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Safety Discussion – Construction Scaffolds



This quarter's safety discussion focuses on construction scaffolds. If we look up the definition of the word scaffold we find the generic description "a temporary framework of poles and planks that is used to support workers and materials during the erection, repair, or decoration of a building." On a modern job site the scaffolds we encounter are more complex.

Scaffolds systems such as hydro-mobile, rolling towers, pump jacks, swing stage, tube and coupler, and others require the scaffold erector and user to be knowledgeable in many areas. Erecting and using a scaffold requires training and often guidance from the scaffold manufacturer.

Scaffolds are generally divided into 2 groups; support and suspended. Supported scaffolds are built from the ground up and the surface they rest on must be able to safely support the weight of the scaffold, workers, and materials. Suspended scaffolds rely on ropes or cables that are anchored above them to hold them in place, along with the workers and materials.

Scaffolds are essential pieces of construction equipment, however their use exposes workers to severe fall hazards that must be controlled. The OSHA scaffold standards can be found online at www.osha.gov

Large Loss Review – Scaffold Fatality

A masonry contractor in Minnesota was hired to erect exterior block walls for a large commercial building. The project was set to start in November and end in early spring. Each side of the rectangular building was to have walls 24 feet high and over 200 feet long. To build the walls, the contractor erected standard tubular frame scaffolds according to the manufacturer's guidelines, including tying the scaffold to the structure to prevent tipping. The scaffold would top off at 5 frames high. Each section was inspected by a competent person before allowing workers access. In early December it was decided that weather protection needed to be added to the scaffolds to protect the workers and the materials from the cold and moisture. A large section of the scaffold (6 bays long by 5 frames high) was wrapped in plastic sheeting. Neither the competent person nor scaffold manufacturer was consulted about how this modification would affect the stability of the scaffold system. No additional bracing or tying of the scaffold was provided.

On December 15th, while employees were working from the top scaffold level, a fast moving storm approached the job site. Wind speeds increased consistently over a 3 hour period, ultimately reaching 40 miles per hour. At about 2:30 p.m., the weather protection on the scaffold caught the wind like a sail and the entire scaffold was ripped from its anchorage and tipped. Four workers rode the falling scaffold to the ground; two were killed and two severely injured. A worker cutting block on the ground was struck by the falling scaffold and killed.

It was determined that the contractor had not established limited access zones around the walls under construction and no wind speed criteria for evacuation of the scaffold had been established.

Tool Box Meeting – Scaffold Safety on the Job Site

Scaffolds present many hazards to employees working on and around them. When a scaffold tips over, it is not only the workers on the scaffold that may be injured. Workers around the scaffold may be struck by falling scaffold components and building materials. Ask your crew the following questions to review their awareness of scaffold hazards and controls (answers are on the last page).



1. Climbing tubular scaffold frames or cross braces is generally an excepted way of accessing a scaffold. True or false?
2. Base plates and screw jacks are not needed on scaffold legs that are placed on concrete. True or false?
3. Mud sills are only required when the supporting soil is wet or sandy. True or false?
4. Rolling tower scaffolds can be moved while workers are on them if they are protected by a guardrail system. True or false?
5. The primary means of fall protection while working on a scaffold is a full body harness and shock absorbing lanyard. True or false?
6. Mud sills under a scaffold base plate help to distribute and transmit the loads on the scaffold leg. True or false?
7. All levels of a scaffold where work is being performed must be fully planked. True or false?
8. The trigger height for fall protection when working on a scaffold is 10 feet. True or false?
9. All scaffold components must be designed to withstand 2 times their maximum intended loads. True or false?
10. An Authorized Person must inspect every scaffold before allowing workers on it or when any changes to the scaffold are made. True or false?

Looking for some free safety meeting topics?

www.toolboxtopics.com/

OSHA Speak – Competent, Qualified, and Authorized with Construction Scaffolds

This month, let's take the terminology we learned in the first 3 quarters and apply it to construction scaffolds. Here is a quick review of those terms, and how they might be applied to the design, erection, inspection, and use of a construction scaffold.

Competent Person – “One who is capable of identifying existing and predictable conditions in the surroundings and work areas which are unsanitary, hazardous, or dangerous and who has authorization to take prompt corrective action.” Related to scaffolds, this would likely be the person who supervises the erection and dismantling of the scaffold, and also inspects the scaffold before allowing worker access. This person would also have the authority to stop work if the scaffold becomes unsafe.

Qualified Person - “Someone who, by possession of a recognized degree, certificate or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.” Related to scaffolds, this could be the engineer that designed the scaffold system.

Authorized Person - “A person approved or assigned by the employer to perform a specific type of duty.” Related to scaffolds, this could be the workers that were trained in scaffold safety and are now authorized to access and work from the scaffold.

4th Quarter 2010

Safety Products – Scaffold Systems and Components

Don't get injured working on or around scaffolds. There are products and associations to help protect you from some of the hazards associated with scaffolds.

Waco Scaffolding - <http://www.wacoscaf.com>

Safeway Scaffolding - <http://www.safway.com>

Scaffold Industry Association – <http://www.scaffold.org>

OSHA - <http://www.osha.gov/SLTC/scaffolding>

Scaffold, Shoring, and Forming Institute - <http://www.ssfi.org>

The To Do List

Throughout the year we often have great ideas about how to get organized, how to work more safely, or how to reduce our exposure to loss. We might write a note to ourselves and put it in our in-box or on a Post-it Note on our computer monitor. Here are some loss reduction suggestions for your in-box that will help you manage your exposures.

October 2010

- Your trucks and equipment have worked hard over the summer but cold weather, ice, and snow are just around the corner in many states. Cold weather brings special driving hazards along with it so plan ahead and check those tires, brakes, wiper blades, wiper fluids, batteries, and vehicle emergency kits.
- Speaking of vehicle emergency kits, what should the kit contain? According to AAA, the following items should be included: flashlight and extra batteries, flares or triangle, jumper cables, ice scraper, first aid supplies, fully charged cell phone, basic tools, distress sign, blanket, extra hat, boots, coat and gloves, shovel and traction aids, and emergency food and water.



November 2010

- