

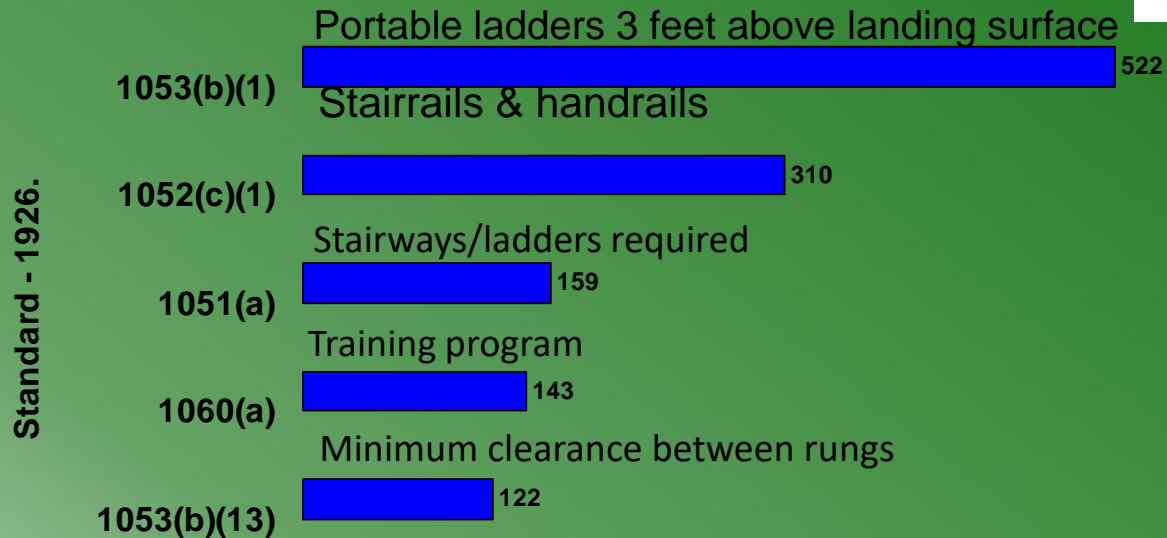
CFR 1926.1050

Stairways and Ladders

A cartoon illustration of a painter with a brown hat and a red shirt, standing on a wooden ladder. He is holding a paintbrush and painting yellow stars onto a blue, cloud-like shape. There are several yellow stars already on the blue shape.

Subpart X

Subpart X - Ladders (1926.1050 - 1060)



§ 1926.1050 Scope

- Applies to all stairways and ladders used in construction, alteration repair (including painting and decorating), and demolition workplaces.
- Sets forth, in specified circumstances, when ladders and stairways are required to be provided.



