



Fall Protection

# OSHA Walking & Working Surfaces and 3M™ DBI-SALA® Lad-Saf™ Flexible Cable Vertical Safety Systems

Jason Giefer, Fall Protection Application Engineer  
OAAA Webinar June 2018



# Agenda and Introduction

## Two primary topics to cover today:

- OSHA Walking & Working Surfaces and the implications to the outdoor advertising industry
- 3M's new ladder safety system: **3M™ DBI-SALA® Lad-Saf™ Flexible Cable Vertical Safety System**

## Your speaker:



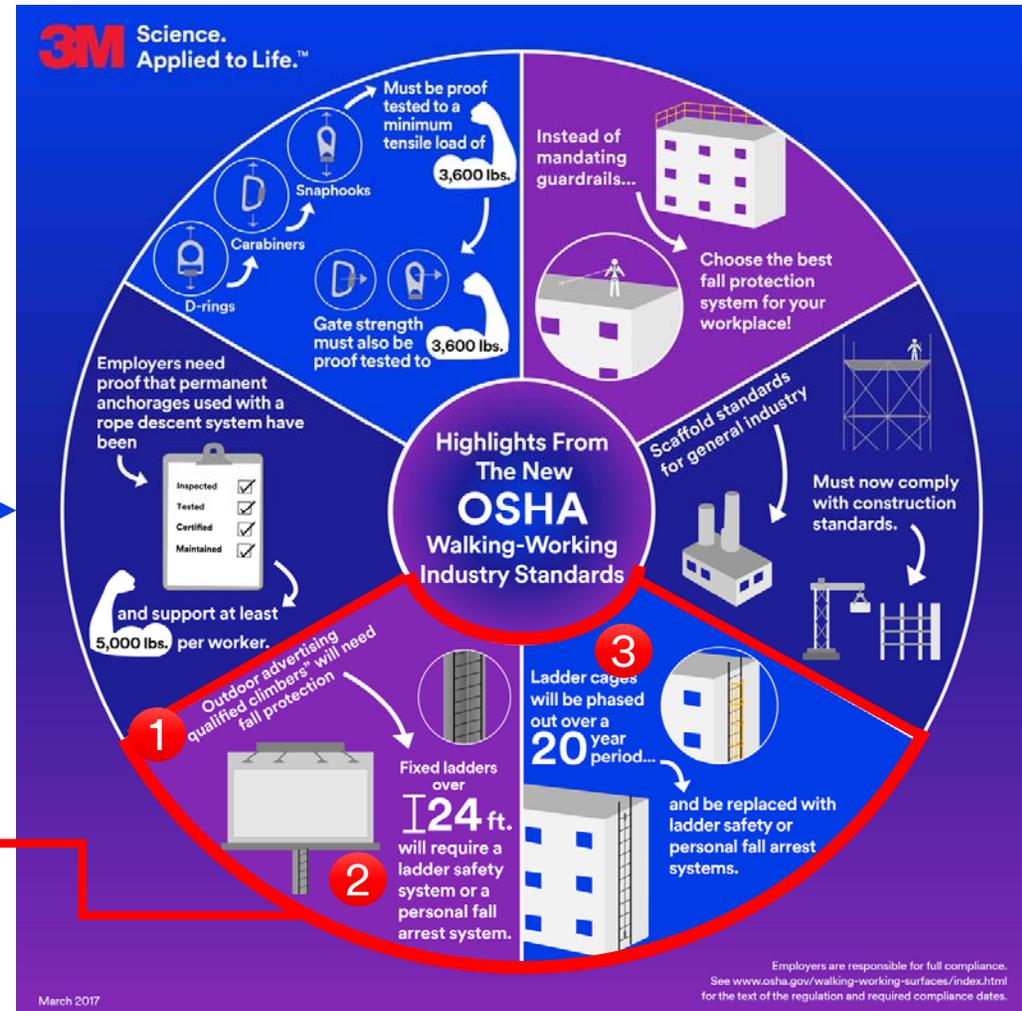
*Jason Giefer*

Application Engineer at 3M Fall Protection  
Over 20 years of experience with fall protection

# OSHA Walking & Working Surfaces

In Nov 2016, OSHA published its final ruling on Walking & Working Surfaces, updating the existing standard

