

Fall Protection for Construction



Evan Fee CSP / QSSP
Regional Safety and
Compliance Instructor

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Training objectives

- Worksite Fall Hazards
- Proper Fall Protection System Selection and Operation
- OSHA rules



Fall hazards in the work area

- Leading edge work (dynamic)
- Holes, openings, skylights
- Ramps, runways
- Ladders
- Mobile Equipment
- Overhand bricklaying
- Unprotected sides and edges



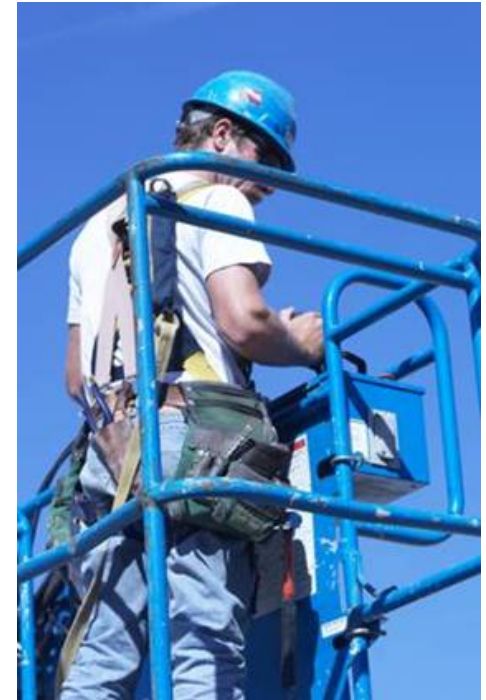
Standard applicability

- OSHA requires employers to:
 - identify, evaluate fall hazards
 - provide fall protection
 - train employees
- Fall protection in other OSHA rules
 - scaffolding
 - ladders and stairways
 - steel erection



Fall protection measures

- Surfaces must support employees
- Provide protection:
 - at 6 feet and above
 - any fall into dangerous equipment
 - any falling objects



Fall protection measures

- Guardrail systems
- Personal fall arrest systems (PFAS)
- Positioning device systems
- Safety net systems



Fall protection measures

- Warning line systems
- Controlled access zones
- Safety monitoring systems
- Covers



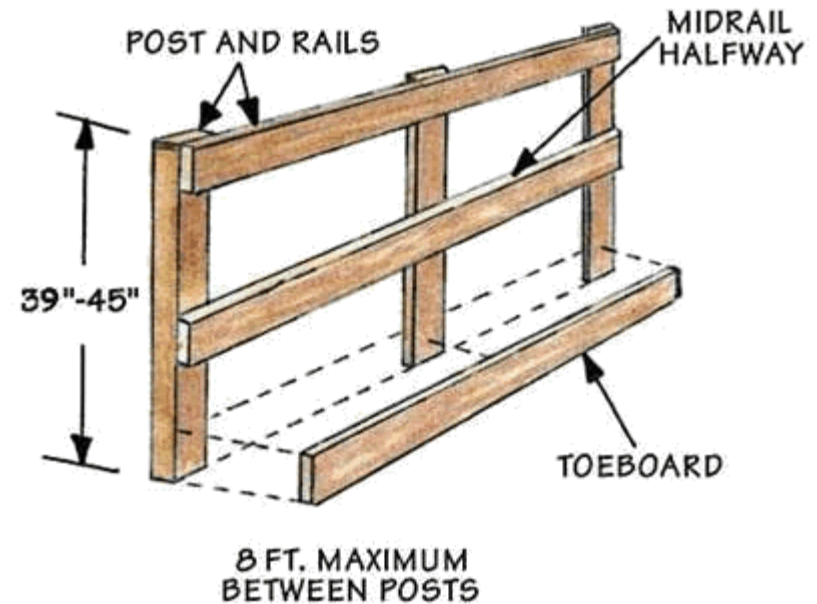
Terms

- Body belt
- Body harness
- Controlled access zone (CAZ)
- Guardrail system
- Personal fall arrest system (PFAS)
- Positioning device system
- Safety-monitoring system
- Warning line system (6ft from edge)



Guardrail systems

- Fall Prevention vs. Fall Protection
- Top rails 39 inches to 45 inches.
Toeboard 3.5 inches minimum
- Meet design/strength requirements (200 lbs downward and outward force)