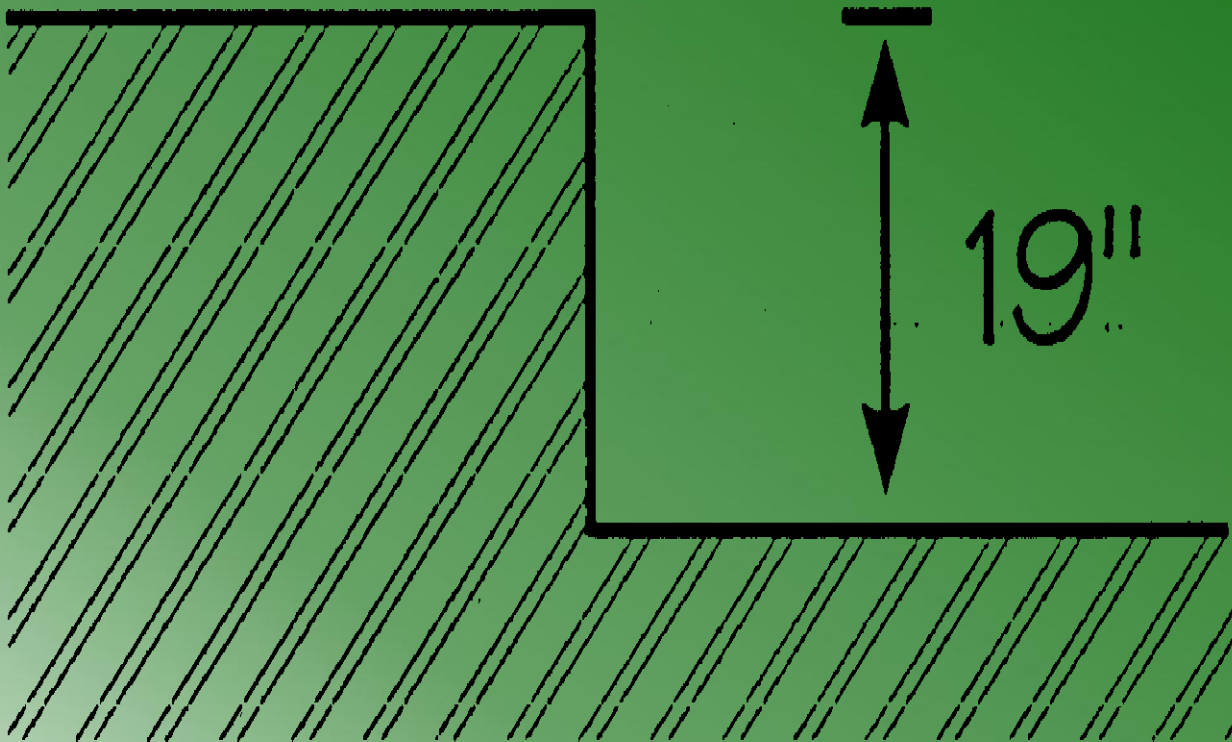
The Hazard

- 50% of injuries associated with stairway and ladders result in lost work



§ General Requirements 1926.1051

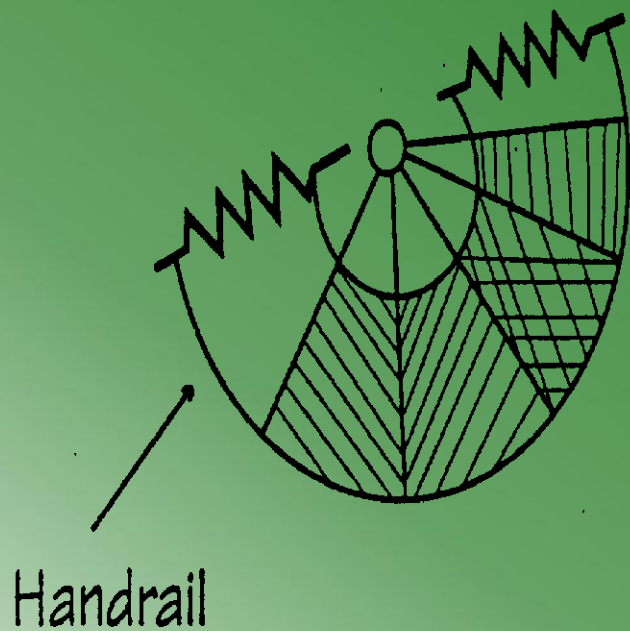
- There must be a stairway or ladder at points of access where there is an elevation break of **19 inches** or more.



§ General Requirements 1926.1051

- No spiral stairs unless permanent part of structure
- Handrail located where tread reduces to 6"

2) Spiral Stairs



§ General Requirements 1926.1051



- Provide at least 2 ladders (or double-cleated) when ladders are the only means of access and 25 or more employees
- One point of access kept clear
- If access blocked second access provided

§ General Requirements 1926.1051

- Must protect workers from falls prior to installation of stair & ladder systems

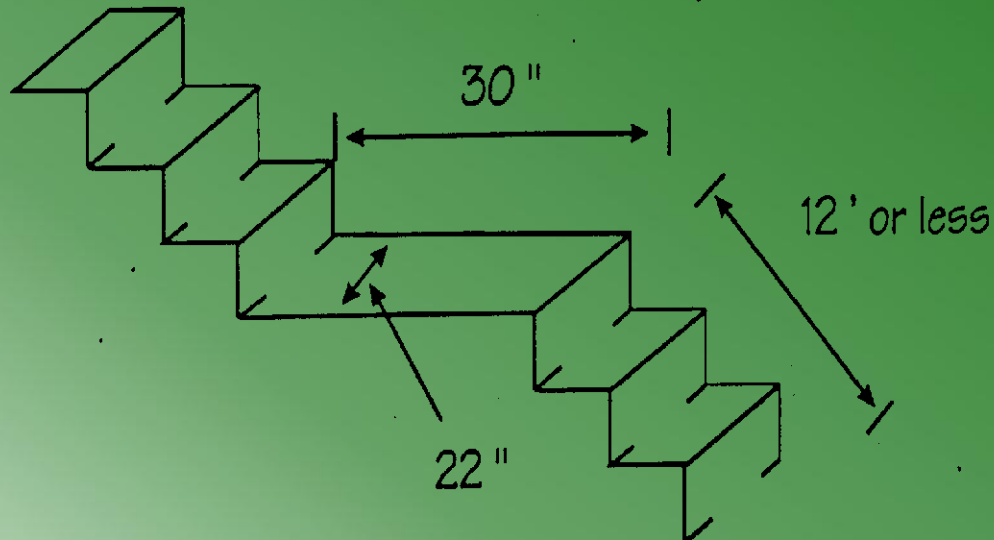


§ Stairways 1926.1052

- Landings on temporary stairs must be at least 30 inches long and 22 inches wide for every 12 feet of vertical travel

