Fall Protection, Ladder Safety & NSPIRE Deficiencies

Course Outline

- Introduction
- Fall Protection
- Ladder Safety
- Wrap-up

Introduction

- Over 40,000 deaths and disabling injuries result from falls every year worldwide

- Falls are the number one cause of fatalities in the construction industry accounting for approximately 33% of all fatalities

Introduction

Course Objective

Upon completion of this training, participants will be able to properly use fall protection gear and ladders while complying with Irish legislation.

Fall Protection Policy

- All employees shall be protected from falls of 6 feet or more by the use of an approved fall

  protection system

- Railings are required at permanent elevated locations greater than or equal to 4 ft.

Fall Protection - Objectives

Participants will be able to:

- Describe working conditions where fall protection is required
- Identify the components of a personal fall arrest system
- Demonstrate how to fit and remove a full body harness
- Inspect personal fall arrest systems before and after use

Fall Protection - Terminology

- Anchorage Point
- Body Harness
- Competent Person
- Deceleration Device
- Elevated Work
- Fall Prevention
- Free Fall
- Free Fall Distance
- Guardrail System
- Lanyard
- Leading Edge
- Lifeline
- Personal Fall Arrest System
- Scissor Lift
- Self-retracting Lanyard
- Snaphook/Carabiner

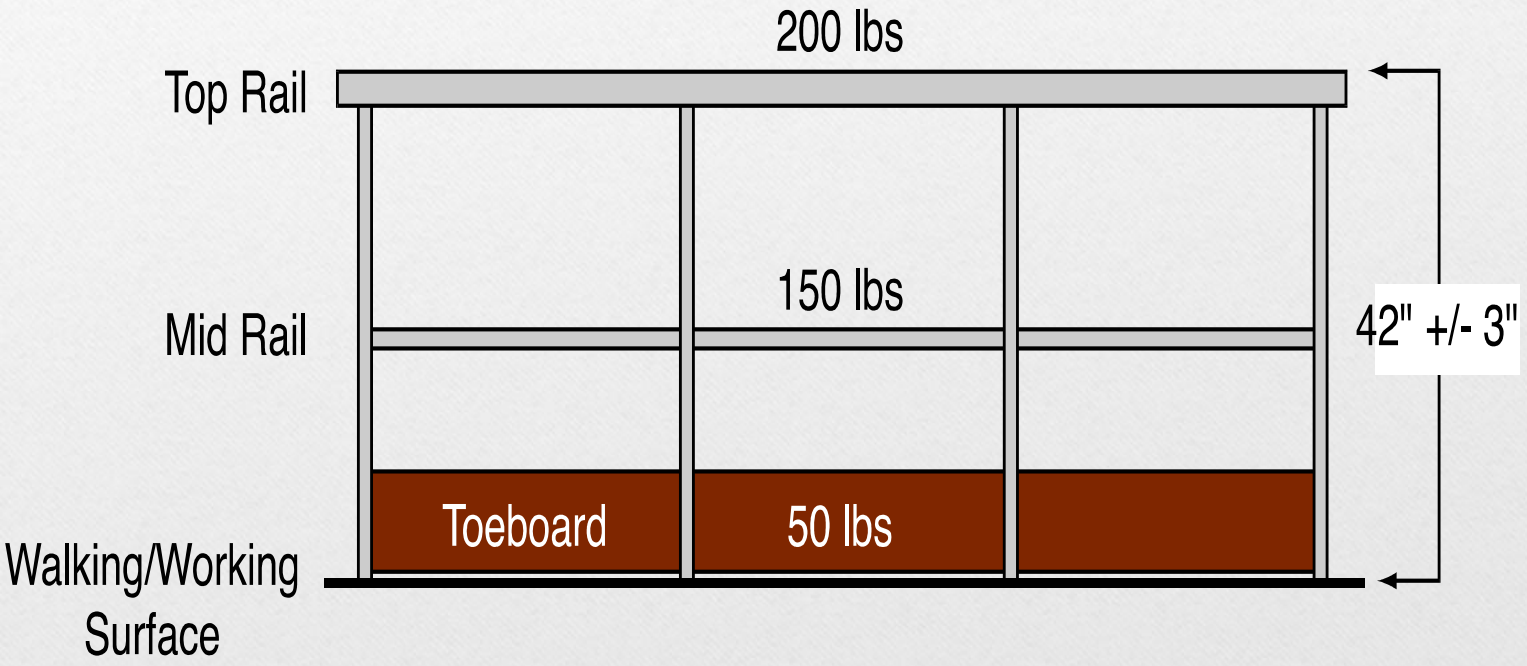
Fall Protection

Fall Prevention

Proactively prevents falls from happening by using guardrails, warning lines, hole covers

Fall Prevention

Guardrail System:



Fall Prevention

Guardrail systems in hoisting areas:

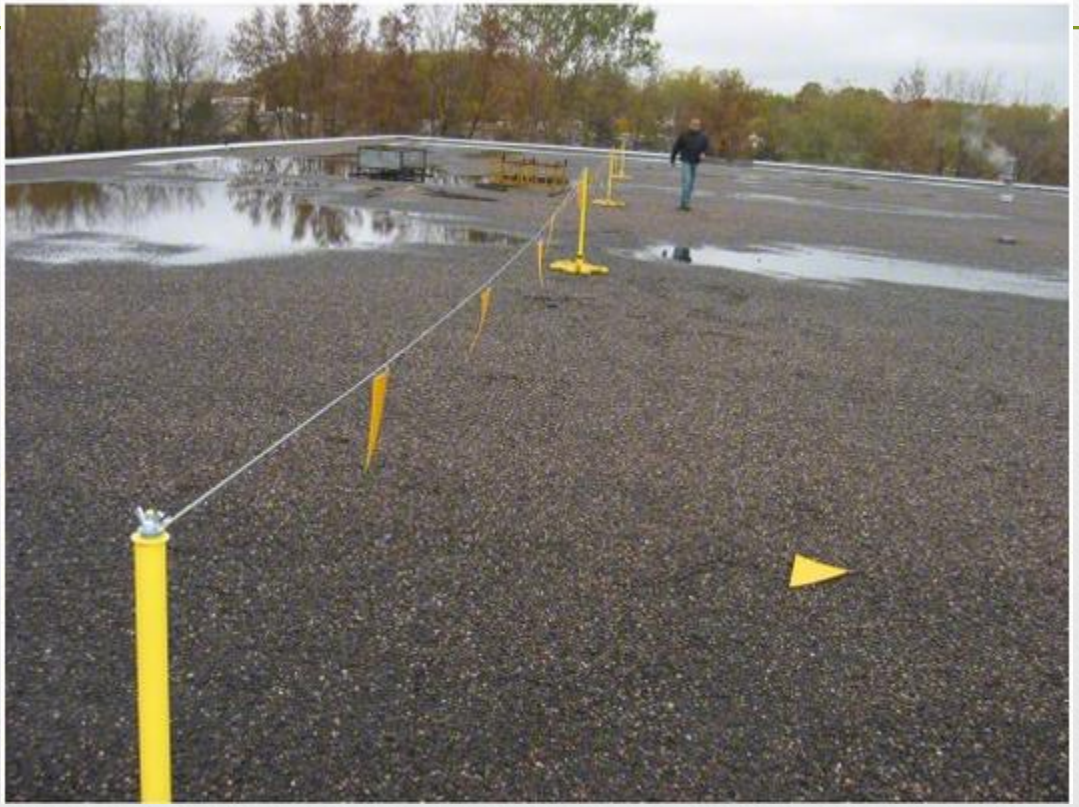
- During hoisting operations, a chain, gate or removable guardrail section shall be in place
- Prior to removal of the guardrail, the employee shall be protected by use of a personal fall arrest system

