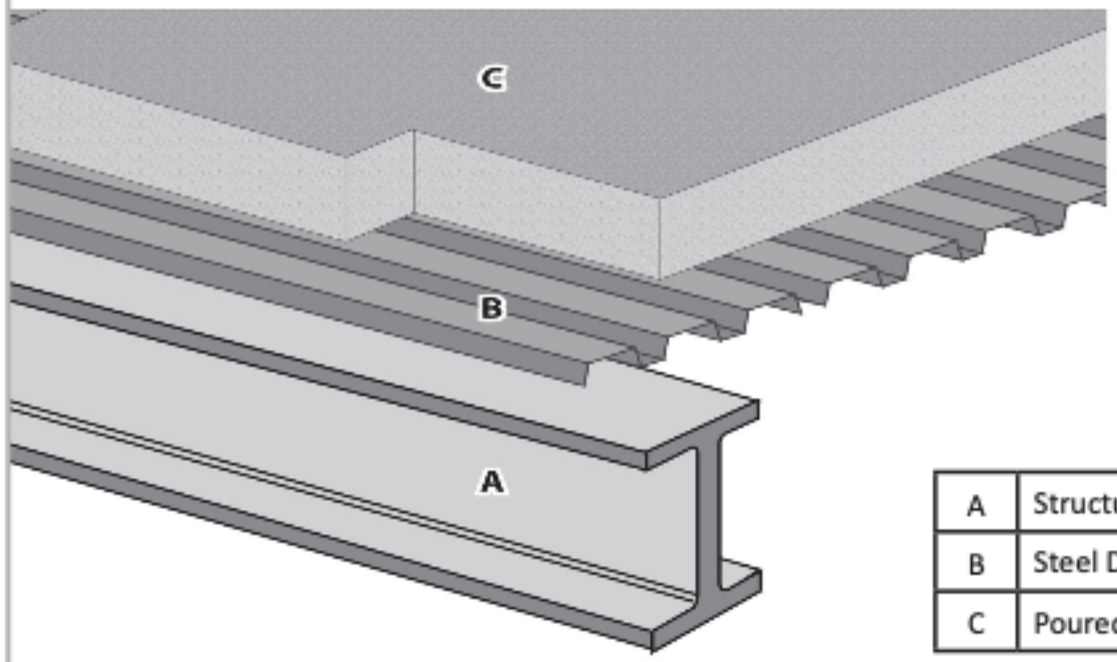
- Leading Edge sharpness remains at .005”
- No provisions for testing on any substrate besides steel
- Claims for approval on other substrates (concrete) are done by the manufacturer
- Drop weight changes from 300 lb to 310 lb
- Static Strength test changes from 3000 lb to 3600 lb