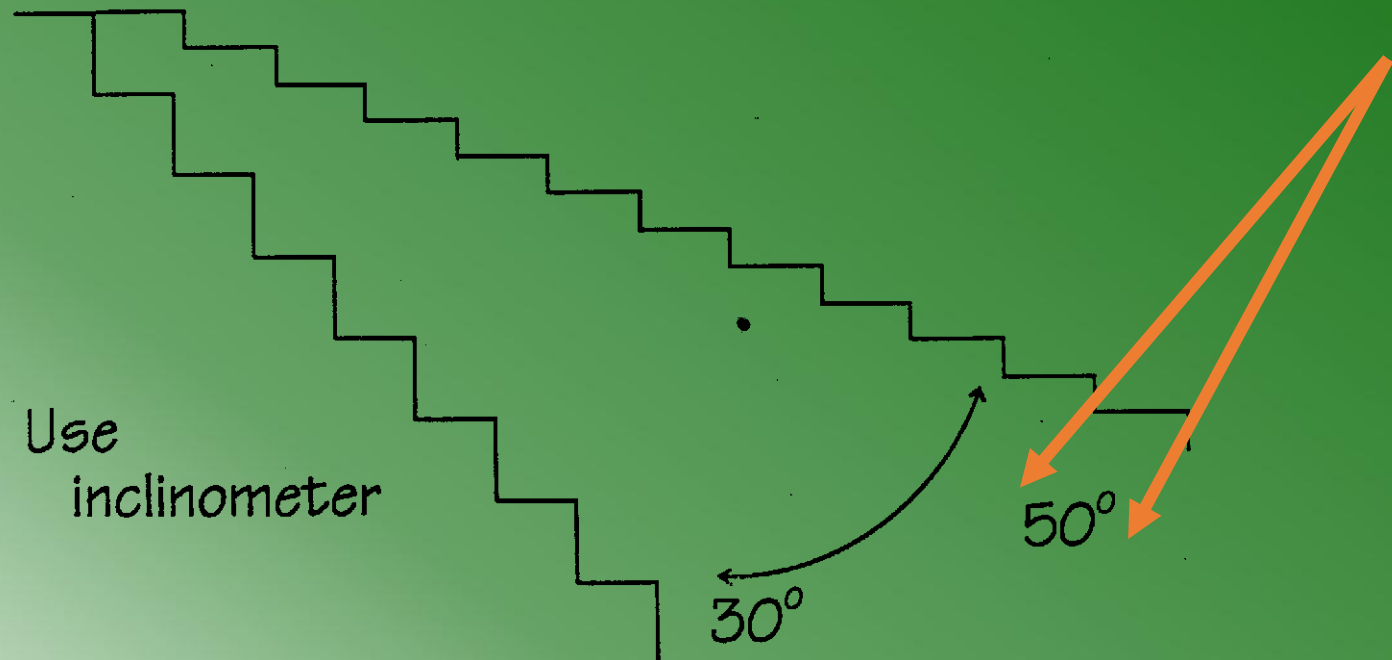
1052 a)

1.) Temporary stairway landings



§ Stairways 1926.1052

- Stairs installed between 30° and 50° from horizontal
- *Must have uniform riser height and tread depth, with less than a 1/4-inch variation*

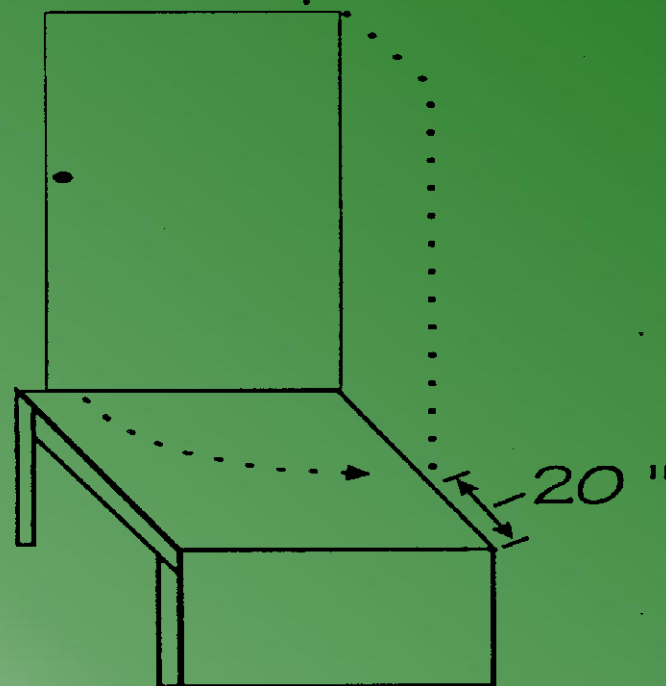


§ Stairways 1926.1052

- When doors open toward stairs **must have platform** with at least 20 clear inches beyond swing of door

1052.a)

4) Platform constructed to 20" beyond door/gate swing radius



§ Stairways 1926.1052

- Fix slippery conditions before using.
- All parts of stairways free of hazardous projections such as nails