Fall Protection

Warning lines:

- Shall be used along the leading edge side of a roof work area
- Shall be erected not less than 3 feet from the roof edge for personnel, 4 feet for perpendicular use
- Shall consist of ropes, wires, or chains

Warning Lines



Fall Protection

Fall arrest:

- Limits free fall to within 3 vertical feet of the initiation point which reduces force by decreasing fall distance
- Consists of a(n)
  - Lanyard
  - Anchorage Point
  - Full Body Harness
  - Attachment Strap

Fall Protection

Lanyard

A device made of rope, wire or nylon strap used to connect the individual to an anchorage point and stop the individual in the event of a fall

Lanyard





Fall Protection

Lanyards should:

- Be inspected prior to use
- Be protected against being cut or abraded
- Have a minimum breaking strength of 5000lbs
- Be the appropriate length
- Be attached to an anchorage not to itself

Fall Protection

Self-retracting lifelines and lanyards must:

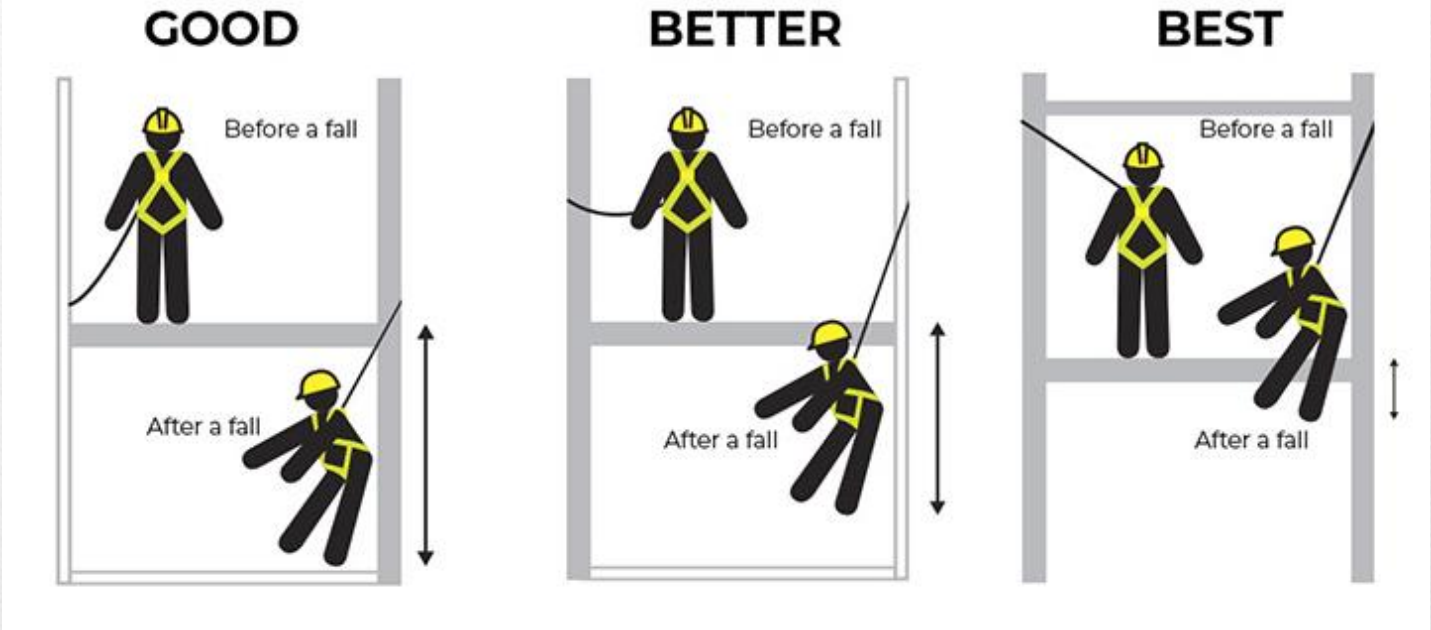
- Automatically limit free-fall distance to less than 5 feet
- Be capable of sustaining a minimum tensile load of 3000lbs when fully extended

Fall Protection

Anchorage Point

A secure point of attachment for lifelines, lanyards or deceleration devices

Anchorage Point



Fall Protection

Anchorage points used for attachment of personal fall arrest equipment must be:

- Located at or above the employee's waist
- Capable of supporting more than 5000lbs per employee
- Designed and built to hold the maximum force of the fall arrest

Fall Protection

Full body harness:

- The attachment point of a body harness is located in the center of the wearer's back near shoulder level
- Snaphooks shall be a double locking-type

Full Body Harness



Fall Protection

Care for fall arrest systems:

- After a fall arrest, the equipment will no longer be used (equipment will be disposed of or destroyed)
- Clean equipment after use
- Air dry equipment, do not hang in direct sunlight
- Store equipment in a cool, dark, dry well ventilated place

Attachment Strap



FALL SPEED Vs REACTION TIME



In 1 second your body will fall 10m (32ft)

Good body reaction time = 0.2 seconds

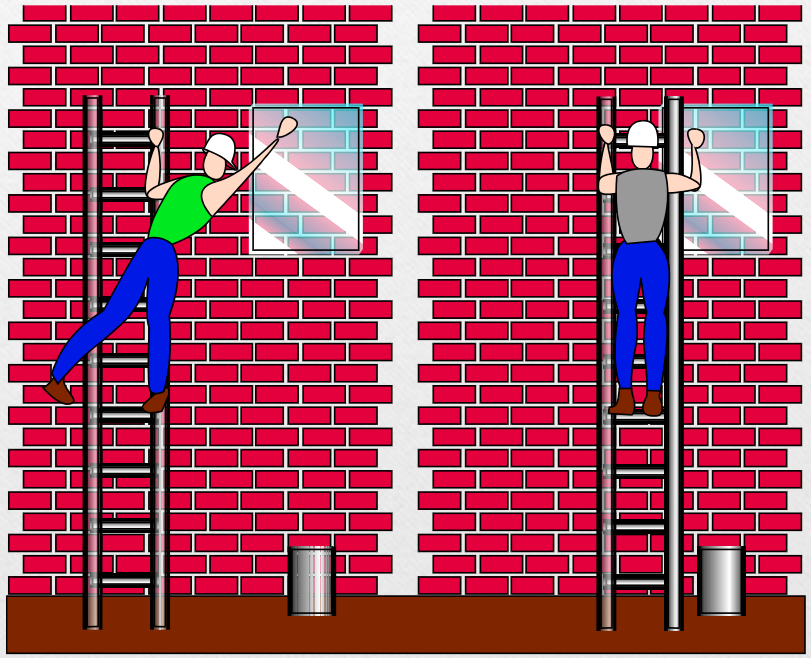


Travel distance in 0.2 seconds = 2m (6.5ft)