Three updates significantly impact the outdoor advertising industry



Source: <https://workersafety.3m.com/walking-walktips-complying-final-osa-walking-working-surfaces-rules/>

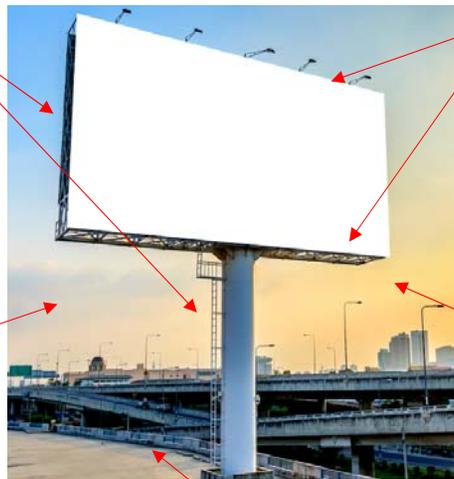
# Update #1: “Qualified Climbers” will need fall protection

Requiring workers to use fall protection while they are climbing and to ensure that they remain tied off when they reach the work platform and begin work.

*Billboard maintenance activities present many fall-related hazards:*



**Ladder Climbing:**  
1-3 ladders must be climbed depending on billboard design



**Work at Height:**  
Workers may traverse horizontal platforms without guardrails (sometimes horizontal lifelines are present)