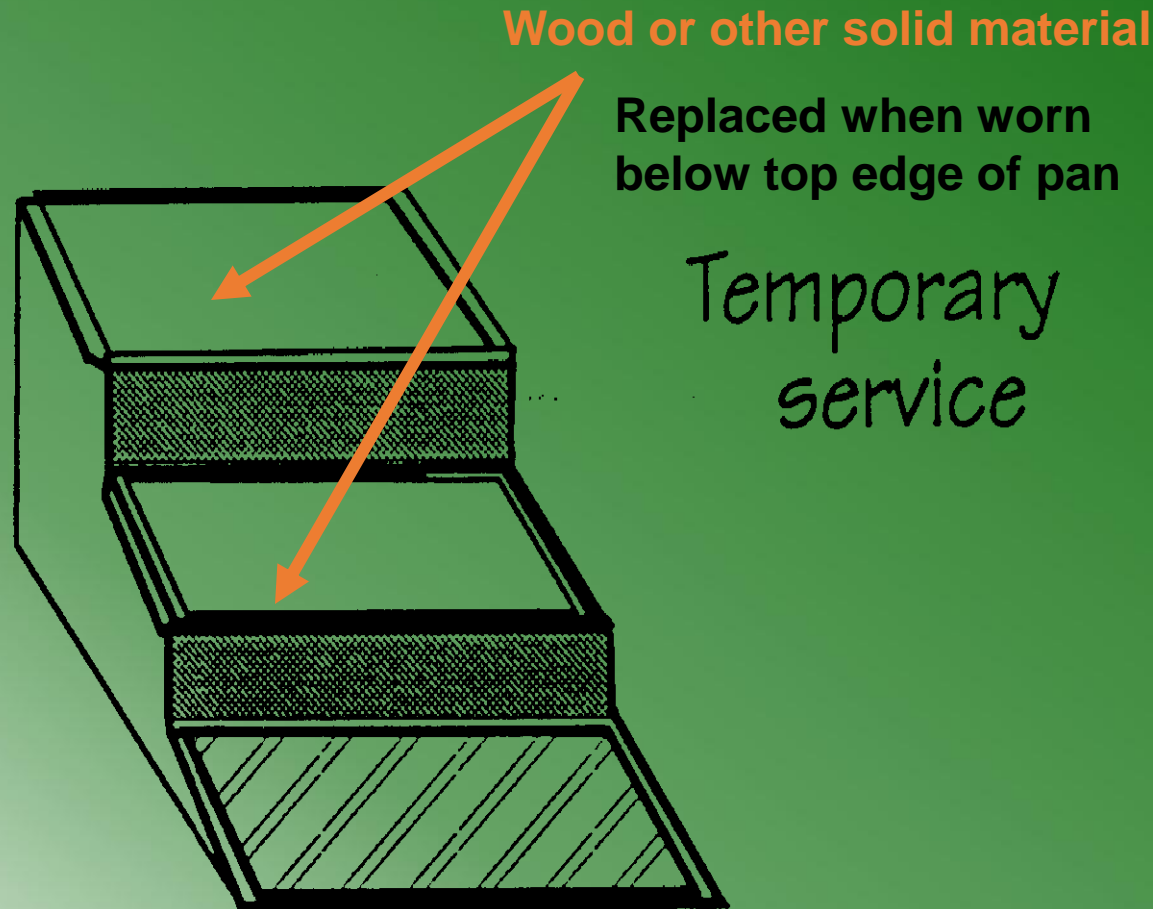
§ Stairways 1926.1052

- Metal pan type stairs secured before filling
- No access on pan stairs unless filled to top of pan
- No access on skeleton stairs unless full treads and landings