Edge Examples

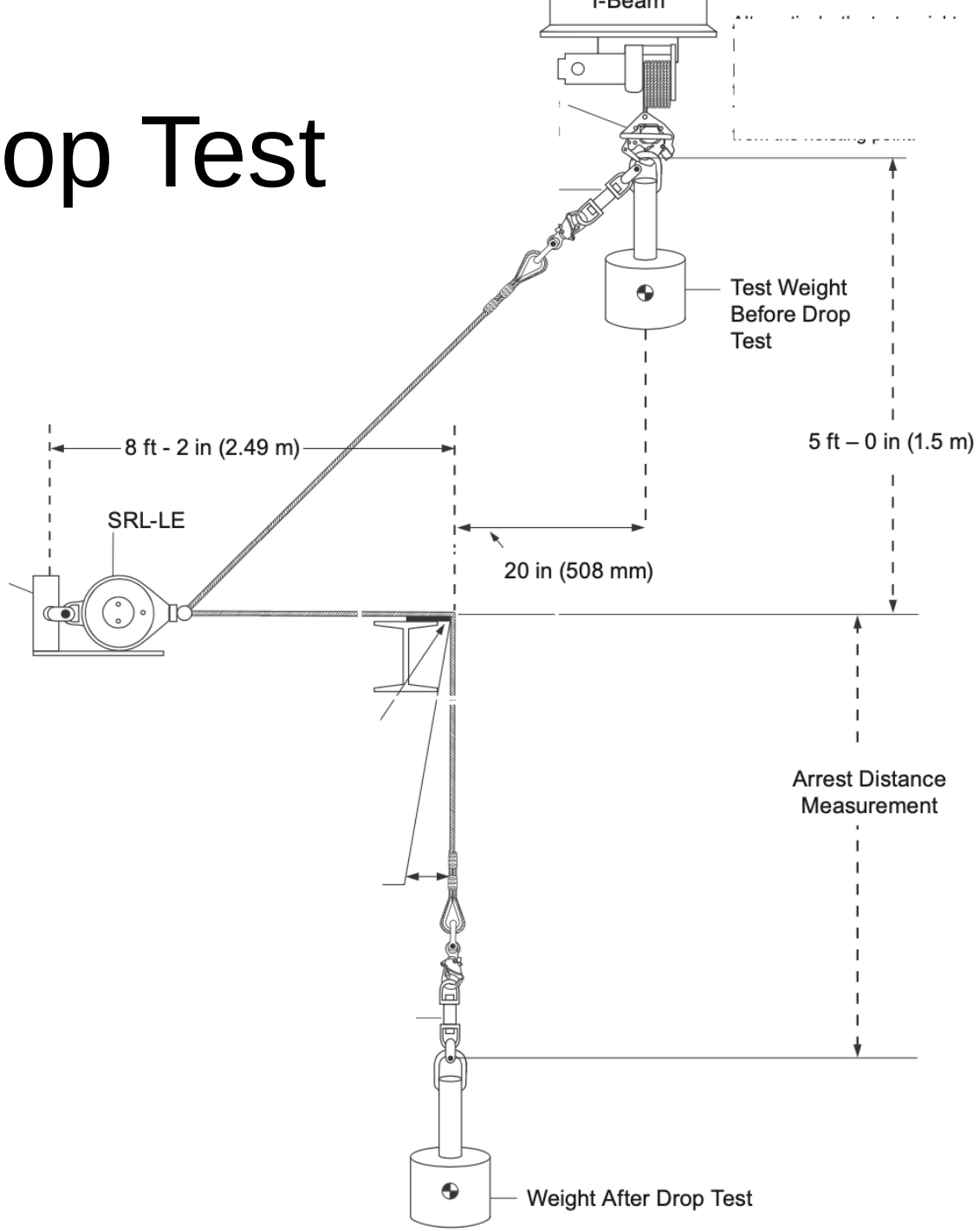
Figure 11 - Typical Extreme Sharp Edges



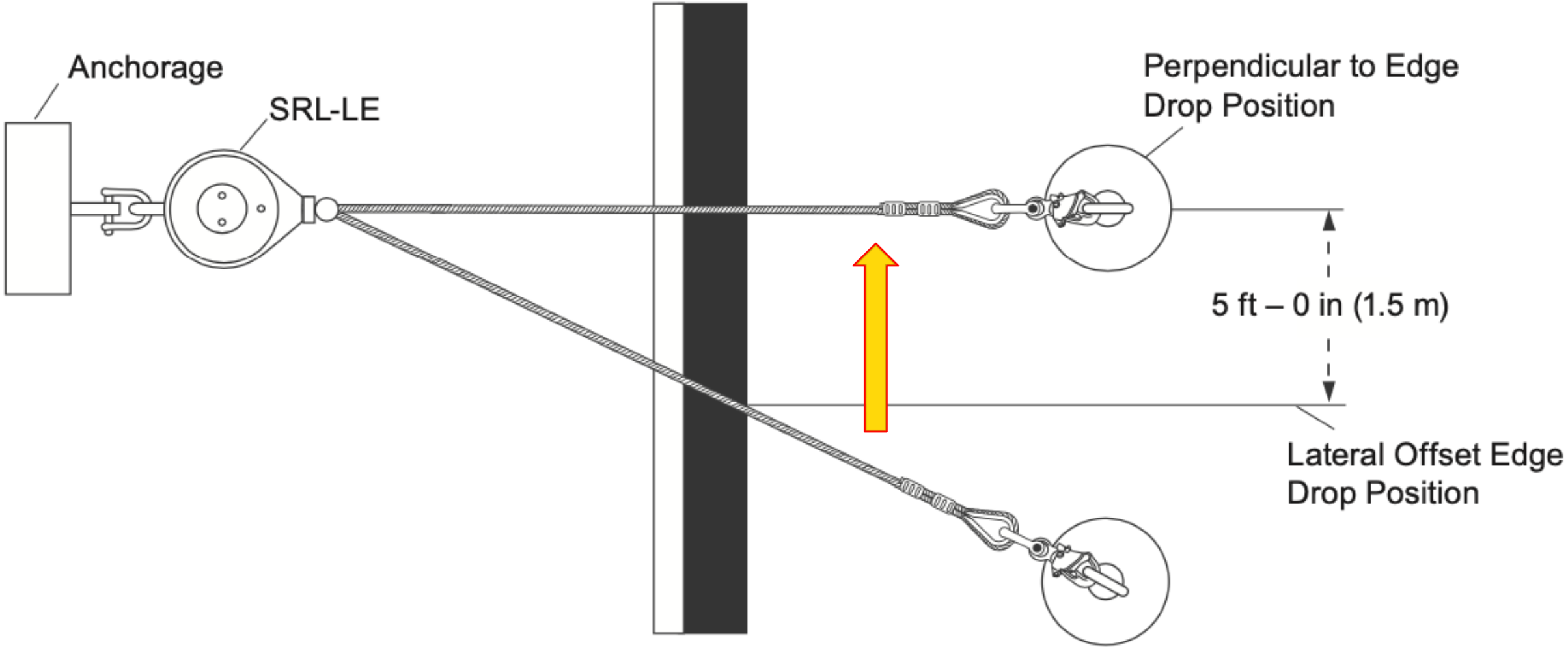
A	Structural Steel I-Beams and Purlins
B	Steel Deck and Metal Roofing
C	Poured Concrete and Concrete Block

Examples not intended to depict the full extent of all hazardous sharp

Vertical Drop Test



Lateral Offset Test



Innovative Energy Absorber Design

More consistent and predictable performance in all conditions. Features full fall clearance diagrams and charts inside the energy absorber.