**Rescue:**  
In case of a fall, workers will need to be rescued at height



**Dropped Objects:**  
Tools could pose risks to those on the ground, especially deflections

**Bucket Trucks:**  
Sometimes work is done out of bucket trucks

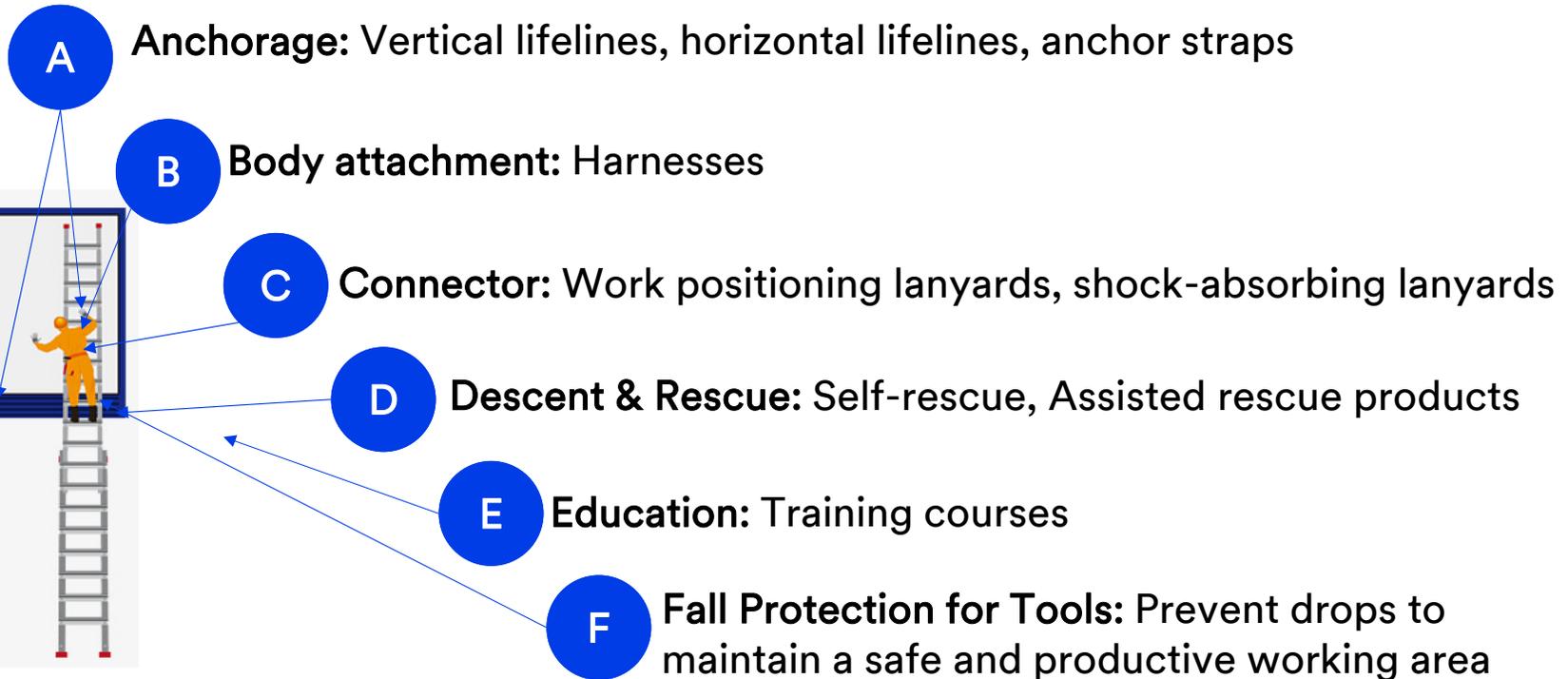


Source: <https://www.osha.gov/walking-working-surfaces/faq.html>

# Update #1: “Qualified Climbers” will need fall protection

Requiring workers to use fall protection while they are climbing and to ensure that they remain tied off when they reach the work platform and begin work.

To mitigate these hazards, remember the A-B-C-D-E-Fs of Fall Protection:

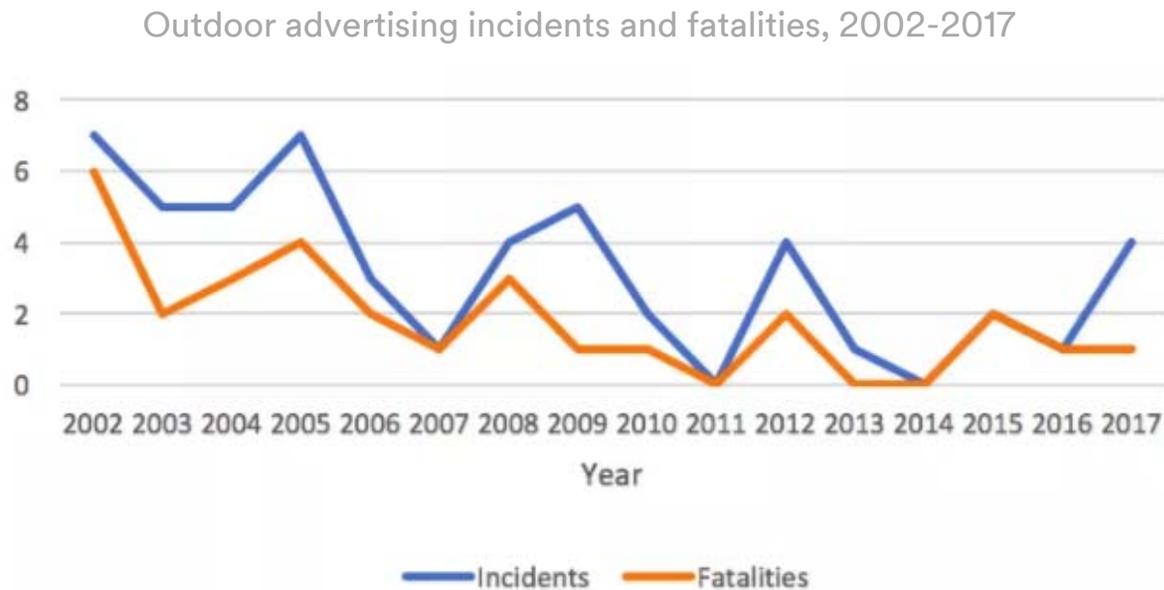


# Update #1: “Qualified Climbers” will need fall protection

Requiring workers to use fall protection while they are climbing and to ensure that they remain tied off when they reach the work platform and begin work.

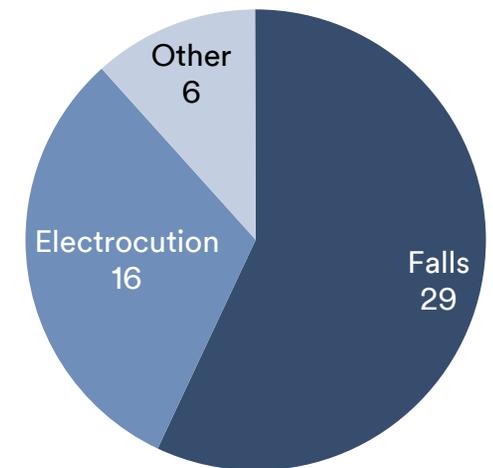
*Why is this important....?*

Injuries or fatalities occur almost every year to outdoor advertising workers



In fact, falls are the leading cause of accidents

Outdoor advertising accidents by type, 2002-2017



Source: <http://billboardinsider.com/outdoor-advertising-accidents-decline/>

## Update #2: Ladder safety on fixed ladders > 24 ft

Any fixed ladder over 24 ft requires a ladder safety system or a personal fall arrest system