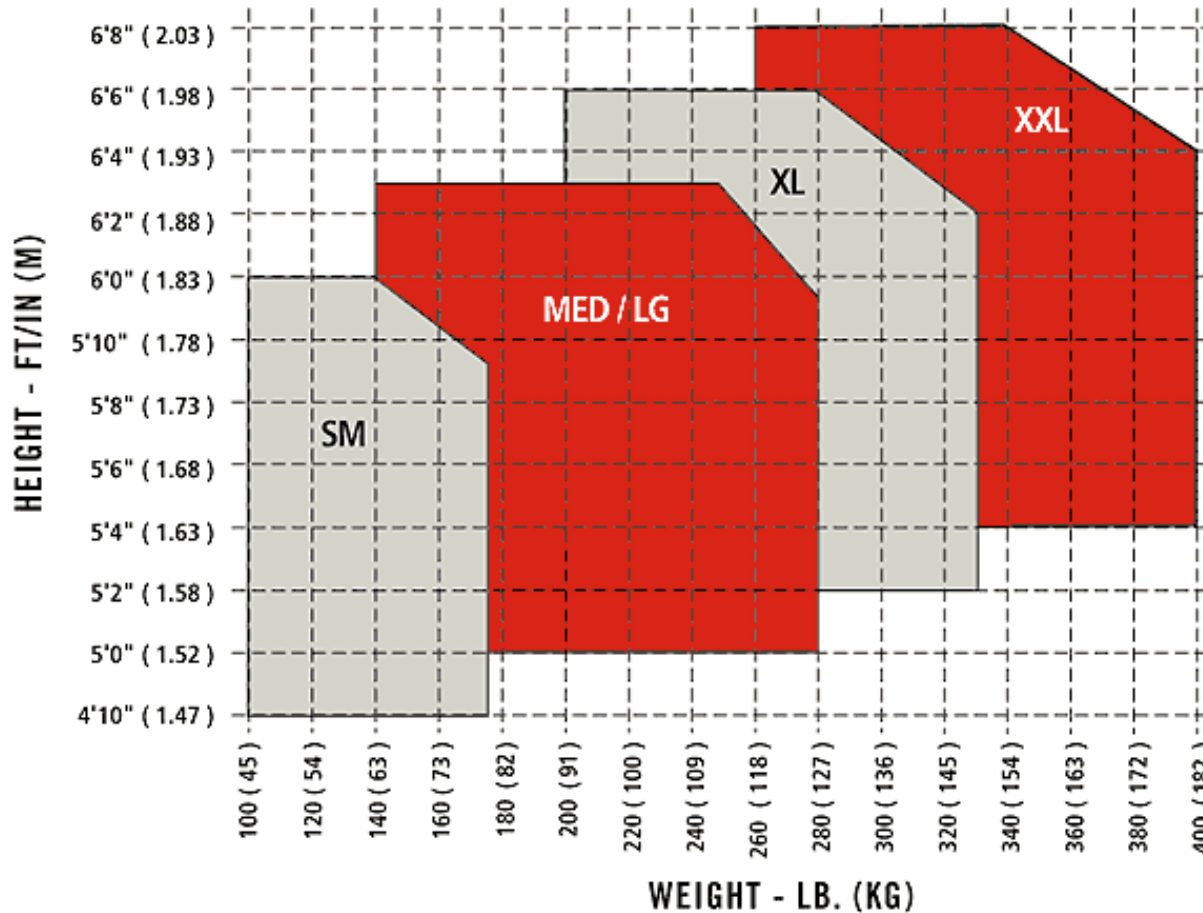
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How to don / select a harness



Fall Protection

Protecta Harness Sizing Chart



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Inspecting your harness



Personal fall arrest systems

- All components must meet design, strength requirements
- Anchor
- Body Harness
- Connection
- Body belts are not part of a PFAS



Personal fall arrest systems

- If using vertical lifelines, one employee per vertical lifeline
- PFAS anchorages for PFAS only