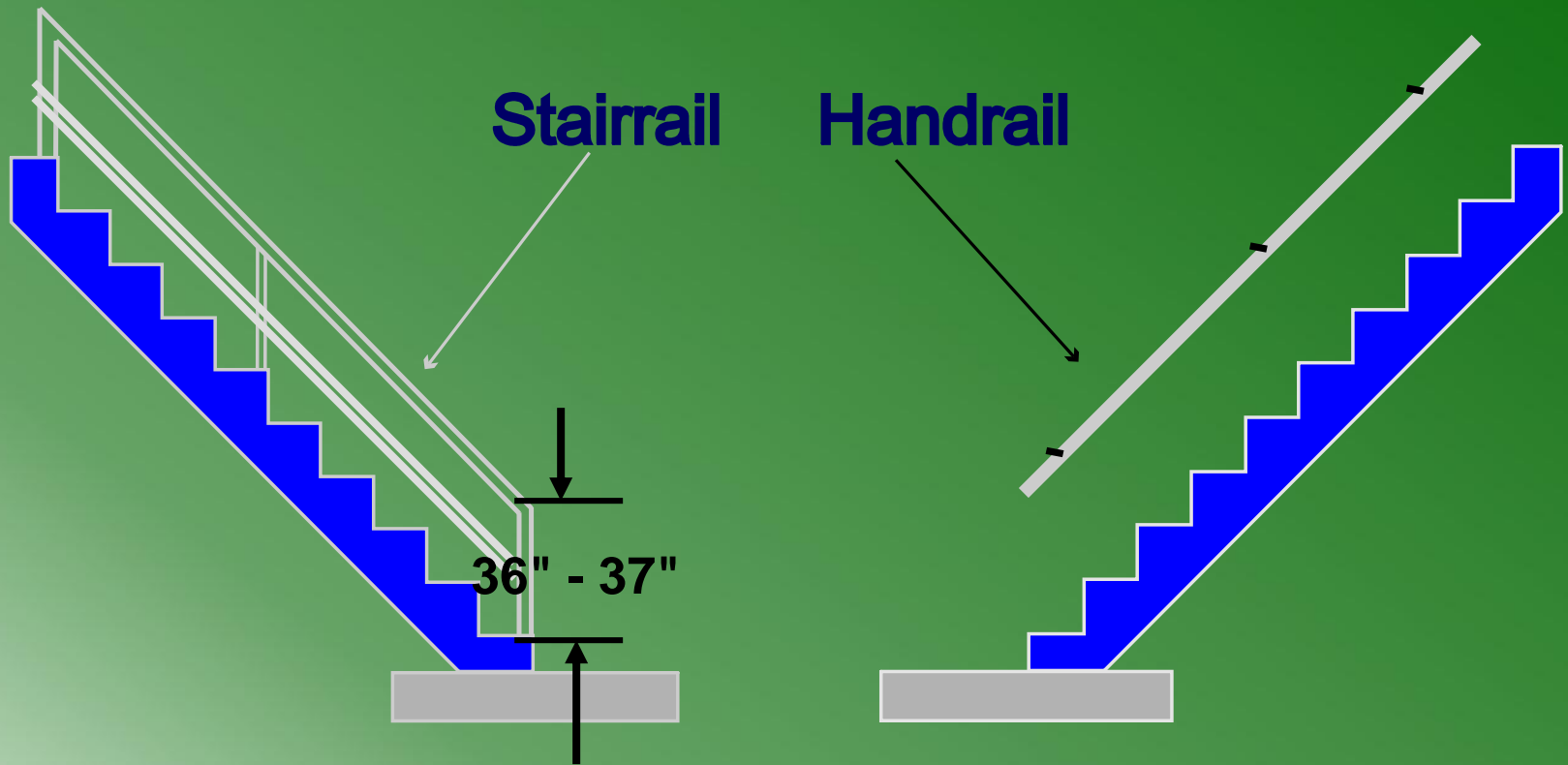


1052

b) 1) Pan tread/stairs/landings shall be filled



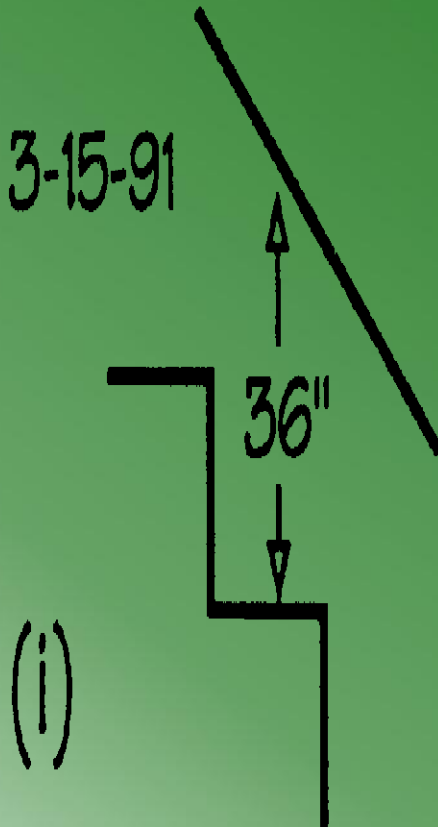
§ Stairways 1926.1052



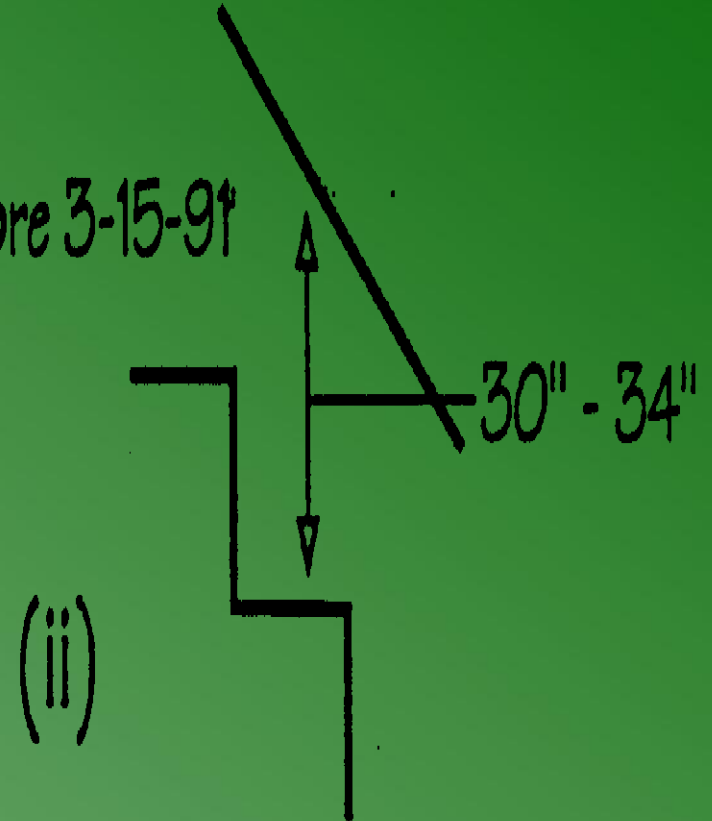
When toprail of stairrail is also the handrail it must be between 36 & 37 inches high measured from the front of the stair tread

3) Height of Stairrails

After 3-15-91



Before 3-15-91



§ Stairways 1926.1052

- Four or more risers, at least one handrail
- Stairrail along unprotected edge(s)



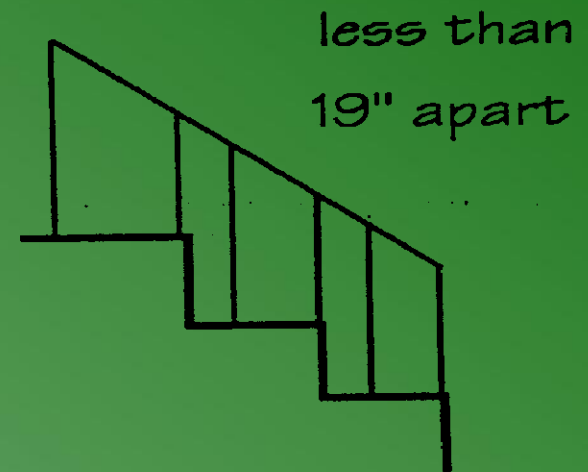
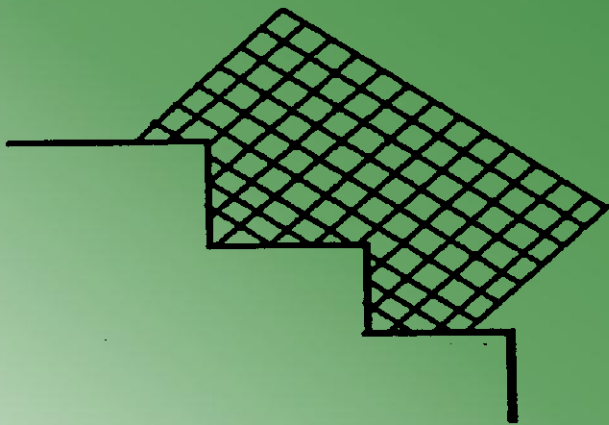
§ Stairways 1926.1052

- Midrails, screens, mesh, intermediate vertical members, or equivalent provided between the top rail of the stairrail system and the stairway steps.