By the time you react your body will be 6.5ft below where you were standing

Ladder Safety

"No matter how quickly a job can be done, there is always time to fall"



Unsafe

Safe

Ladder Safety - Objectives

Participants will be able to:

- Discriminate between safe and unsafe ladder practices
- Describe correct practices when ascending and descending a ladder
- Describe correct practices for using extension ladders

Ladder Safety

Follow these four simple steps in ladder safety:

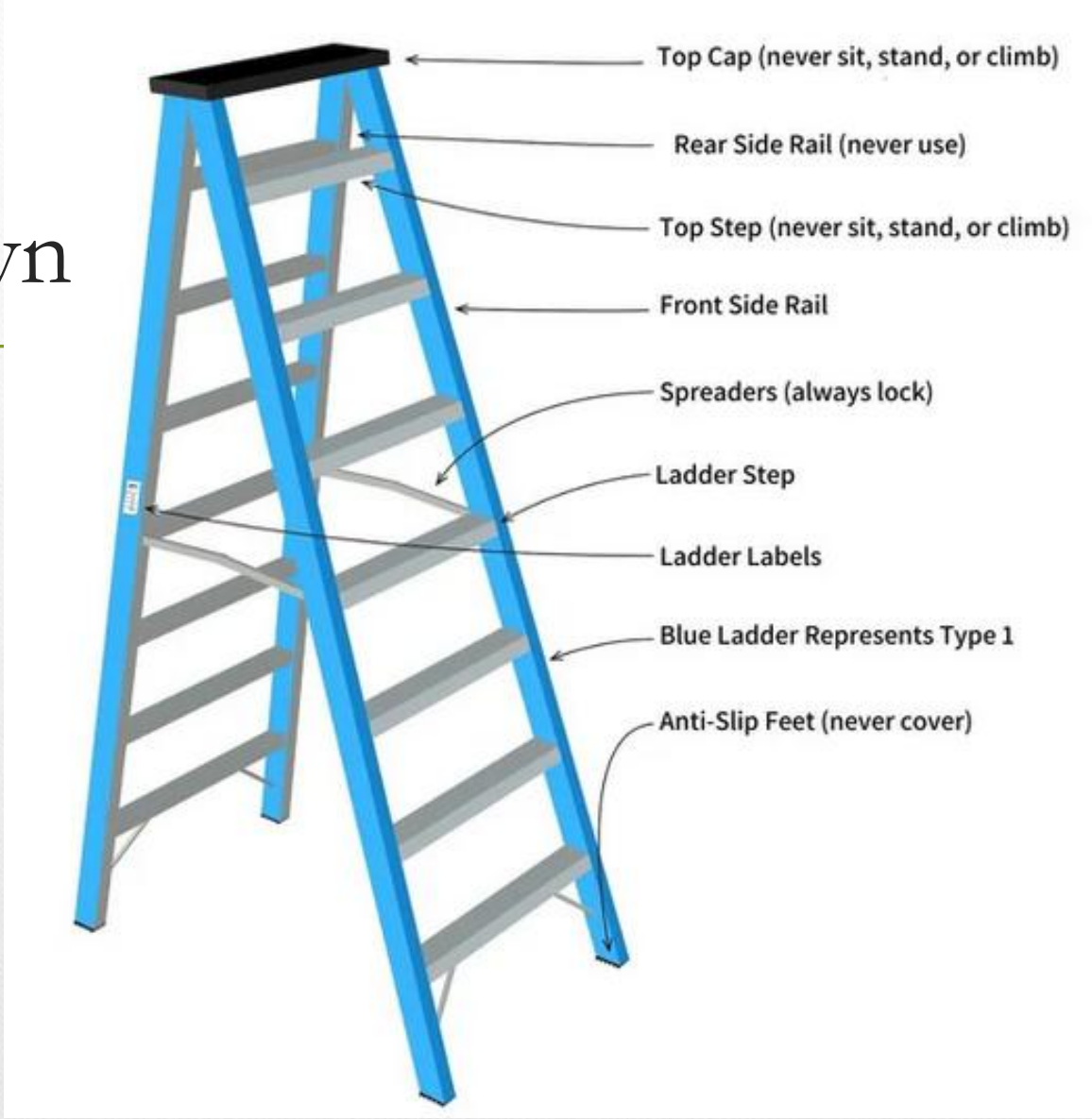
- Use the right ladder for the job
- Inspect the ladder
- Set-up the ladder properly
- Follow rules for climbing and using ladders

Colors of Ladders

LOAD CAPACITY*	DESCRIPTION	CSA CODE	ANSI CODE
200 lbs./91 kg	Household - Light Duty	Grade 3	Type III
225 lbs./102 kg	Tradesman and Farm - Medium Duty	Grade 2	Type II
250 lbs./113 kg	Construction and Industrial - Heavy Duty	Grade 1	Type I
300 lbs./136 kg	Construction and Industrial - Heavy Duty	Grade 1A	Type IA
375 lbs./170 kg	Construction and Industrial - Heavy Duty	Grade 1AA	Type IAA

*Includes user and materials

Ladder Breakdown



Ladder Safety

Don't:

- overreach from a ladder
- use the top two rungs
- use wood or metal ladders
- move a ladder while on it
- climb with material
- share a ladder

Do:

➔move the ladder

➔get a taller ladder

➔use fiberglass only

➔get down & move the ladder

➔use a toolbelt

➔get a 2nd ladder



Ladder Safety

Always:

- Maintain three points of contact with the ladder at all times
- Maintain the center line of your body between the ladder's vertical support rails while working
- Check bottom of shoes and ladder rungs for grease and dirt

