


***The following are guidelines. Client or Project Specifics may superseded this document. Consult Project Manager with conflicts.***

**Two-point (swing stage):** Platform supported by hangers (stirrups) suspended by two wire ropes from overhead supports and equipped with a means to permit the platform to be raised and lowered.

**Single-point Adjustable:** Platform suspended by one wire rope from an overhead support and equipped with a means to permit the platform to be moved to desired working levels





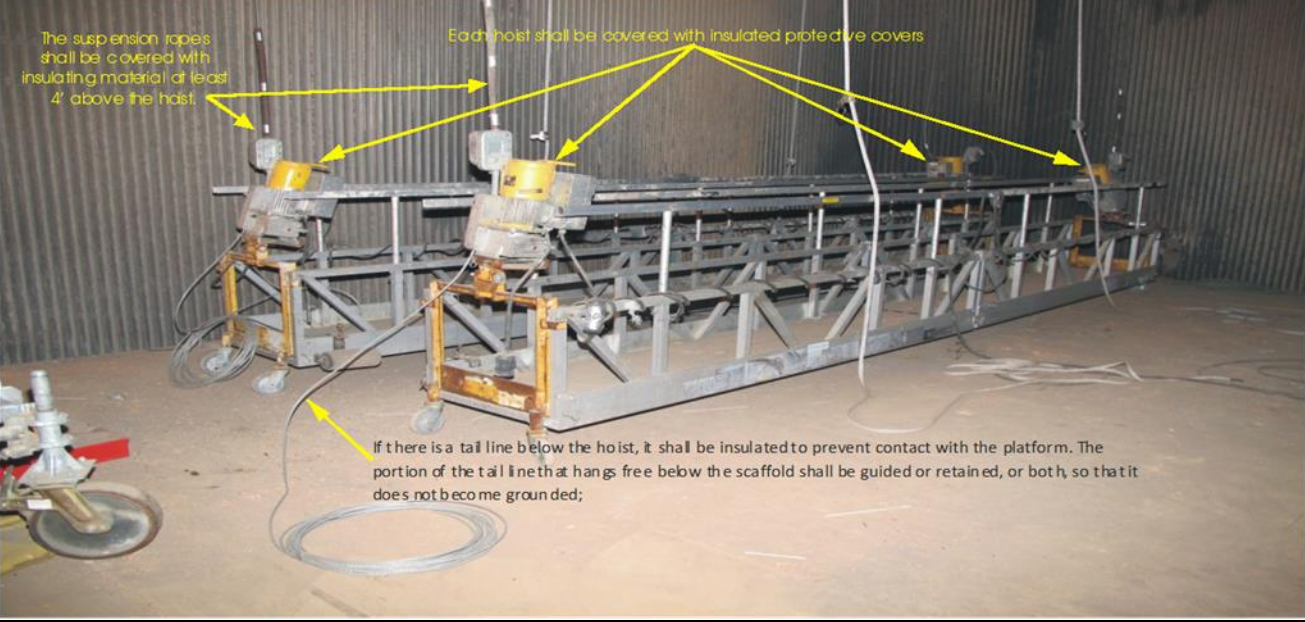
Task Step	Step Hazard	Hazard Mitigation	Picture
Inspect Suspended Scaffold <b>erector competent person</b>	Scaffold failure	Scaffolds and scaffold components shall be inspected for visible defects by an erector competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.	

Acceptable	Corrective action needed	Erectors Swing Stage
<input type="checkbox"/>	<input type="checkbox"/>	Scaffold frame is level and plum
<input type="checkbox"/>	<input type="checkbox"/>	Power supply cables are free of cuts or tears, taped at connections, and secured to platform
<input type="checkbox"/>	<input type="checkbox"/>	Counter weights and Rigging beam are in place and overhang does not exceed capacity found on weight chart
<input type="checkbox"/>	<input type="checkbox"/>	Tie backs are in place and secured to proper anchorage point.
<input type="checkbox"/>	<input type="checkbox"/>	Wire Ropes are free of kinks or any other defects, properly secured, and brazed at both ends
<input type="checkbox"/>	<input type="checkbox"/>	Rigging Beam or Stand meets capacity required and is labeled with load rating
<input type="checkbox"/>	<input type="checkbox"/>	All bolts, nuts, and clamps are in place and tightened to proper torque specifications
<input type="checkbox"/>	<input type="checkbox"/>	Insulated thimbles are in place on both drop and tie back cables
<input type="checkbox"/>	<input type="checkbox"/>	All excess drop or tieback cable is properly stored on insulating material
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Hoist covers are provided for use during welding procedures
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Wire Rope covers for above and below hoists are provided during welding procedures
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Stand-off or Face Roller is in place
<input type="checkbox"/>	<input type="checkbox"/>	Stage ground provided for user to install during welding procedures