Personal fall arrest systems

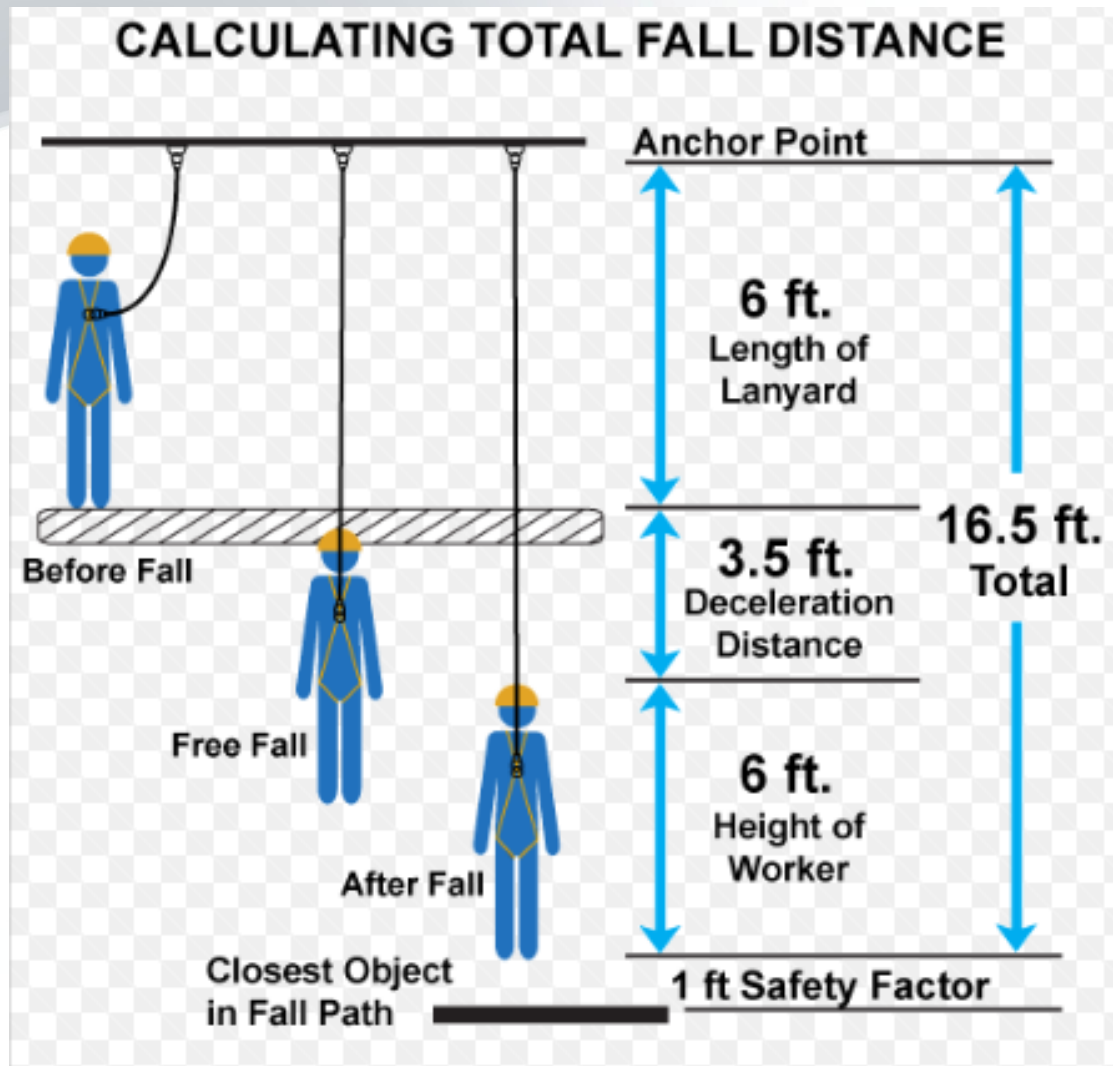
- When stopping a fall:
 - limit force on employee to 1,800 pounds
 - no free fall over 6 feet
 - maximum deceleration distance of 3.5 feet
 - Anchor point can support 5000 lbs or has a safety factor of 2



Impact Forces

Elapsed Time	Distance Traveled	Velocity (fps)	Speed (mph)	Force at Impact
0.00	0	0	0	0
0.25	1 foot	8	5.5	400 lbs.
0.50	4 feet	16	11	1,600 lbs.
0.61	6 feet	20	14	2,400 lbs.
0.75	9 feet	24	16	3,600 lbs.
1.00	16 feet	32	22	6,400 lbs.
1.25	25 feet	40	27	10,000 lbs.
1.50	36 feet	48	33	14,000 lbs.
1.75	49 feet	56	38	19,600 lbs.

Total Fall Distances



Other hazards

- Swing Falls
- Rescue Consideration
- Suspension Trauma



Positioning device systems

- No free fall over 2 feet
- Components must meet design, strength requirements



Safety net systems

- Installed within 30 feet of working surface
- Inspect:
 - at least once a week
 - after any incident



Protection for holes

- Covers must:
 - support intended weight
 - be secured in place
 - be color coded or marked with a warning