Ladder Safety

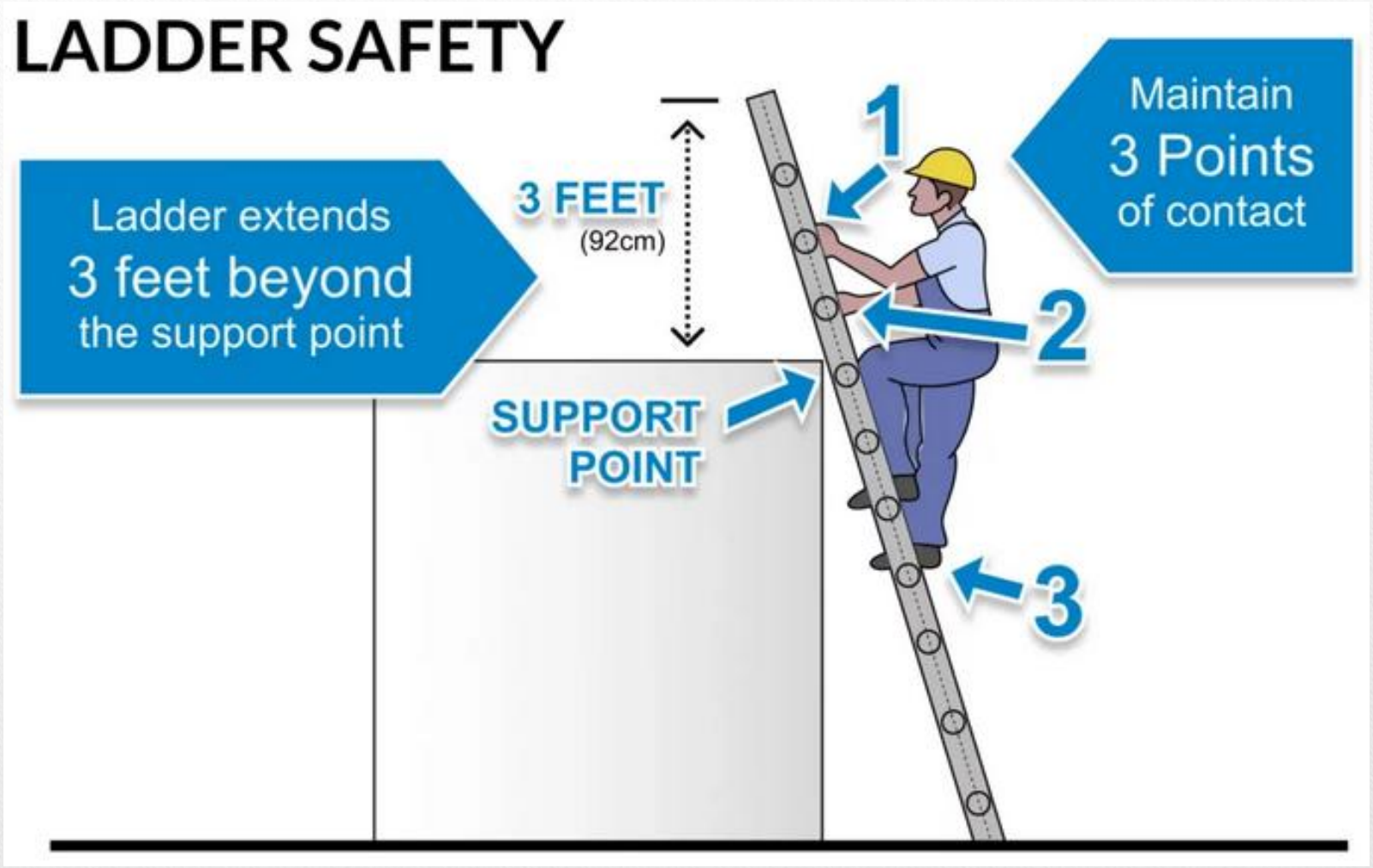
Always:

- Make sure ladder has non-skid pads
- Ensure spreaders are fully extended and locked
- Test pullies, springs, rung locks and ropes on extension ladders
- Store ladders on their side or secure with a chain or cable when stored in an upright position

Ladder Safety

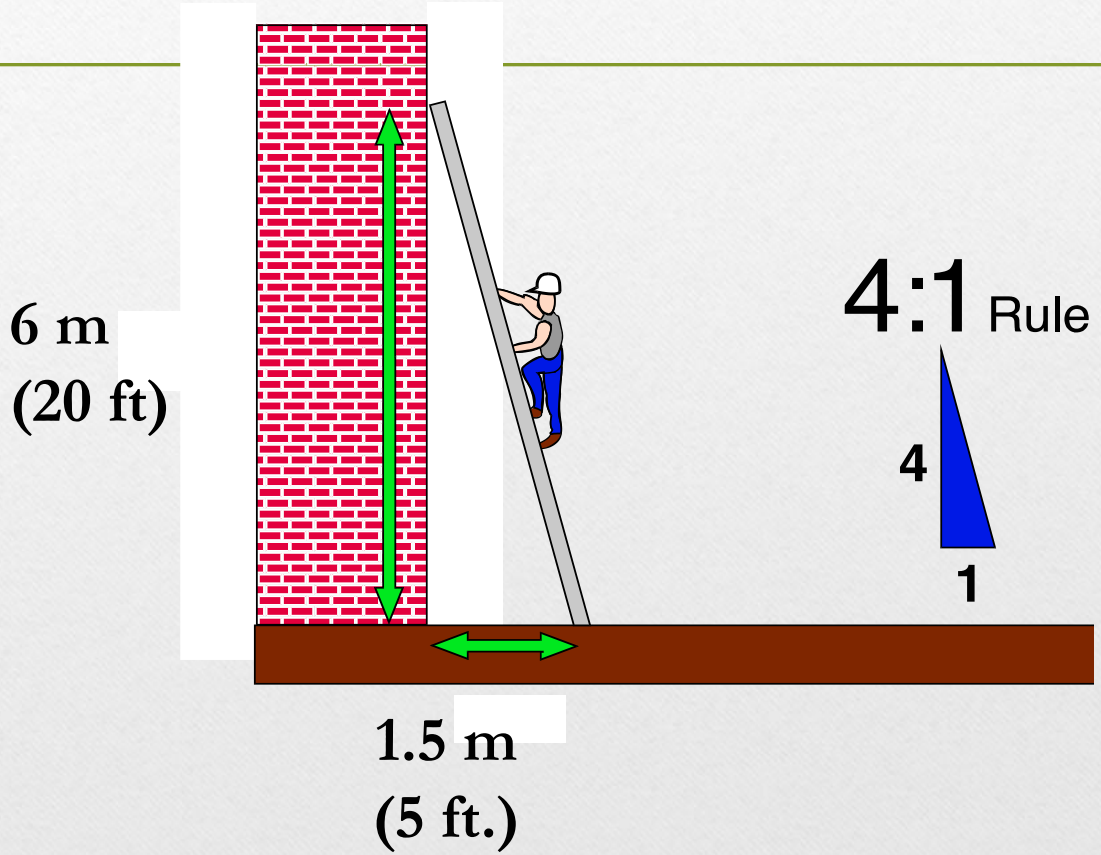
Extension ladders:

- A minimum of 3ft overlap is required
- Must be secured at the top

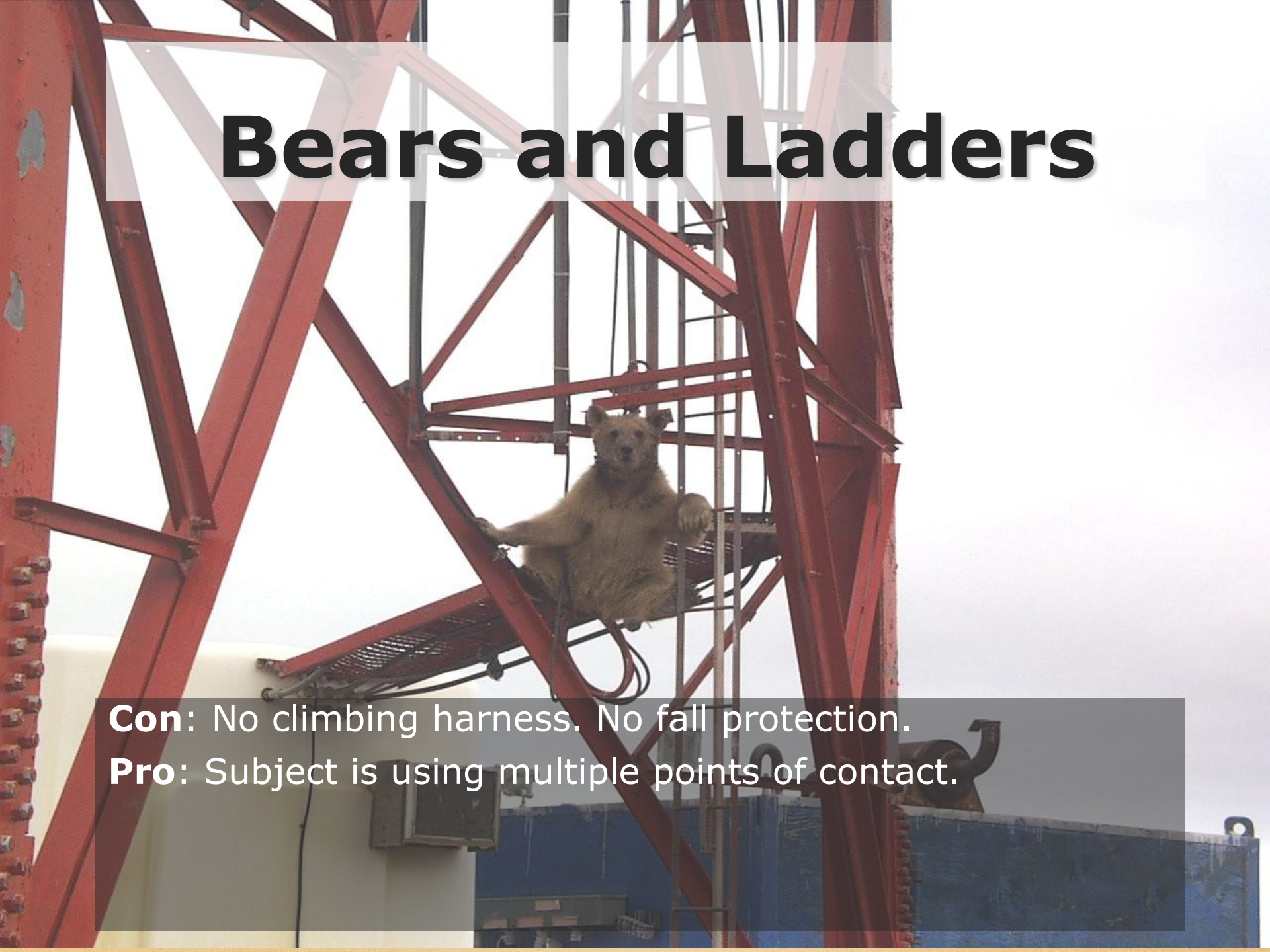

LADDER SAFETY
Ladder extends
3 feet beyond
the support point
3 FEET
(92cm)
SUPPORT
POINT
1
2
3
Maintain
3 Points
of contact

Ladder Safety

Follow the 4:1 rule when using extension ladders

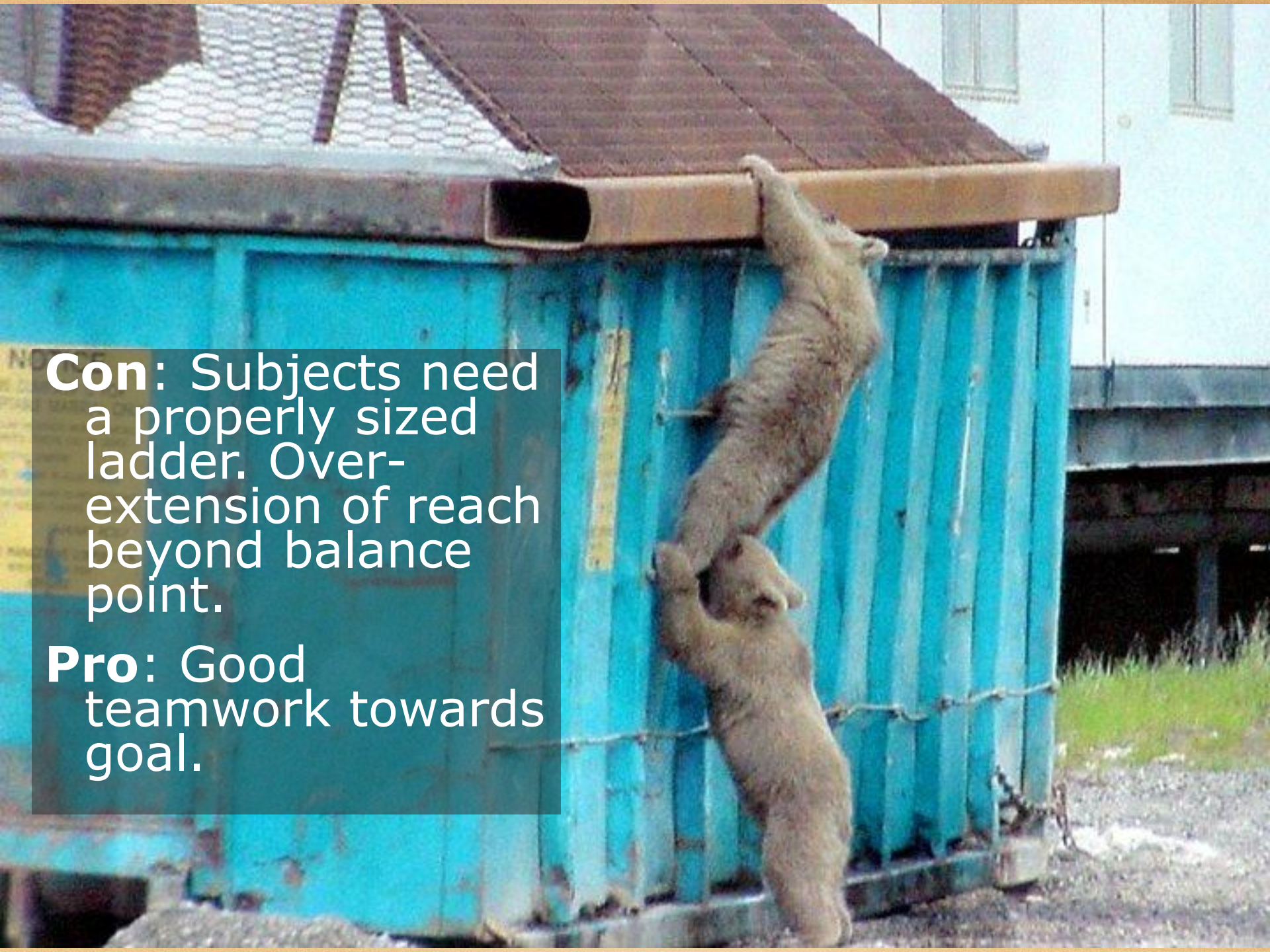


Bears and Ladders



Con: No climbing harness. No fall protection.