<b>User pre use Inspection of Suspended Scaffold</b>	Scaffold failure	
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Acceptable	Corrective action needed	BMW Pre-users Inspection Swing Stage
<input type="checkbox"/>	<input type="checkbox"/>	Check erectors scaffolding tag for deficiencies
<input type="checkbox"/>	<input type="checkbox"/>	Rigging Beam or Stand meets capacity required and is labeled with load rating
<input type="checkbox"/>	<input type="checkbox"/>	Insulated thimbles are in place on both drop and tie back cables
<input type="checkbox"/>	<input type="checkbox"/>	All excess drop or tieback cable is properly stored on insulating material
<input type="checkbox"/>	<input type="checkbox"/>	Wire Ropes are free of kinks or any other defects, properly secured, and brazed at both ends
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Hoist covers are provided for use during welding procedures
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Wire Rope covers for above and below hoists are provided during welding procedures
<input type="checkbox"/>	<input type="checkbox"/>	Non-Conductive Stand-off or Face Roller is in place
<input type="checkbox"/>	<input type="checkbox"/>	Stage ground provided for user to install during welding procedures
<input type="checkbox"/>	<input type="checkbox"/>	Obvious defects to scaffold or components
<input type="checkbox"/>	<input type="checkbox"/>	

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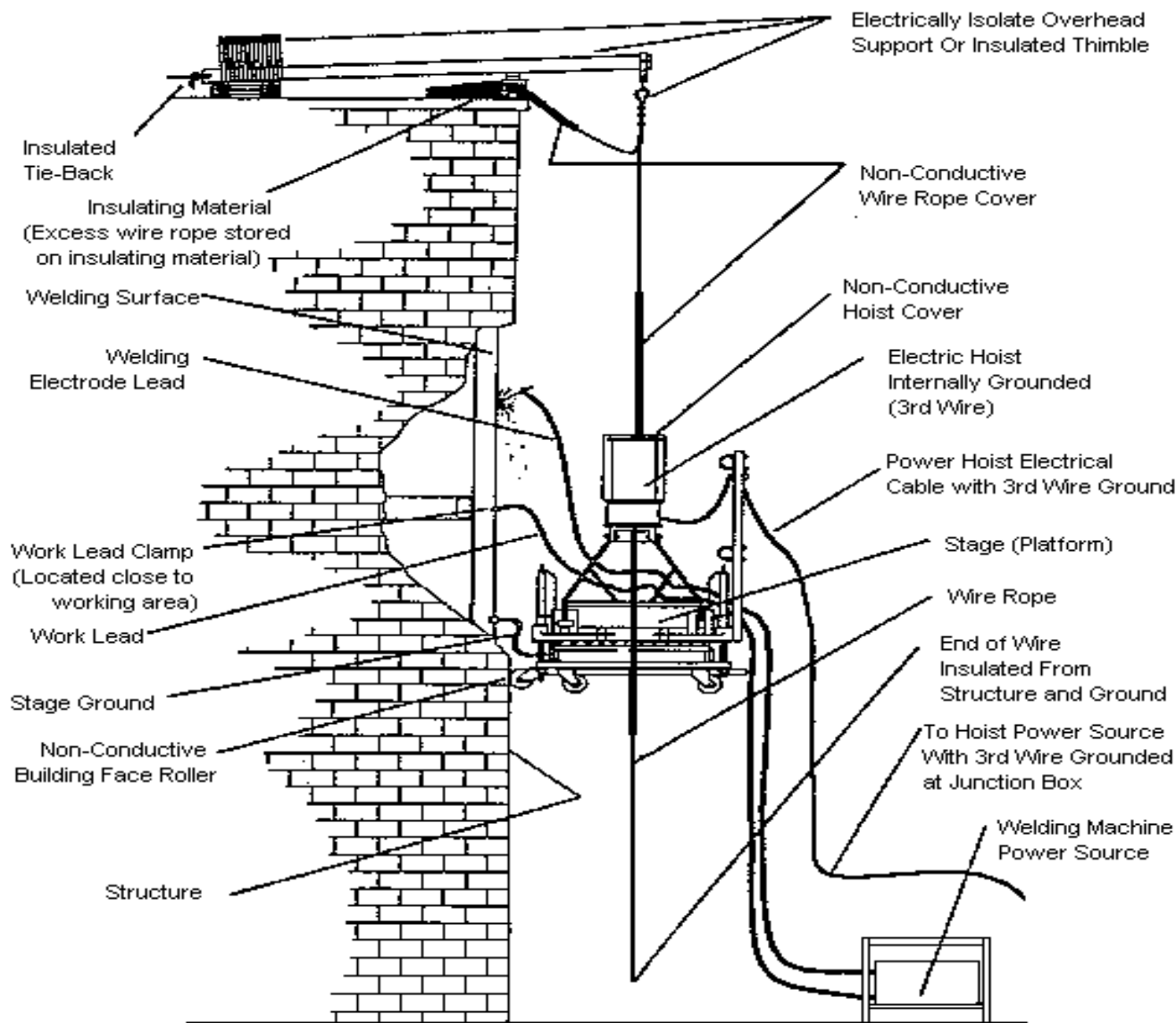
<p><b>Inspection of hoisting/lowering cable rigging Structural Beam</b></p>	<p>Scaffold failure</p>	<p>An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated;</p>	 
<p><b>Inspection of hoisting/lowering cable rigging "Cat Head"</b></p>	<p>Scaffold failure</p>	<p>An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated;</p>	 
<p><b>Wire rope inspection</b></p>	<p>Scaffold failure</p>	<p align="center"><b><u>1926.451(f)(17)</u></b></p> <p align="center">To reduce the possibility of welding current arcing through the suspension wire rope when performing welding from suspended scaffolds, the following precautions shall be taken, as applicable:</p>	
			