> 24 ft

**Fall protection needed. Options include:**

Ladder Safety Systems



Personal Fall Arrest Systems

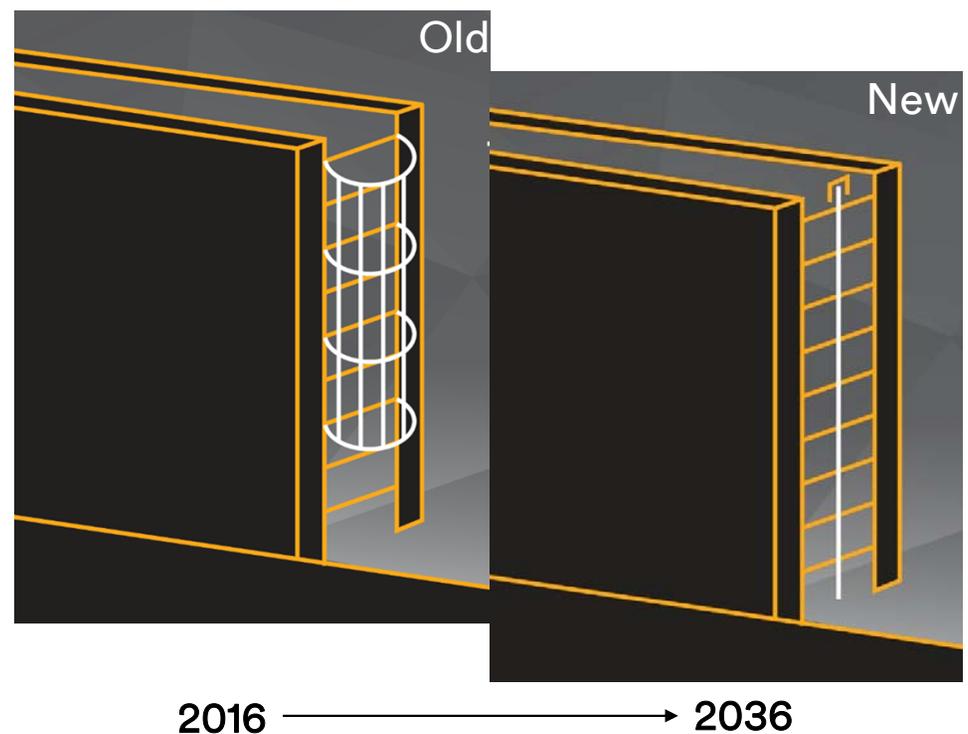


Source: <https://workersafety.3m.com/walking-walktips-complying-final-oshawalking-working-surfaces-rules/>

## Update #3: Phase out of ladder cages and wells

Ladder cages/wells are no longer an acceptable form of fall protection. Cages/wells must be replaced with an alternate form of fall protection.

- **Current ladders with cages:** ladder cages and wells (used as fall protection) must be replaced with ladder safety or personal fall arrest systems on all fixed ladders over 24 feet by November 18, 2036
- **New or replacement ladders:** personal fall arrest or ladder safety systems must be installed on new and replacement fixed ladders over 24 feet by November 19, 2018



Source: <https://workersafety.3m.com/walking-walktips-complying-final-osh-walking-working-surfaces-rules/>

# Introducing 3M's new ladder safety system:

3M™ DBI-SALA® Lad-Saf™  
Flexible Cable Vertical Safety System

**3M™ DBI-SALA® Lad-Saf™ Flexible Cable Vertical Safety Systems**

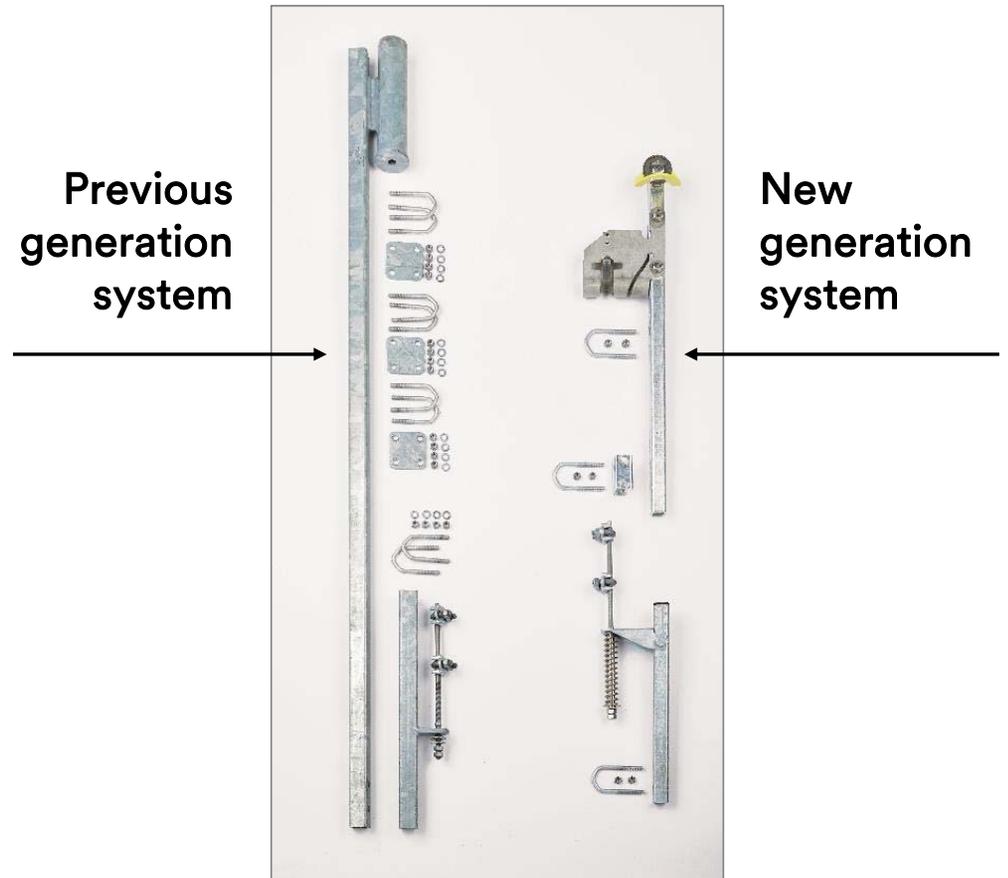
**Fewer parts. Fast installs.  
ANSI compliant.**

**72% fewer loose components than some of our previous models.**

Re-engineered to simplify and speed up the installation process.

**Lighter than before.**

Total system weighs less than our previous 2 and 4-user systems.