Pro: Subject is using multiple points of contact.



Con: Subjects need a properly sized ladder. Over-extension of reach beyond balance point.

Pro: Good teamwork towards goal.



Con: Is this is a GFI circuit? Always seems like fun and games until you get your mouth shocked!

Pro: Buddy system is in use. Safety spotter-lookout in the background. But, does he know CPR and first aid?

Con: No safety harnesses. Improper footwear. Climbing in tandem

Pro: Top bear checking on status of co-worker. Three points of contact at all times.





Con: Crew didn't do 360- degree walk around. Teammember riding in back of truck. Minors not permitted on job sit.

Pro: Checking tail-light bulbs prior to driving.



Con: Not a designated walkway.

Pro: Avoided slipping on icy pathway below.

Worst thing you can say. “I made it work.”

It might work but will it pass inspection?




PLEASE
DO NOT
MOVE STOCK




beakh







Nspire Fails

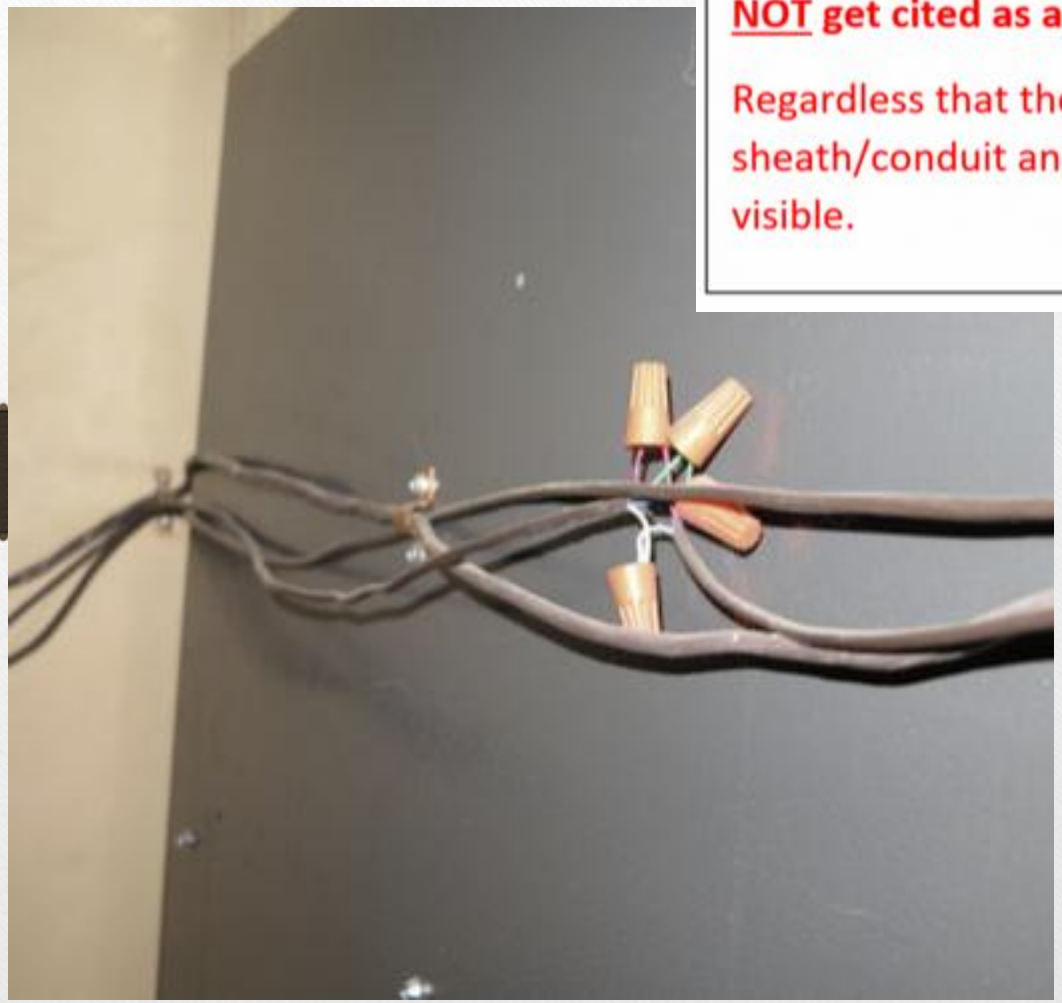
Electrical


WARNING



These furnace wires are LOW VOLTAGE and do NOT get cited as an exposed conductor.

Regardless that the insulated wires are not in a sheath/conduit and regardless that wire nuts are visible.