<p><b>Task Step</b></p>	<p><b>Step Hazard</b></p>	<p><b>Hazard Mitigation</b></p>	<p><b>Picture</b></p>
<p><b>Platform Inspection</b></p>	<p>Electrocution Scaffold Failure</p>	<p>1926.451(f)(17)(i) and (ii) -- require that suspension cable, or any additional independent lines from the ground, be insulated. Cable lengths of 100 feet or more must be insulated at least 4 feet from the hoist. If there is a cable below the hoist, it also must be insulated. Insulating the cable reduces the hazard of electrocution by preventing arcing due to welding operations.</p>	
<p><b>Inspect area for other welding operations</b></p>	<p>Electrocution Scaffold Failure</p>	<p>The presence of another potential source of arcing to a cable does not justify eliminating the safety feature of grounding the scaffold. Instead, it requires you to take other steps to protect against that hazard. If welding was being performed on adjacent scaffolds, you are required to provide additional insulation on the suspension cable or provide other means for protecting it from contact by the other welders.</p>	
<p><b>Stage Ground</b> <u>1926.451(f)(17)(iv)</u> In addition to a work lead attachment required by the welding process, a</p>	<p>Electrocution Scaffold Failure</p>	<p>The purpose of the grounding requirement is that, in the event of a fault, where there is an accompanying failure -- including a failure in insulating material -- the electrical energy would go to ground rather than through an employee on the scaffold. While a perfectly insulated scaffold would prevent an electrical arc to a scaffold component, the standard addresses the possibility that problems may arise in the planning and installation of</p>	