Falls into dangerous equipment

- Protect workers from falling into/onto dangerous equipment at any height



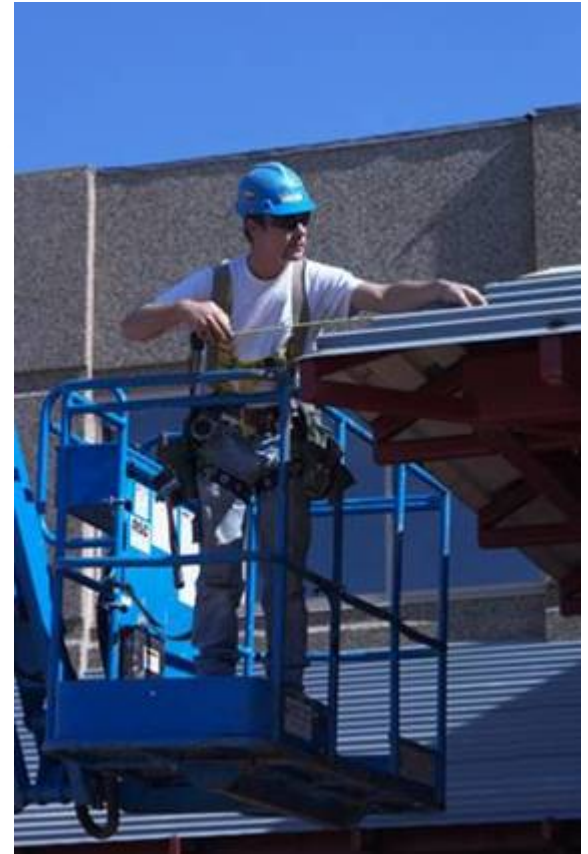
Roofing on low-slope roofs - options

- A combination of warning line and:
 - guardrail systems
 - safety net systems
 - PFAS
 - safety monitoring systems



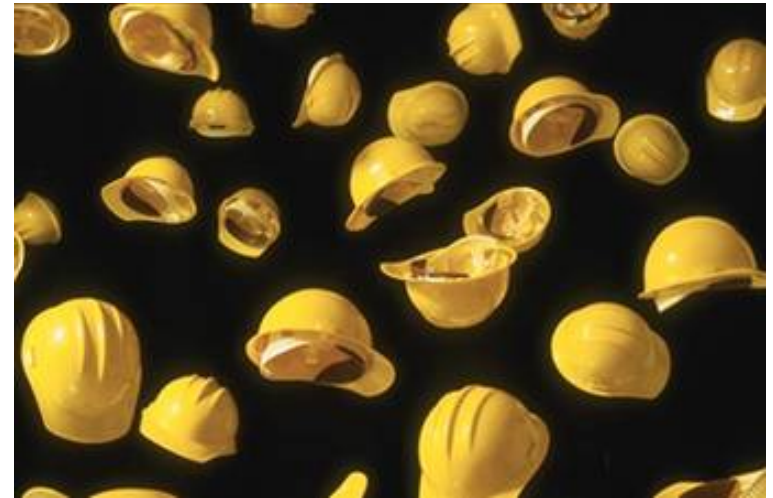
Falling Object Protection

- Falling object protection:
 - materials, equipment stored no less than 6 feet from roof edge unless there are guardrails
 - materials stored near a roof edge must be stable



Protection from falling objects

- Wear hard hats
- Employers must also do one of the following:
 - erect toeboards, screens, guardrails
 - erect a canopy; keep objects far from the edge
 - barricade the area; keep workers out



Leading edge work

- Leading edge work 6 feet and above:
 - guardrail systems
 - safety net systems
 - PFAS
- Must use a fall protection plan if these can't be used
- Controlled access zone



Leading edge work

- Control lines:
 - 6 to 25 feet from the edge
 - along the entire length of the edge
 - connected to a guardrail or wall
 - flagged, marked at least every 6 feet
 - meet design/strength requirements



Safety is your responsibility!



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How can Cintas help

Numerous Safety and OSHA Compliance Trainings (not limited to below)

- OSHA 10 / 30 Courses General Industry or Construction (*instructor led / online / virtual*)
- First Aid / CPR / AED training (*instructor led / online / virtual*)
- Powered Industrial Vehicles training (*instructor led / online / virtual*)
- Competent Person Fall Protection Training (*instructor led / online*)
- Fall Protection Training (*instructor led / online*)
- Fall Rescue / High Angle Rescue Training (*instructor led*)
- Harness / Fall Protection Equipment / Ladder Inspections
- Site Safety Assessments
- Fall Protection and Safety PPE

Contact Info

Evan Fee | CSP | QSSP

Cintas Corporation | First Aid and Safety
Regional Training and Compliance Instructor
OSHA Outreach Instructor
American Heart Association Faculty
Mobile 513-479-1380

Feee@cintas.com | cintas.com