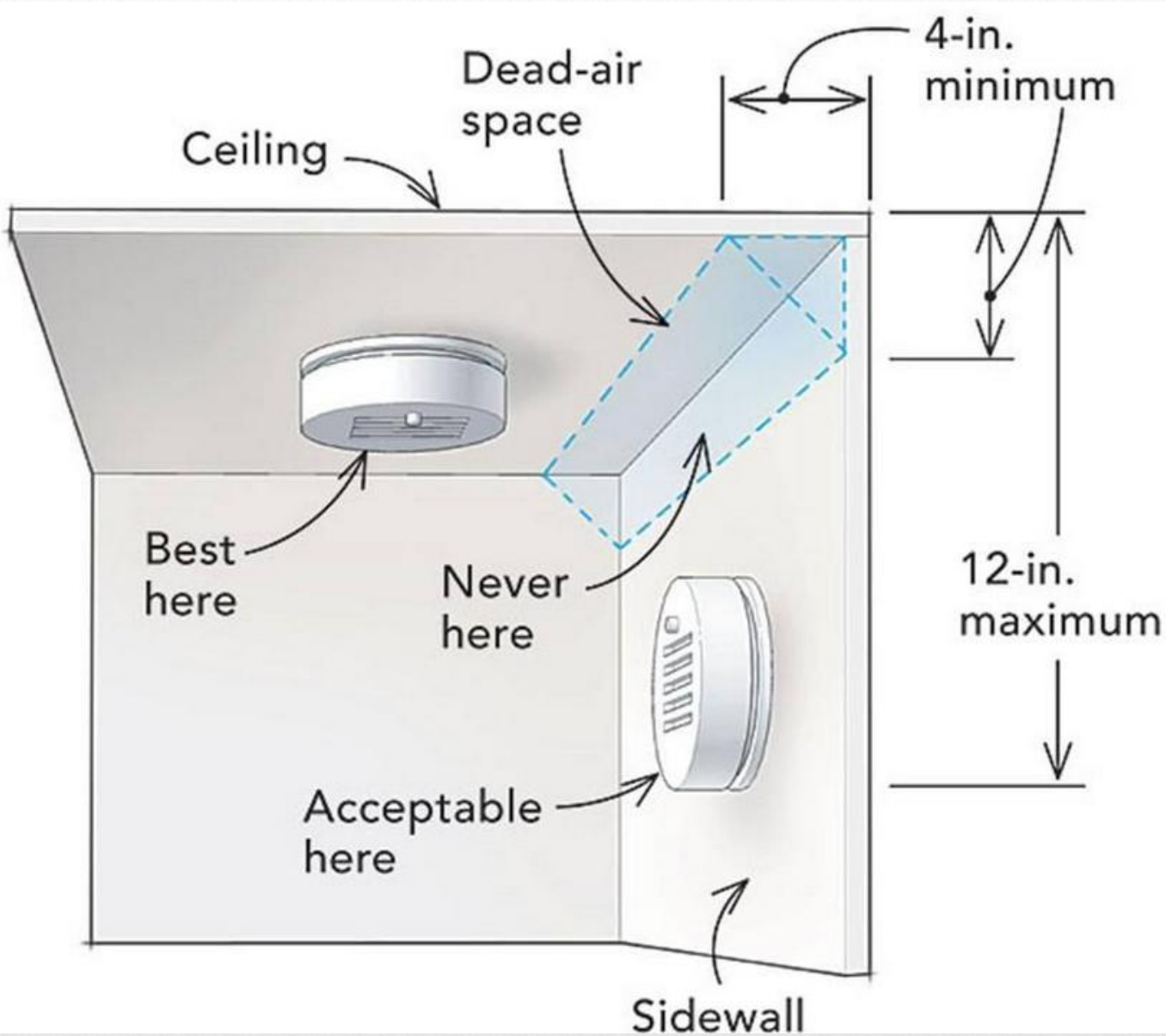






Nspire Fails

Smoke Alarms


4-in.
minimum
Dead-air
space
Ceiling
Best
here
Never
here
12-in.
maximum
Acceptable
here
Sidewall