§ Stairways 1926.1052

- If using midrails, install halfway between stair & toprail
- If mesh, extend along entire opening
- If balusters, every 19" or less

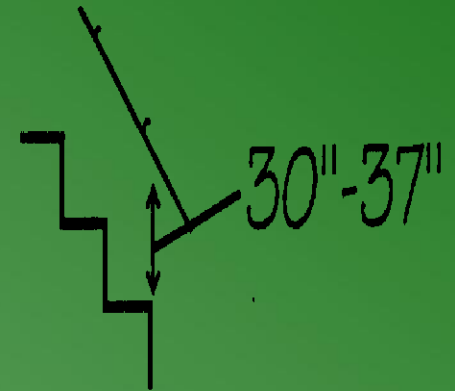


§ Stairways 1926.1052

- Handrails 200 pounds strong
- Applied within two inches
- Any downward or outward direction



6.) Handrail height 30"-37"



§ Stairways 1926.1052

- Smooth surface required for stairrails & handrails & handholds adequate to avoid falling
- Endrails, no projection hazard



§ Stairways 1926.1052

- 3" clearance minimum on handrails from walls and other objects
- Guardrails provided on open side of landings



9.) Rails must be adequate as a handhold



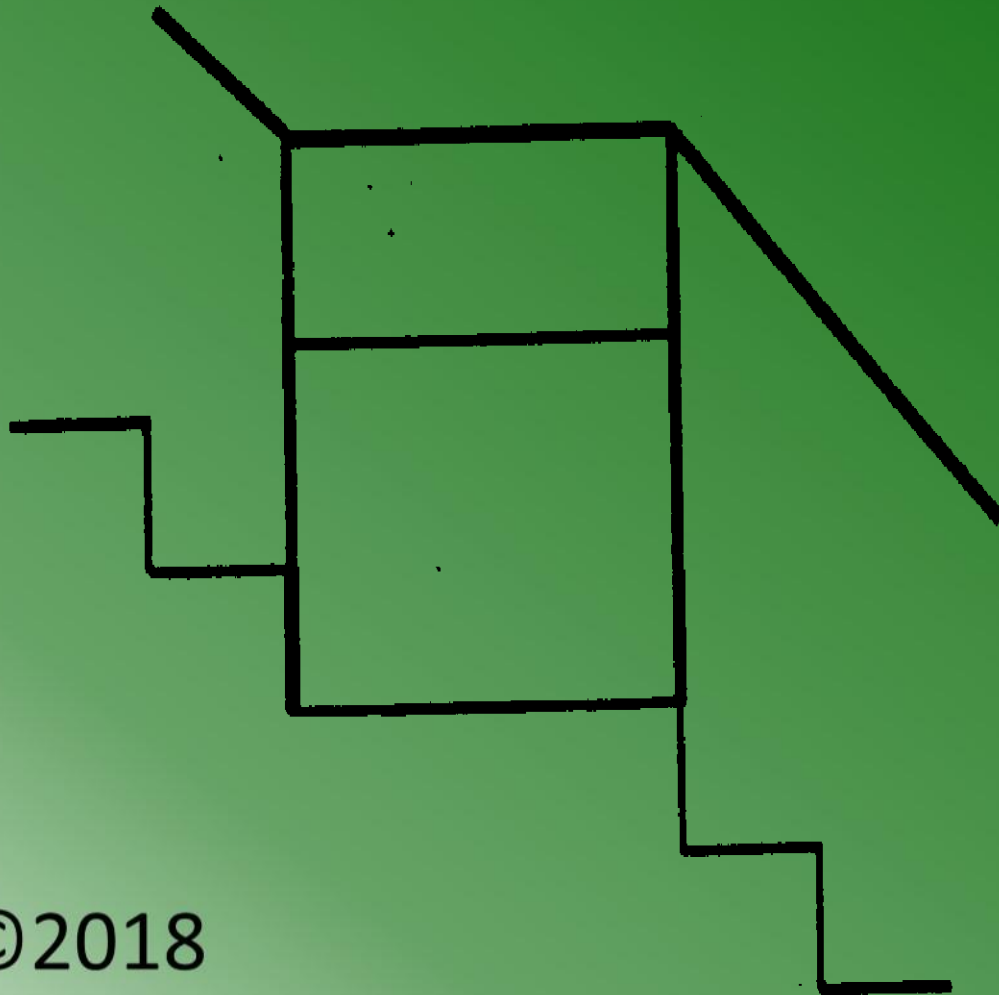
Metal
pipe
OK



2 x 4
OK



12.) Stairway landings must be guarded



§ Ladders 1926.1053

- Self supporting portable ladders four times maximum intended load



**Load applied
in the
downward
direction**

§ Ladders 1926.1053

- Portable ladders not self supporting at least four times intended load applied downward at $75\ 1/2^\circ$ from horizontal



§ Ladders 1926.1053



- Fixed ladders, at least two 250 lb loads between any two consecutive attachments
- Plus loads from ice, wind, rigging and impact loads from ladder safety device
- 250 lb strong on any rung applied in the middle

§ Ladders 1926.1053

- Rungs spaced between 10 and 14 inches
- Portable ladders side rails at least 11 1/2 inches apart
- Fixed ladder side rails at least 16 inches apart



§ Ladders 1926.1053

- Rungs and steps of fixed metal ladders & portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material



§ Ladders 1926.1053

- Ladders *never* tied or fastened together to provide longer sections unless they are specifically designed for such use.