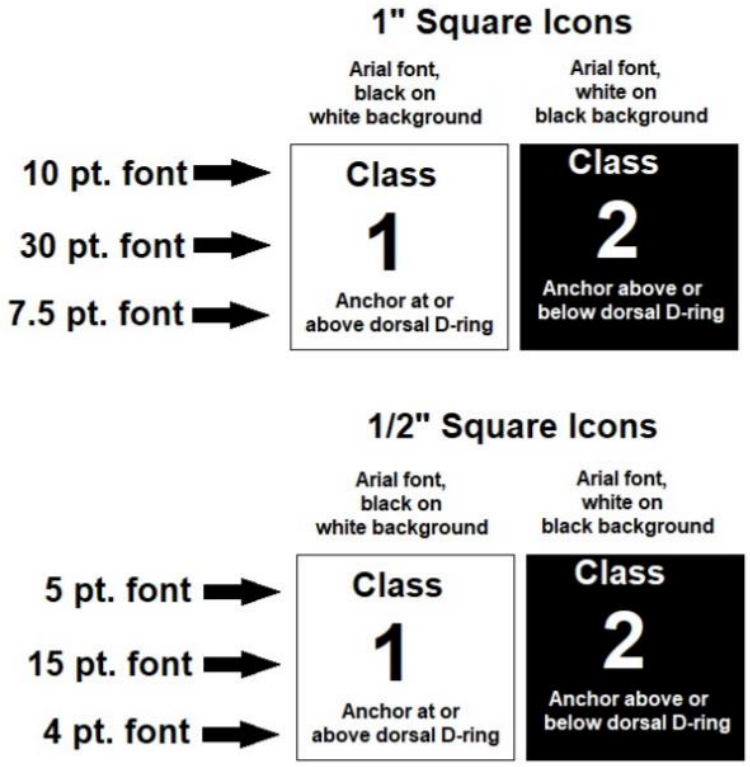


Figure 14: Class Designation Icons

- Major changes to product labeling and markings
- Fall Clearance Charts required on every SRL
- Unchanged:
  - Leading Edge sharpness remains at 0.005”
  - No provisions for testing on any substrate besides steel
    - Claims for approval on other substrates (concrete) are done by manufacturer (non-standardized)

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The old way to calculate MRFC (minimum required fall clearance) A+B+C+D+E+SWINGFALL=MRFC

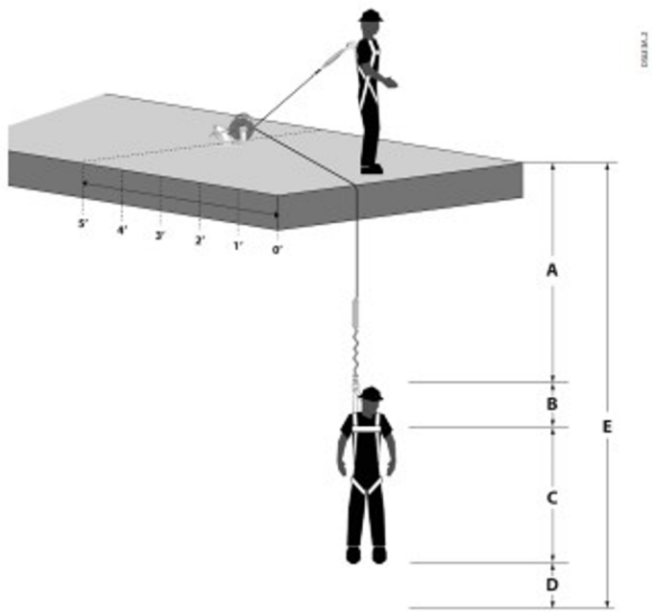

Figure 3A: **Calculating Minimum Required Fall Clearance SRL-LE**		
Anchorage: 5' Minimum Setback from Leading Edge and 5' below Dorsal D-ring		
A	6½ ft	**SRD Deceleration Distance (Worst Case Value, See Table 1B for Exact Model)**
B	1 ft	**Dorsal D-Ring Shift and FBH Stretch** Combined amount of Dorsal D-ring up-shift and harness webbing elongation during a fall event
C	5 ft	**Dorsal D-Ring Height** Height of the Dorsal D-Ring from the walking surface
D	1½ ft	**Safety Factor -** Added length to account for other factors such as an improperly adjusted harness, actual worker height or worker weight
E	14 ft	**Sub Total- Minimum Required Fall Clearance** for Below D-ring Anchorage of SRD with No Swing Fall (sum of A thru D only)
F		***Additional Fall Clearance Calculation** due to Swing Fall (using Chart 1)
G		**Total Required Fall Clearance** Including sub-total E and Swing Fall F (from Chart 1)

TSLEBA-2

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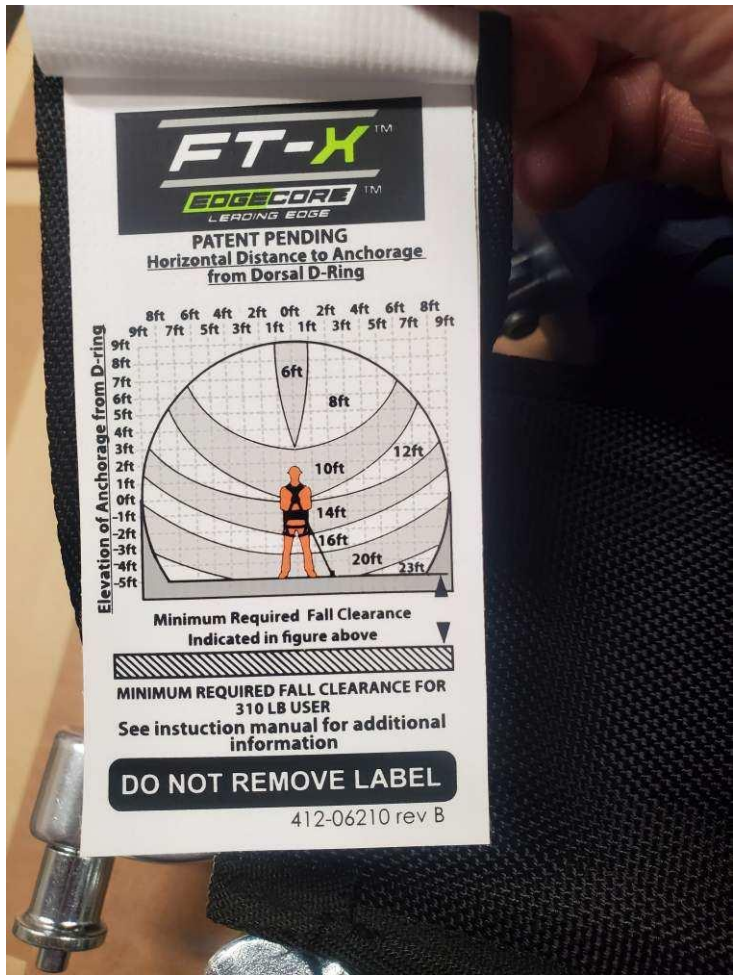
FallTech
Style#: 84108TP8
Date of Mfg: DEC 2022
Serial Number:6706391
Working Length: 8 ft.
Lifeline Material:
HMPE/Kevlar/Polyester
Capacity, Single user:
OSHA: 130-420 Lbs
ANSI: 130-310 Lbs
Max Arrest Force: 1,800 lbs
Avg Arrest Force: 1,350 lbs
Max Arrest Distance when anchored overhead: 42 in
Clearance required when falling over an edge:
19 ft for a 310 lb user
22 ft for a 420 lb user
Minimum set back distance: 0 ft
See Reverse Side of Label
DO NOT REMOVE


FT-X
EDGECORE
LEADING EDGE
PATENT PENDING
Horizontal Distance to Anchorage from Dorsal D-Ring
Elevation of Anchorage from D-ring
8ft
10ft
14ft
18ft
22ft
25ft
Minimum Required Fall Clearance Indicated in figure above
MINIMUM REQUIRED FALL CLEARANCE FOR 310-420 LB USER
See instuction manual for additional information
DO NOT REMOVE LABEL
412-06238 rev B


FT-X
EDGECORE
LEADING EDGE
PATENT PENDING
Horizontal Distance to Anchorage from Dorsal D-Ring
Elevation of Anchorage from D-ring
6ft
8ft
10ft
12ft
14ft
16ft
20ft
23ft
Minimum Required Fall Clearance Indicated in figure above
MINIMUM REQUIRED FALL CLEARANCE FOR 310 LB USER
See instuction manual for additional information
DO NOT REMOVE LABEL
412-06210 rev B

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FT-R™ SRL Leading Edge

User Instruction Manual

FALLTECH®

5.2 Calculating Minimum Required Fall Clearance

5.2.1 FT-R in Overhead, Non-Leading Edge Anchorage Application

The FT-R may be used may be used as a standard SRD in an overhead condition, in which the SRD is installed anywhere in the allowable attachment area, which ranges from directly above the user to level with the FBH D-ring, as shown in Figure 4.

The overhead condition minimum required fall clearance (MRFC) is calculated using four metrics, measured from the walking-working surface: SRD Deceleration Distance, D-Ring Shift and Harness Stretch [1 ft (0.3m)], Safety Factor [1.5 ft (0.5m)], and Swing Fall. Chart 1 below is calculated using the performance data of the SRD and includes all four metrics listed previously to determine the MRFC.

Figure 4 - MRFC Overhead Anchorage

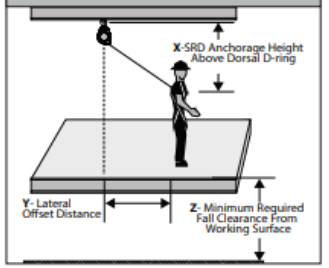

Chart 1 Overhead		Lateral Offset Distance (Y) →												
		0 ft (0 m)	2 ft (0.7 m)	4 ft (1.3 m)	6 ft (1.9 m)	8 ft (2.5 m)	10 ft (3.1 m)	12 ft (3.7 m)	14 ft (4.3 m)	16 ft (4.9 m)	18 ft (5.5 m)	20 ft (6.1 m)	22 ft (6.8 m)	24 ft (7.4 m)
SRD Anchorage Height Above Dorsal D-Ring (X)	60 ft (18.3 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.0)	7.0 (2.1)	7.5 (2.2)	8.0 (2.4)	8.5 (2.5)	9.0 (2.7)	9.5 (2.9)	10.0 (3.1)	11.0 (3.3)
	55 ft (16.8 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.0 (2.2)	7.5 (2.3)	8.0 (2.4)	8.5 (2.6)	9.0 (2.8)	10.0 (3.0)	10.5 (3.2)	11.5 (3.4)
	50 ft (15.3 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.0 (2.2)	7.5 (2.3)	8.0 (2.5)	8.5 (2.6)	9.5 (2.8)	10.0 (3.1)	11.0 (3.3)	11.5 (3.5)
	45 ft (13.8 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.5 (2.2)	8.0 (2.4)	8.5 (2.5)	9.0 (2.7)	9.5 (2.9)	10.5 (3.2)	11.5 (3.4)	12.0 (3.7)
	40 ft (12.2 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.5 (2.3)	8.0 (2.4)	8.5 (2.6)	9.5 (2.8)	10.0 (3.1)	11.0 (3.3)	12.0 (3.6)	13.0 (3.9)
	35 ft (10.7 m)	6.0 (1.9)	6.5 (1.9)	6.5 (1.9)	7.0 (2.0)	7.0 (2.2)	7.5 (2.3)	8.0 (2.5)	9.0 (2.7)	9.5 (2.9)	10.5 (3.2)	11.5 (3.5)	12.5 (3.8)	13.5 (4.1)
	30 ft (9.2 m)	6.0 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.5 (2.2)	8.0 (2.4)	8.5 (2.6)	9.5 (2.8)	10.0 (3.1)	11.0 (3.4)	12.5 (3.7)	13.5 (4.1)	14.5 (4.4)
	25 ft (7.7 m)	6.0 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	7.5 (2.3)	8.0 (2.5)	9.0 (2.7)	10.0 (3.0)	11.0 (3.3)	12.0 (3.6)	13.5 (4.0)	14.5 (4.4)	16.0 (4.8)
	20 ft (6.1 m)	6.0 (1.9)	6.5 (1.9)	6.5 (2.0)	7.0 (2.1)	8.0 (2.3)	8.5 (2.6)	9.5 (2.9)	10.5 (3.2)	12.0 (3.6)	13.0 (4.0)	14.5 (4.4)	16.0 (4.8)	17.5 (5.3)
	15 ft (4.6 m)	6.0 (1.9)	6.5 (1.9)	7.0 (2.0)	7.5 (2.2)	8.0 (2.5)	9.5 (2.9)	10.5 (3.2)	12.0 (3.6)	13.0 (4.0)	14.5 (4.4)	16.0 (4.9)	18.0 (5.4)	19.5 (5.9)
	10 ft (3.1 m)	6.0 (1.9)	6.5 (1.9)	7.0 (2.1)	8.0 (2.4)	9.0 (2.7)	10.5 (3.1)	12.0 (3.6)	13.5 (4.1)	15.0 (4.6)	17.0 (5.1)	18.5 (5.6)	20.5 (6.2)	22.0 (6.8)
	5 ft (1.6 m)	6.0 (1.9)	6.5 (1.9)	7.5 (2.3)	9.0 (2.7)	10.5 (3.1)	12.5 (3.6)	14.0 (4.1)	16.0 (4.6)	18.0 (5.5)	20.0 (6.0)	22.0 (6.6)	24.0 (7.2)	26.0 (7.8)
	0 ft (0 m)	6.0 (1.9)	8.0 (2.5)	10.0 (3.1)	12.0 (3.7)	14.0 (4.3)	16.0 (4.9)	18.0 (5.5)	20.0 (6.1)	22.0 (6.8)	24.0 (7.4)	26.0 (8.0)	28.0 (8.6)	30.0 (9.2)

5.2.2 30' FT-R Non-Overhead Anchorage

The leading edge/below D-ring condition minimum required fall clearance (MRFC) is calculated using five metrics, measured from the walking-working surface: SRD Deceleration Distance, D-Ring Shift and Harness Stretch [1 ft (0.3m)], Safety Factor [1.5 ft (0.5m)], Dorsal D-ring Height [5 ft (1.5m)], and Swing Fall. Dorsal D-ring height is added to account for the below D-ring tie-off compared to the overhead condition. Chart 2 below is calculated using the performance data of the SRD and includes all five metrics listed previously to determine the MRFC.