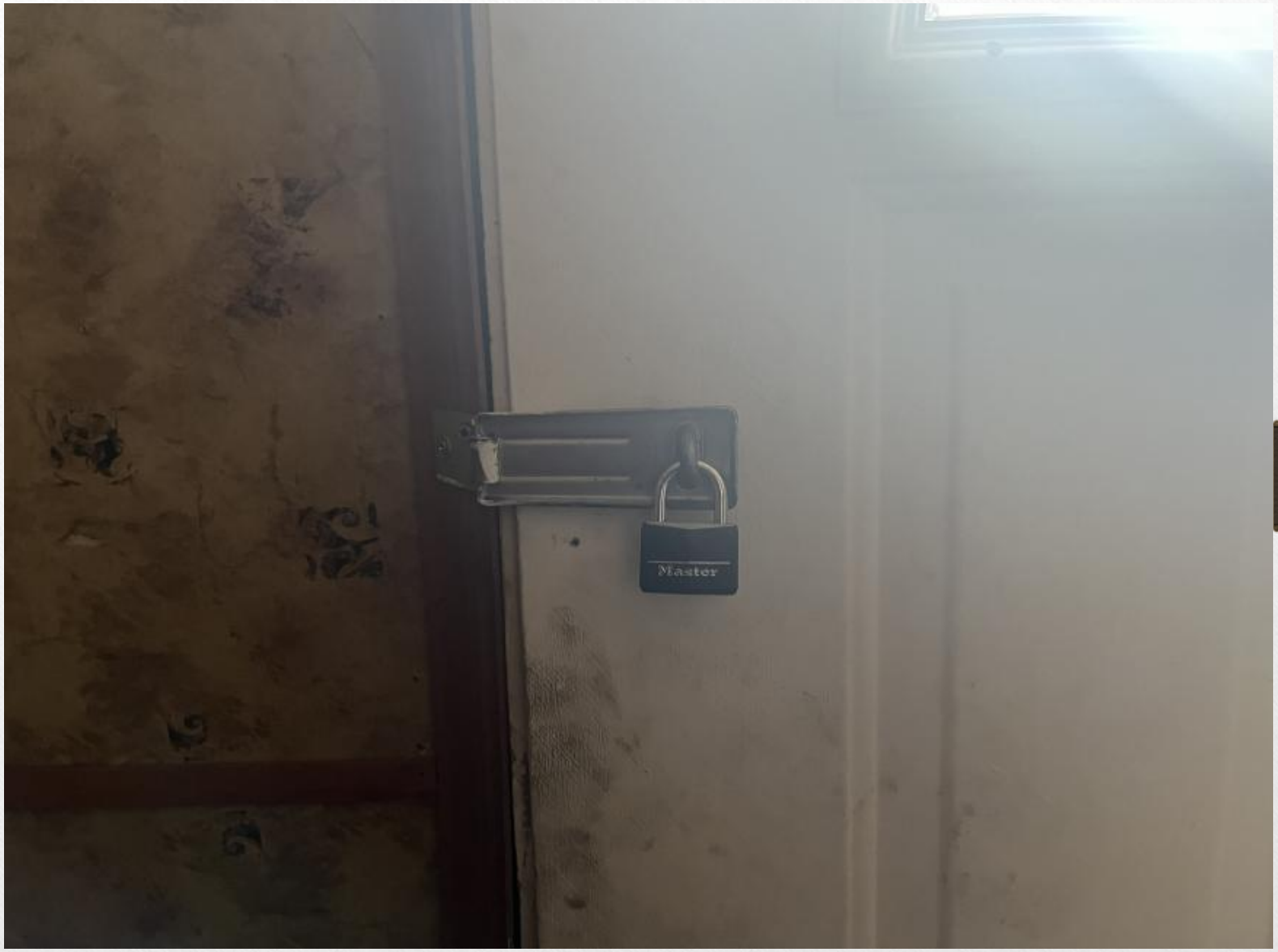

DO NOT PAINT
FIREX
DO NOT PAINT
FIREX

Nspire Fails

Blocked Egress




3


Master

Nspire Fails

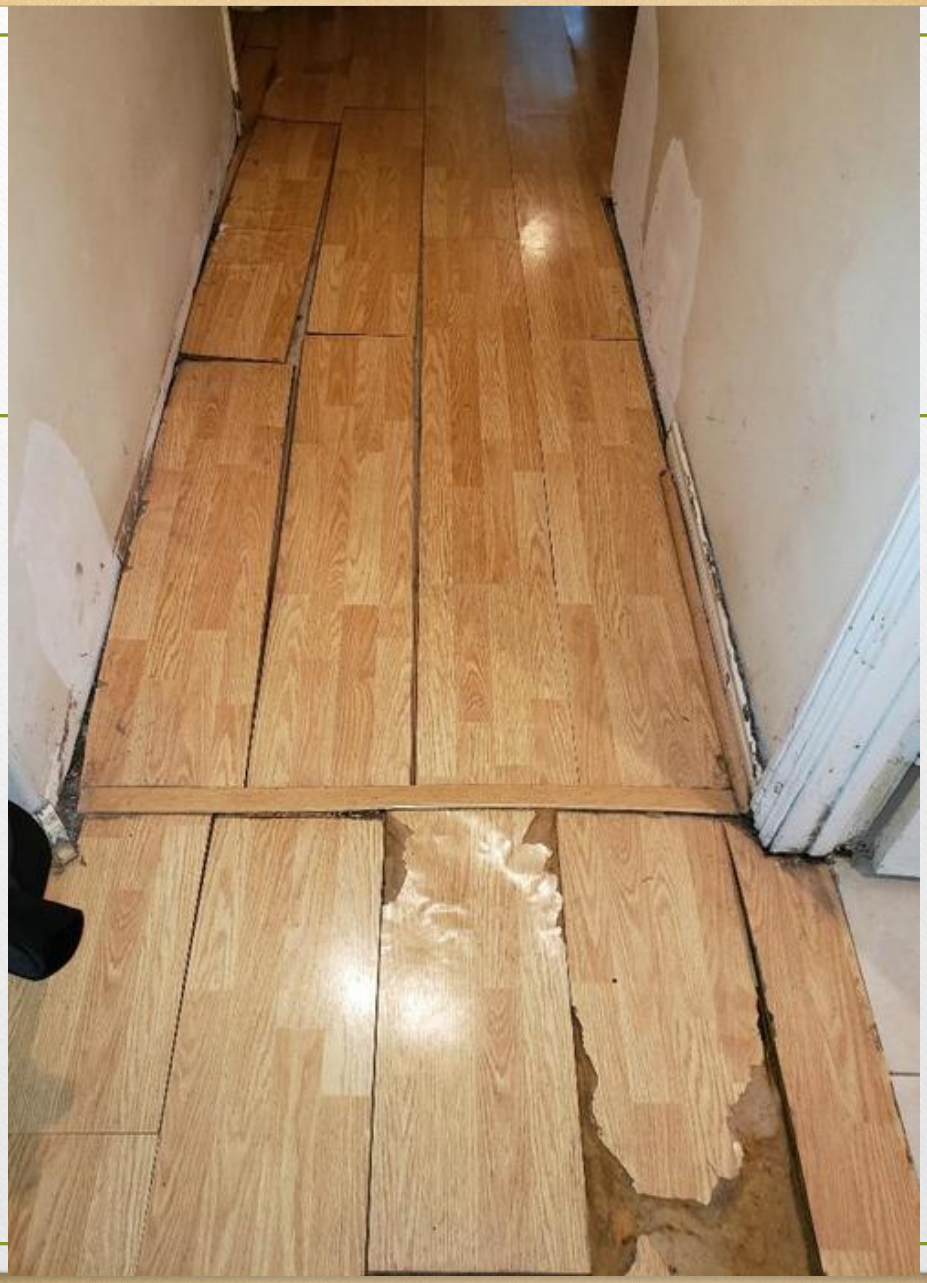
Trips and Falls








CAUTION
WET FLOOR



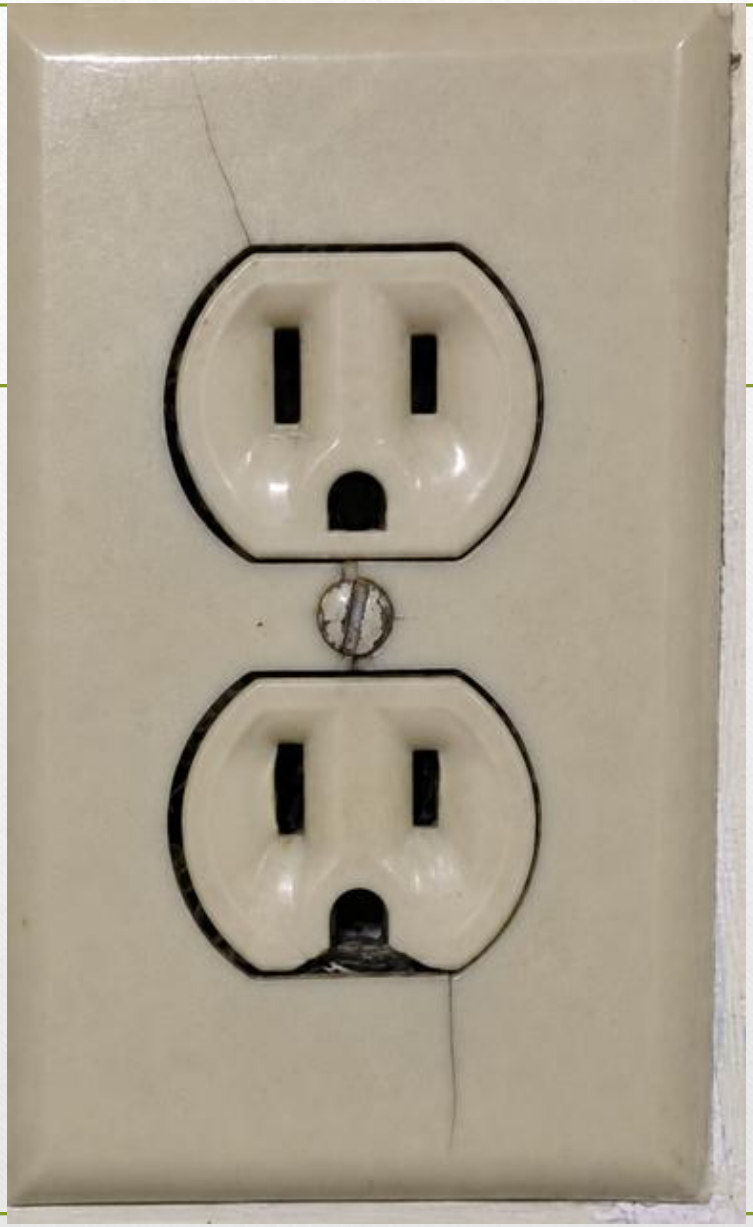
Can you locate the issues?




DRAIN 7/8" - ANAM HS-1 IAPMO APPROVED


PERFORMANCE
Rheem
STOP
1-866-279-4566










HDX




A/c
A/c
Water Heater
Water Heater
L.R.
Bath
200
Dryer
Dryer
Range
Range
Rear Bedroom
Center Bedroom
Kitchen
Garage
Garage Plugs




ENERG
Compare the Energy Us
with Others
USES LEAST
ENERGY
4622
ELECTRIC
KWH/YEAR






Pure
Baking Soda
13.5lb RESEALABLE BAG







Thank You