§ Ladders 1926.1053



- Metal spreader or locking device on each stepladder to hold the front and back sections in an open position when the ladder is being used.

§ Ladders 1926.1053

- Except when portable ladders are used to gain access to fixed ladders (such as those on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access), when two or more separate ladders are used to reach an elevated work area, the ladders shall be offset with a platform or landing between the ladders.

§ Ladders 1926.1053

- Ladder components surfaced to prevent injury
- No opaque coatings on wood ladders



§ Ladders 1926.1053

- No obstructions within seven inches behind ladder
- No obstructions within 30 inches on climbing side
- 24 inches on climbing side if deflector is provided
- Step across distance between 7 & 12 inches



§ Ladders 1926.1053

- Fixed ladders without cages or wells shall have a clear width to the nearest permanent object of at least 15 inches on each side of the centerline of the ladder.



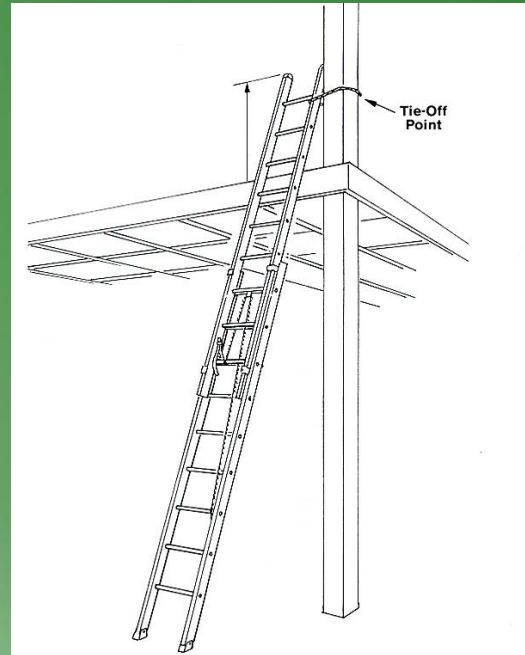
§ Ladders 1926.1053



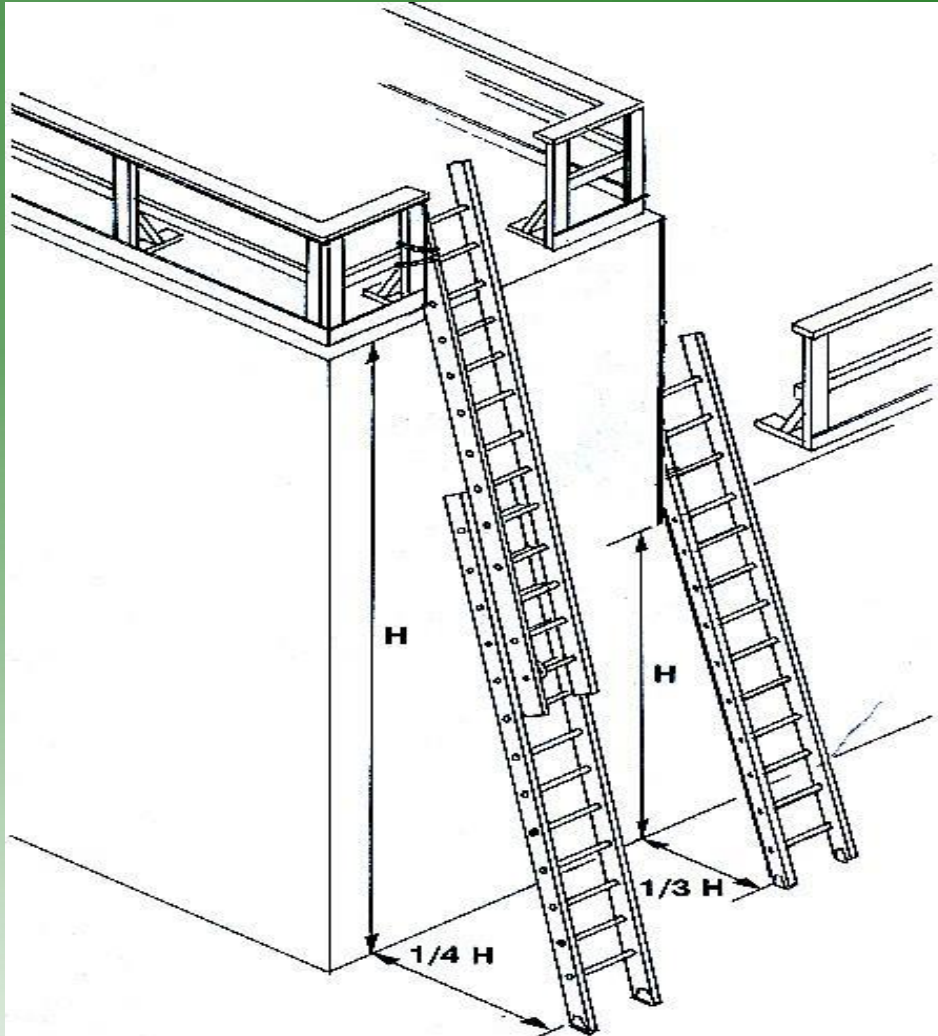
- Length of climb over 24 feet require:
 - Ladder safety device
 - Cage or well
 - Rest platforms at least every 150 feet
- Cages must have:
 - Horizontal (every 4') & vertical bands (every 9 1/2")

