GENERAL SAFETY

• Determine if the working surface can support the weight of the personnel and equipment to be used on the roof before starting the project.
• A thorough visual inspection of the UNDERSIDE of the roof will help provide clues to determine roof integrity.
• Never work on a roof alone, a second person can contact emergency services in case of an accident.
• Have emergency contact numbers available.
• Always have means of communication on the roof to talk with ground / emergency personnel.
• Roofing personnel must use appropriate PPE (personal protective equipment). This includes, but is not limited to:
  • Hard Hats, eye protection, appropriate gloves, respiratory protection, harness/“tie-back” lanyards, safety boots, spray suits, etc.
• Caution “Men Working Above” signs posted at entry ways into the building. Danger tape at doors if working directly above the entry.
Ladders / Access

• Inspect ladders daily for cracks, bent rungs, etc.
• Top of ladder must extend a **MINIMUM** of 3’ beyond roof edge. Three (3) rungs is the industry standard.
• Ensure base of the ladder is firmly set.
• Ladder must be secured at the top with rope / bungee cord, etc.
• Base angle of ladder must be extended ¼ of the working height. Use the arm reach method to check angle.
• Must be erected a **MINIMUM** of 10’ from any power line.
• Install a *separate lifeline* with multiple rope grabs for access.
FALL PROTECTION

• Steep roofs are defined by OSHA and having a slope *greater* than 4:12
• Fall Protection methods approved for use on steep sloped roofs:
  – Horizontal lifelines / harness / lanyard / rope grab
  – Guardrails
    • Rail top height 42” + /- 3” above walking / working surface
    • Mid-rails must be utilized
    • Must withstand a force of at least 200# applied within 2” of the top edge and must not deflect to a height less than 39” above the working surface.
    • Can be constructed with wood (not exceeding 2”X4”X8’) or metal piping
    • Must have toe boards
  – Netting
  – OSHA approved roof brackets / harness / lanyard / lifeline / rope grab.
  – Use of a Safety Monitor alone is not approved for steep slope roofing.
Examples of OSHA Approved Brackets
Examples of OSHA Approved Brackets
OSHA STANDARDS

• 1926.502 (D)(8) Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person as part of a complete personal fall-arrest system which maintains a safety factor of at least two.

• 1926.502(d)(10) (i) “...when vertical lifelines are used, each employee shall be attached to a separate lifeline”

• 1926.502(d)(15) “Anchorages...shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as...(i) part of a complete personal fall-arrest system which maintains a safety factor of at least two and (ii) under the supervision of a qualified person”

• 1926.502(d)(16) “Personal fall-arrest systems, when stopping a fall, shall...(ii) limit maximum arresting force on an employee to 1,800 pounds when used with a body harness, (iii) be rigged such that an employee can neither free-fall more than 6 feet nor contact any lower level (iv) bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet, and (v) have sufficient strength to withstand twice the potential impact energy of an employee free-falling a distance of 6 feet, or the free-fall distance permitted by the system, whichever is less”

• 1926.502(d)(23) “Personal fall-arrest systems shall not be attached to guardrail systems, nor shall the be attached to hoists except as specified in other Subparts of this Part”

• 1926.502(d)(24) When a personal fall-arrest system is used in hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

• 1926.502(e)(1) Positioning devices shall be rigged such that an employee cannot free-fall more than 2 feet.

• 1926.502(e)(2) Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee’s fall or 3,000 pounds, whichever is greater.
WEATHER

• Employers should not be involved in construction, repair, or maintenance operations on roofs during periods of high wind (such as when a wind advisory has been issued), lightning storms, snow storms, or other potentially hazardous weather conditions.

• Dress appropriately for anticipated weather conditions.

• Wear sunscreen when exposed to UV rays for extended periods of time.

• Provide water for employees for hydration.

• Watch for signs of heat stroke / exhaustion.
A SINGLE SECOND

- IT TAKES A MINUTE TO WRITE A SAFETY RULE
- IT TAKES AN HOUR TO HOLD A SAFETY MEETING
- IT TAKES A WEEK TO PLAN A GOOD SAFETY PROGRAM
- IT TAKES A MONTH TO PUT THAT PROGRAM INTO OPERATION
- IT TAKES A YEAR TO WIN A SAFETY AWARD
- IT TAKES A LIFETIME TO MAKE A SAFE WORKER
- BUT IT ONLY TAKES A **SECOND** TO DESTROY IT ALL – WITH **ONE** ACCIDENT

TAKE THE TIME NOW TO WORK SAFE

AND

HELP YOUR FELLOW EMPLOYEES TO BE SAFE
Foam Application

- Walk on seams (fasteners act as cleats/ strongest).
- Do leg/foot stretches before working on the roof.
- Tie the foam / coating hose at the ridge to eliminate some of the stress of the hose dragger.
- Spray the lower (at least 3 feet) edges and outside edges FIRST (before starting the main “field” of roofing. They will be very slippery otherwise.
- Spray from top to bottom.
- Use safety rope to help support yourself (hold rope).
Foam Application

• Try to spray maximum thickness in one “lift”.
• Work “upwind” to help eliminate slippery over-spray on un-foamed / coated roof areas.
• Set up a flag on the roof to check wind direction and look for potential “victims” of overspray downwind of the project. Talk to the owners and almost always they will move vehicles. Nobody likes overspray!
• Don’t allow anyone other than “trained” employees on the roof (wearing the appropriate PPE).
Coating Application

• Use a “less slippery” coating (other than silicone) such as Acrylic, Polyurea, or Urethane material that is approved by the foam manufacturer.

• Always check for “dryness” (of 1st coat) of material before accessing the roof to apply the 2nd coat.

• As with the foam application, spray the coating “upwind” to prevent slippery overspray on areas not coated.
Questions & Answers

Thank You For Attending

OSHA Standards & Fall Protection

Handouts in the Rear