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<p>grounding conductor shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece</p>		<p>insulators, as well as with the insulating devices and the welding equipment itself. For example, a fault in the welding equipment could create an electrical potential from one part of the welder through a portion of the scaffold platform to another part of the equipment. If the scaffold were not grounded, that area of the platform could become energized and pose an electrocution hazard to an employee standing in that area.</p>
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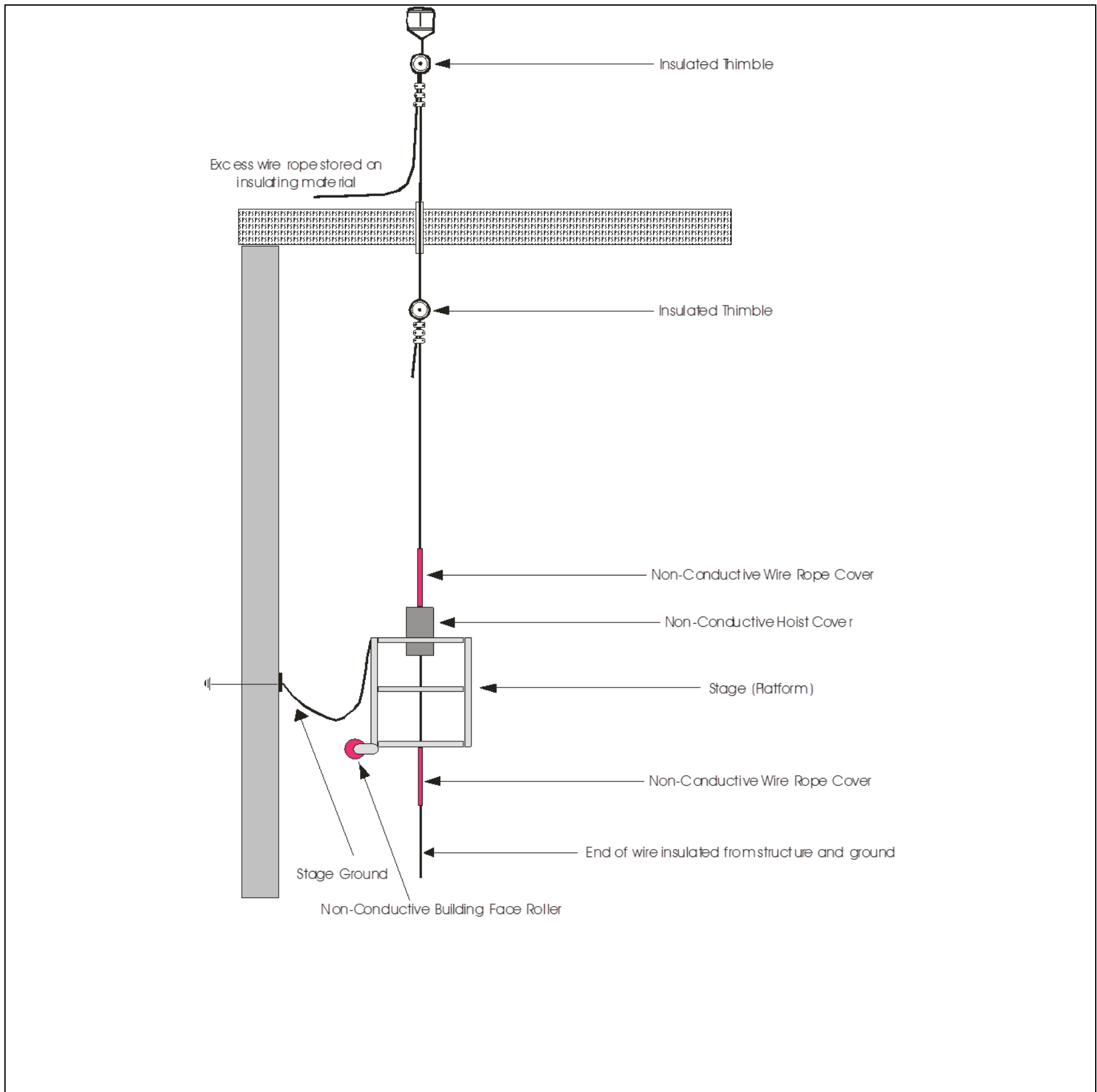
<b>Applying Stage Ground</b>	High resistance (ineffective) ground	<p>In welding operations, one of the cornerstones of shock prevention is creating a good electrical ground when using welding equipment. Removing paint build-up or corrosion from the contact area with wire brushing or a grinder will ensure successful grounding.</p>
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## SUSPENDED SCAFFOLD PLATFORM WELDING PRECAUTIONS







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Task Step	Step Hazard	Hazard Mitigation	Picture
All welding cables must be completely insulated and capable of handling the maximum current requirements of the job. Before starting a welding job, a worker needs to make a quick visual check of the entire cable to identify potential shock risks.	Electrocution	Wear dry, leather insulating gloves in good condition to prevent "live" parts of welding equipment from touching bare skin or wet clothing.	

**Single-point and two-point suspension scaffolds  
 Both a personal fall arrest system and a guardrail system are required**

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<p><b>Anchorage Points</b></p>	<p>Falls from Above</p>	<p>Tiebacks must be <b>secured to a structurally sound anchorage</b> on the building or structure, which may include structural members, but not vents, electrical conduit, or standpipes and other piping systems. [1926.451(d)(3)(ix)]</p>	
<p>Individual Vertical lifelines</p>	<p>Falls from Above</p>	<p>When vertical lifelines are used, they must be <b>fastened to a fixed safe point of anchorage</b>, independent of the scaffold, and be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but not standpipes, vents, electrical conduit, etc., which may give way under the force of a fall [1926.451(g)(3)(i)]</p>	 <p>Users must utilize an <b>independent lifeline</b> anchored to a high point other than those from which the platform is suspended, and which is sufficiently strong or rated at 5000lbs or more.</p>
<p>Fall Arrest</p>	<p>Falls from Above</p>	<p>Full Body harness required</p>	
<p>OSHA requires that employers provide for "prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves."</p>	<p>Suspension trauma</p>	<p>A plan must be in place to retrieve the worker in the event of a fall. Consult your PM or Safety rep. for guidance.</p> <p>In addition Suspension Trauma straps must be utilized as part of the full body harness.</p>	