§ Ladders 1926.1053

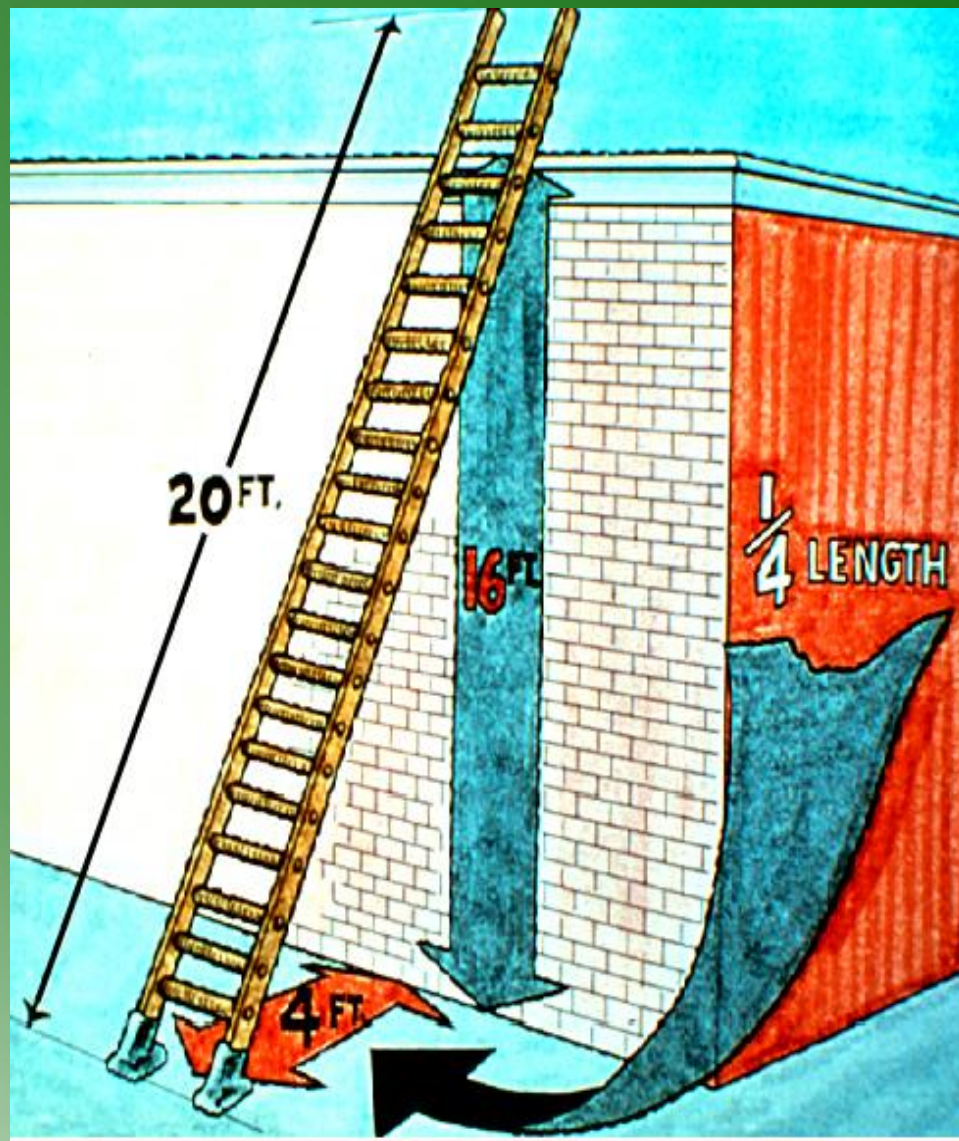
- Ladder rails must extend three feet above the landing
- Or secured & grabrail provided
- Free of oil & grease



§ Ladders 1926.1053



- Lean straight ladders at a base angle of $1/4$ the working length of the ladder from the top support



§ Ladders 1926.1053

- Ladders placed only on level stable surfaces
- Must use slip-resistant feet if slippery
- Never placed in doorways or traffic areas
- Barricade if necessary
- Top and bottom of ladder kept clear

§ Ladders 1926.1053



- Ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized electrical equipment.

§ Ladders 1926.1053

- The top or top step of a stepladder shall not be used as a step.
- Climbing ladder cross-bracing prohibited
- Ladders must be inspected periodically by a CP



§ Ladders 1926.1053



- Portable or fixed ladders which are damaged must be taken out of service and tagged “DO NOT USE”

§ Ladders 1926.1053

- Must face ladder when climbing or descending
- Must maintain three points of contact when ascending or descending
- Cannot carry objects onto ladders which could cause you to fall