Figure 4 - MRFC Non-Overhead Anchorage

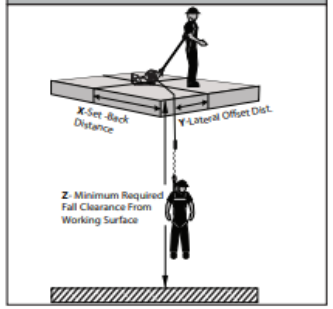

Chart 2 Non-Overhead		Lateral Offset Distance (Y) →												
		0 ft (0 m)	2 ft (0.7 m)	4 ft (1.3 m)	6 ft (1.9 m)	8 ft (2.5 m)	10 ft (3.1 m)	12 ft (3.7 m)	14 ft (4.3 m)	16 ft (4.9 m)	18 ft (5.5 m)	20 ft (6.1 m)	22 ft (6.8 m)	24 ft (7.4 m)
SRD Setback Distance from Edge (X)	0 ft (0 m)	16.5 (5.1)	18.5 (5.7)	20.5 (6.3)	22.5 (6.9)	24.5 (7.5)	26.5 (8.1)	28.5 (8.7)	30.5 (9.3)	32.5 (10.0)	34.5 (10.6)	36.5 (11.2)	38.5 (11.8)	36.5 (12.4)
	5 ft (1.6 m)	16.5 (5.1)	17.0 (5.2)	18.0 (5.5)	19.5 (5.9)	21.0 (6.4)	23.0 (7.0)	24.5 (7.5)	26.5 (8.1)	28.5 (8.7)	30.5 (9.2)	32.5 (9.8)	34.5 (10.4)	36.5 (11.0)
	10 ft (3.1 m)	16.5 (5.1)	17.0 (5.1)	17.5 (5.3)	18.5 (5.6)	19.5 (5.9)	21.0 (6.3)	22.5 (6.8)	24.0 (7.3)	25.5 (7.8)	27.5 (8.3)	29.0 (8.8)	31.0 (9.4)	32.5 (10.0)
	15 ft (4.6 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.2)	18.0 (5.4)	18.5 (5.6)	19.5 (6.0)	21.0 (6.4)	22.0 (6.8)	23.5 (7.2)	25.0 (7.6)	26.5 (8.1)	28.5 (8.6)	30.0 (9.1)
	20 ft (6.1 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.3)	18.0 (5.5)	19.0 (5.8)	20.0 (6.1)	21.0 (6.4)	22.5 (6.8)	23.5 (7.2)	25.0 (7.6)	26.5 (8.0)	28.0 (8.5)
	25 ft (7.7 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.3)	18.0 (5.5)	18.5 (5.7)	19.5 (5.9)	20.5 (6.2)	21.5 (6.5)	22.5 (6.8)	23.5 (7.2)	25.0 (7.6)	26.5 (8.0)
	30 ft (9.2 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.3)	17.5 (5.4)	18.5 (5.6)	19.0 (5.8)	20.0 (6.0)	20.5 (6.3)	21.5 (6.6)	23.0 (6.9)	24.0 (7.3)	25.0 (7.6)
	35 ft (10.7 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.4)	17.5 (5.4)	18.0 (5.5)	18.5 (5.7)	19.5 (5.9)	20.0 (6.1)	21.0 (6.4)	22.0 (6.7)	23.0 (7.0)	24.0 (7.3)
	40 ft (12.2 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.1)	17.0 (5.1)	17.5 (5.3)	18.0 (5.4)	18.5 (5.6)	19.0 (5.8)	20.0 (6.0)	20.5 (6.3)	21.5 (6.5)	22.5 (6.8)	23.5 (7.1)
	45 ft (13.8 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.3)	18.0 (5.4)	18.5 (5.6)	19.0 (5.7)	19.5 (5.9)	20.0 (6.1)	21.0 (6.4)	22.0 (6.6)	22.5 (6.9)
	50 ft (15.3 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.1)	17.0 (5.1)	17.5 (5.3)	17.5 (5.4)	18.0 (5.5)	18.5 (5.7)	19.0 (5.8)	20.0 (6.0)	20.5 (6.3)	21.5 (6.5)	22.0 (6.7)
	55 ft (16.8 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.1)	17.0 (5.2)	17.5 (5.3)	17.5 (5.4)	18.0 (5.5)	18.5 (5.6)	19.0 (5.8)	19.5 (6.0)	20.5 (6.2)	21.0 (6.4)	22.0 (6.6)
	60 ft (18.3 m)	16.5 (5.1)	17.0 (5.1)	17.0 (5.1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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White Paper:

ANSI Z359.14-2021 Self-Retracting Device (SRD) Standard Updates

12/16/2021 UPDATE: FallTech anticipates that the effective date of ANSI/ASSP Z359.14-2021 will be delayed by six months to February 1, 2023 as a result of a full ANSI Z359 Committee vote in response to an extension request from the International Safety Equipment Association (ISEA).

On June 17, 2021, ANSI/ASSP approved the new 2021 revision of Z359.14, Safety Requirements for Self-Retracting Devices (SRDs) for Personal Fall Arrest and Rescue Systems. This revision supersedes the 2014 version and goes into effect on August 1, 2022. This is an important date for both manufacturers and end users when it comes to ANSI compliance while using self-retracting devices. In this white paper, we will review the changes to the Z359.14 standard as interpreted by FallTech and discuss the compliance timeline and what that means for equipment you are using today.