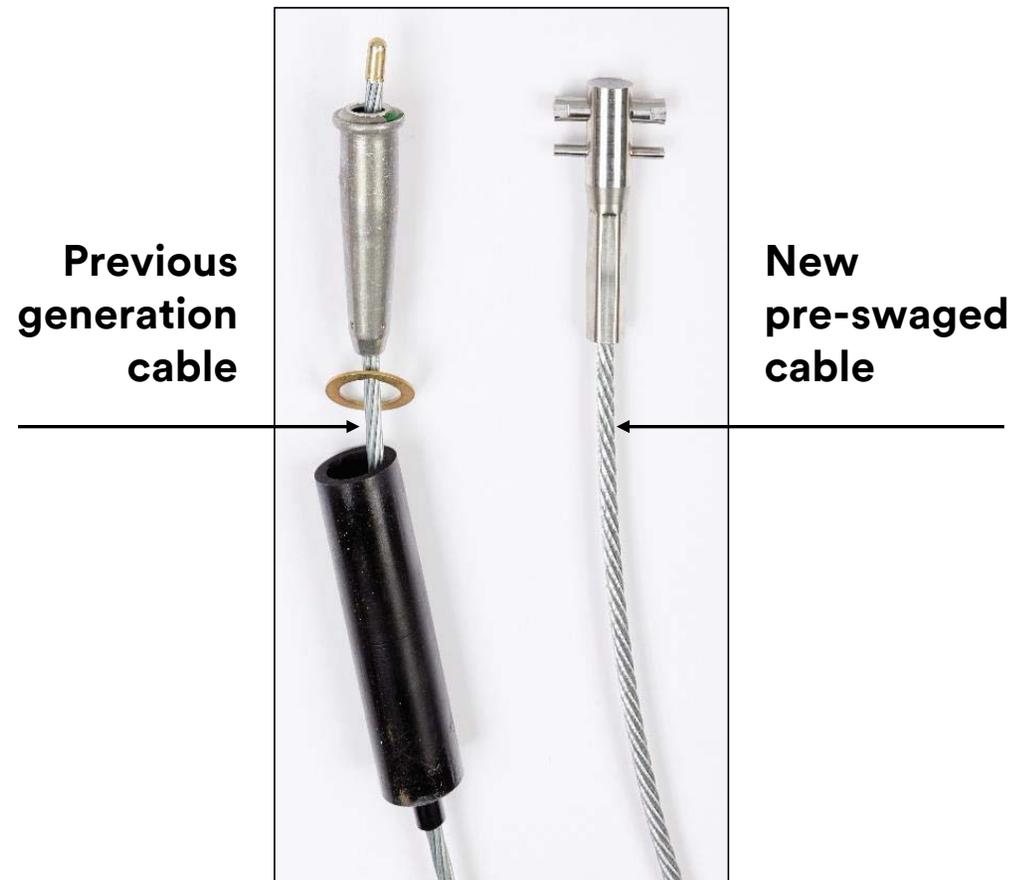


## New pre-swaged cable termination.

Durable, high-strength steel construction that allows for maintenance-free longevity.

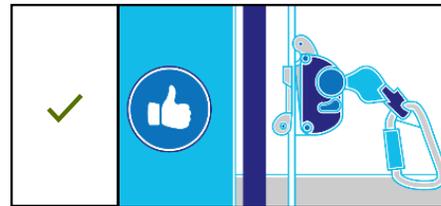
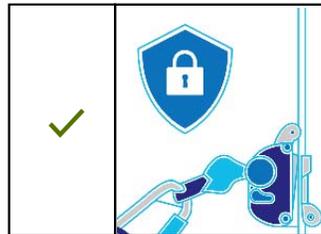
## Streamlined installation.

Pre-swaged cable drops into top bracket.



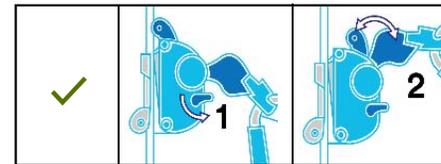
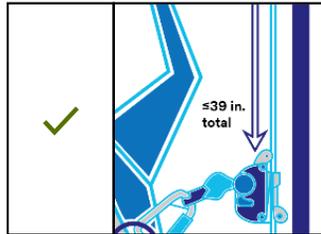
# Designed, tested and certified to meet the new ANSI Z359.16 standard when used with 3M™ Lad-Saf™ X3 or Lad-Saf™ X2 Detachable Cable Sleeves.

Carrier sleeve must be automatic locking and have a second independent locking means if primary is disabled.



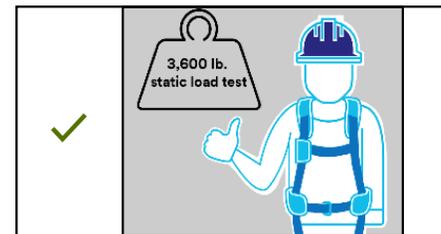
Each configuration (including type of sleeve, cable and system) must all be tested and certified together as a system.

Maximum total weight displacement of 39 in. during fall, including energy absorber extension.



At least two deliberate manual actions required to remove carrier sleeve from lifeline.

Average fall arrest force does not exceed 1,350 lbs. and maximum fall arrest force does not exceed 1,800 lbs.



3,600 lb. static test requirement.

# 100% tie-off capable.

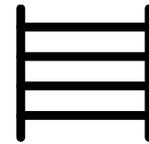
All models (except Wood Pole version) include a yellow fall arrest-rated anchor point on the top bracket for 100% tie-off during transition to platform.

New fall arrest-rated anchor point



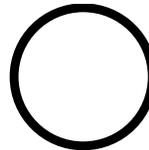
## Flexible compatibility.

Adapts to different structures, rung spacings, shapes and sizes, while meeting the new ANSI Z359.16 standard.