The objective of this white paper is to educate end users, buyers, employers, distributors, safety professionals, engineers, Competent Persons, and more about the changes to the ANSI/ASSP Z359.14 standard ahead of the August 1, 2022 deadline, so that you can prepare or adjust your fall protection plans.

At a high level, the 2021 changes to the ANSI/ASSP Z359.14 standard are designed to:

1. Simplify types and classes of SRD's so end users can quickly identify a compliant product's capabilities
2. Increase factors of safety on multiple components and tests
3. Introduce a new testing regime for personal SRD's or SRL-P's (those worn on the back, connected to the full body harness), including specific tests to address product issues that led to a manufacturer recall
4. Further standardize labels and markings to make clear an ANSI compliant product's capabilities

SRD Types and Classes

Since ANSI first began classifying SRDs in 2012, FallTech has repeatedly received questions or encountered end users who misunderstand the meaning of SRD classifications. Such misunderstandings could lead to a serious injury or death.

In the previous revisions of Z359.14, SRDs were organized by type (SRL, SRL-R for devices with rescue/retrieval functions, or SRL-LE for devices with leading edge capability) and class (Class A or Class B). The intent was to organize SRDs by features in "Type" and then by their overhead performance capability by "Class." However, the Class A/B performance was commonly applied to non-overhead anchorage situations, which led to improper fall clearance calculations, potentially causing serious injury or death.

Both types and classes have been overhauled in 2021: "types" are SRL, SRL-P for personal devices meant to be installed on the user's full body harness, or SRL-R for devices with rescue/retrieval functions, and "classes" are Class 1 or Class 2. Rather than dictating overhead performance, the SRD class now dictates the acceptable anchorage locations. Class 1 devices are suitable for at or above dorsal D-ring anchorage locations. Class 2 devices are suitable for above, at, or up to 5 feet below the dorsal D-ring anchorage locations AND must be leading edge rated. So, if you or your customer's jobsite has edge exposures and you need a leading edge SRL or SRL-LE, you will be looking for a Class 2 device in compliance with ANSI/ASSP Z359.14-2021! Coincidentally with the type and class changes, Z359.14-2021 also introduced standard overhead performance criteria for all SRDs as well as standardize class labeling. Now a worker can quickly identify the right device for the hazards faced in their work zone.

In both the 2012 and 2014 revisions of Z359.14, overhead performance criteria was defined by SRD class: Class A or Class B. In 2021, overhead performance was standardized across all SRDs. The performance requirements are summarized in the table below.

	"Old" ANSI/ASSP Z359.14-2014		"New" ANSI/ASSP Z359.14-2021
SRD Class	Class A	Class B	Class 1 & Class 2
Maximum Arrest Force	1,800 pounds		1,800 pounds
Average Arrest Force*	1,350 pounds*	900 pounds*	1,350 pounds*
Maximum Arrest Distance	24 inches	54 inches	42 inches

*Note: During Hot, Cold, & Wet Conditioned Tests, Average Arrest Force limit is increased.

Standardized Labeling

All ANSI/ASSP Z359.14-2021 compliant SRDs will have one of the markings below consistent with its class:

In addition to the Class 1 and Class 2 standard labels, all Class 2 SRLs must include a full fall clearance table or diagram on the physical product, not just in the user instruction manual. This places critical clearance information directly on the product, where it is most easily accessible by the end user or Competent Person.

Product Testing Program Expansion

The 2021 version of Z359.14 includes a significant expansion to the volume and severity of testing required to comply with the standard. Most of these changes are intended to improve safety factors and address specific known hazards or applications of SRDs. While the testing of the products mainly affects manufacturers and test labs, it's important to understand how these changes may impact the way in which these devices are deployed and used in the field. Below is a list of some of the important changes:

1. Performance criteria has changed for all compliant SRDs when tested in overhead anchorage applications.
2. Requirements for Hot, Cold, and Wet conditioned testing are the same, but the number of tests is increased.
3. The test mass for all dynamic drop tests has increased to 310 lbs. from the previous 282 lbs. This change was made so a test mass equal to the ANSI maximum allowable user capacity, including clothes, tools, gear, etc.
4. Static strength testing load was increased to 3,600 lbs. from the previous 3,000 lbs. With this change, all compliant SRDs will now have a true 2:1 safety factor.
5. New static test to ensure the locking mechanism on SRDs that do not use an internal brake can withstand a minimum load of 1,800 lbs.
6. New dynamic test to ensure that SRDs with an internal brake have sufficient reserve lifeline in the event of a fall while the SRD's line constituent is fully paid out or deployed.
7. SRL-P's have several new, specific tests:
   a. 6-foot free fall dynamic performance test
   b. Twin or dual-leg devices will be dynamically tested with both leg-end connectors attached to ensure proper deployment of energy absorbers and provide warning if arrest forces may exceed 1,800 lbs.
   c. Tie-back or Wrap-back SRL-Ps have additional static testing to validate the strength of the tie-back section when secured around an anchorage
   d. Custom connectors for SRL-Ps have additional testing requirements

Ultimately, this standard has introduced more static testing, more dynamic testing, more application specific testing, more application relevant testing, and increased factors of safety to continue to improve the quality of SRDs in the fall protection market and to continue saving lives.

Compliance Timeline and Existing SRDs in the Field

ANSI/ASSP Z359.14-2021 goes into effect on August 1, 2022. For organizations or jobsites which mandate ANSI compliance, all SRDs must be manufactured to comply with and marked as complaint to Z359.14-2021. Any SRDs marked as compliant with Z359.14-2014 or any previous revision will be considered out of compliance after August 1, 2022.

But keep in mind that ANSI is a voluntary consensus standard with no designated enforcement body. It is therefore reasonable to assume that many employers will gradually transition to 2021 compliant SRD's as their existing units in the field are rotated out of service. Our goal at FallTech is to qualify all of our SRDs to the new standard before the August 1, 2022 deadline, so that users may transition at their convenience. The 14-month period between the approval date and the effective date is designed to give manufacturers, testing labs, and end users time to transition to the new standard. During this time, FallTech recommends reaching out to your manufacturer to inquire how this standard change affects SRDs that you are using now and plan your transition to 2021 compliant devices.

If you have any additional questions or concerns regarding the information contained in this white paper, please contact FallTech at 1-800-719-4619 or email us at info@falltech.com.

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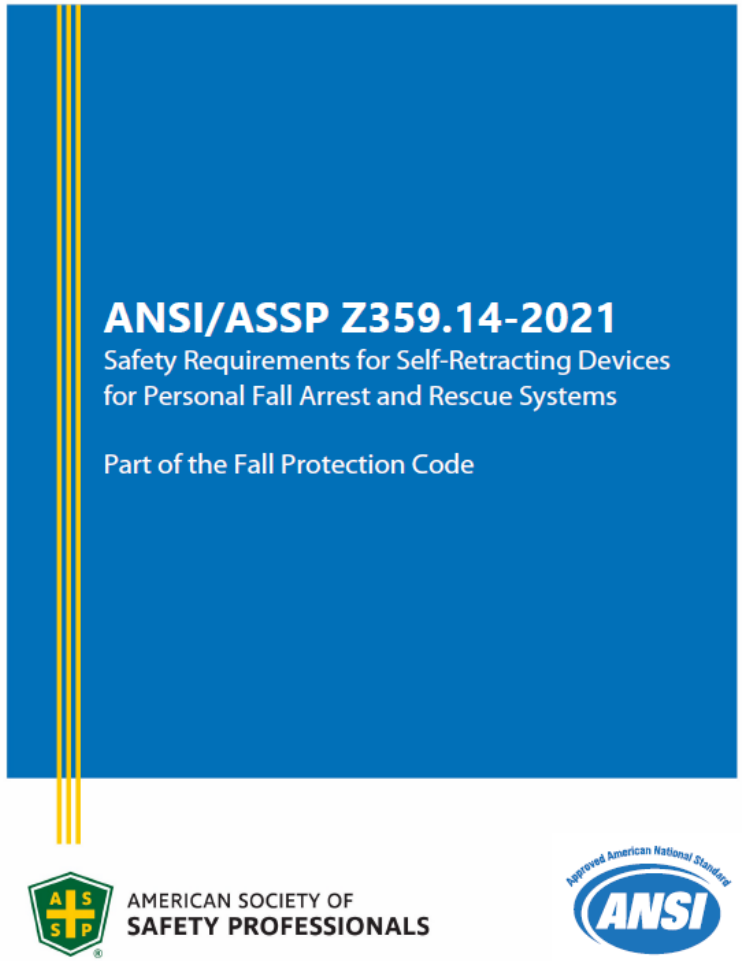

- Approved: June 17 , 2021
- Published: July 6, 2021
- Effective: August 1, 2022
- Extended to February 1, 2023
- ***Extended to August 1, 2023****

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- ANSI is a voluntary consensus standard with no enforcement organization
- Manufacturer rules are different than end users
  - As a manufacturer, we would be out of compliance for marking product to Z359.14-2014 if **manufactured** after July 31, 2023
  - As an end user, they would be out of compliance for **using** a product marked to Z359.14-2014 after August 1, 2023

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- Can be viewed as black and white (on 8/1/2023, all equipment must be compliant and labeled to new standard)
  - Strict interpretation
- Expect that most customers will deploy a gradual transition as existing equipment comes out of service. Those items will still be OSHA compliant

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- Class A and Class B , Replaced by Class 1 or Class 2
- SRL, SRL-P, SRL-R New Types
  - Classified as Class 1 or Class 2
- Premise to reduce product misuse , increase product safety
- Provide clear information for users to know MRFC (minimum required fall clearances)
- Effective Date August 1, 2023

- Contact your preferred Manufacturer
- Review PFAS Program
- Evaluate current SRLs
- Prepare proactively for the change

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Follow up questions can be sent to: fcarbajal@FallTech.com

Open Questions or Discussion

Next Meeting Reminder

November 7th

Roundtable Discussion

Meeting Feedback Survey

Meeting Feedback Survey

We want to hear from you!

Will send out a survey link or use QR Code
Responses needed by 10/20/2023

Thank you for attending!