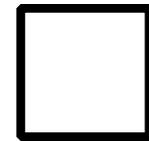
### Rung spacing

9 in.-12.25 in. (200 mm-310 mm)



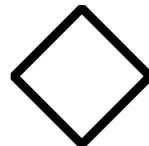
### Cylindrical rung

0.75 in.-1.6 in. (19 mm-40 mm) diameter



### Square rung

0.75 in.-1.6 in. (19 mm-40 mm)



### Diamond rung

0.75 in.-1.6 in. (19 mm-40 mm) height



### Angle iron

0.75 in.-1.6 in. (19 mm-40 mm) leg height



### Rectangular rung

0.75 in.-1.6 in. (19 mm-40 mm) height,  
0.75 in.-1.9 in. (19 mm-48 mm) width

## Compatible with Lad-Saf™ Gear

Designed for use with  
Lad-Saf X3 Detachable  
Cable Sleeve (#6160054).

Also compatible with  
Lad-Saf X2 Detachable  
Cable Sleeve (#6160030).



# Streamlined for easy installation and maintenance on a variety of structures:

## Billboards & Ladders



Rung, 2 User,  
SS - 6116613  
Rung, 2 User, Galv.  
Steel - 6116612

Rung, 4 User, Galv.  
Steel - 6116614

## Telecommunications



Monopole, 4 User,  
SS - 6116619  
Monopole, 4 User, Galv.  
Steel - 6116615

## Utility Poles



Wood Pole, 2 User,  
Galv. Steel - 6116616

## Wind Energy, Storm Sewer Access, and Rooftop Access



Telescoping Extension,  
4 User, Galv. Steel - 6116618

## Applications requiring egress off of ladder onto platform



Climb Extension, 2 User,  
Galv. Steel - 6116617

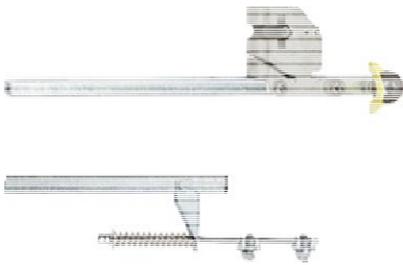
**Very Simple: Two user system on left utilizes 2 rungs, and the four user system on the right utilizes 3 rungs.**



# Custom configured systems.

Ordering a complete system configured to your specific needs is now easier than before.

Simply choose:



**Top & bottom  
bracket system**

Both brackets included.

+



**Pre-swaged cable**

10-100 ft. = 5 ft. increments  
100-200 ft. = 10 ft. increments  
200+ ft. = 20 ft. increments

+



**Cable guides**

As needed; recommended  
every 20-40 ft.

Additional hardware accessories available when necessary.

# One SKU. One full system. Simple.

Ordering a complete system is now easier than before: we now offer our most popular systems and lengths—including all bracketry, cable and guides—all in one single SKU.

## 2-User Ladder System and Cable

Cable Length	20 ft.	30 ft.	40 ft.	50 ft.	60 ft.	70 ft.	80 ft.	90 ft.	100 ft.
Guides Included	0	1	1	1	2	2	2	3	3
<b>Galvanized Steel:</b> <ul style="list-style-type: none"> <li>• 6116612: Rung, 2-User</li> <li>• 6104XXX: 1 x 7 Swaged Cable, 3/8 in.</li> <li>• 6100400: Cable Guide for fixed ladder (1 per 30 ft.)</li> </ul>	6118020	6118030	6118040	6118050	6118060	6118070	6118080	6118090	6118100
<b>Stainless Steel:</b> <ul style="list-style-type: none"> <li>• 6116613: Rung, 2-User</li> <li>• 6105XXX: 1 x 7 Swaged Cable, 3/8 in.</li> <li>• 6100457: Cable Guide for fixed ladder (1 per 30 ft.)</li> </ul>	6119020	6119030	6119040	6119050	6119060	6119070	6119080	6119090	6119100

**Adding or upgrading vertical safety systems just got a lot easier.**

**3M™ DBI-SALA® Lad-Saf™ Flexible Cable Vertical Safety Systems**

# Thank you

For more information, go to:  
[3m.com/LadSaf](https://3m.com/LadSaf)

Or contact Jason Giefer  
[jwgiefer@mmm.com](mailto:jwgiefer@mmm.com)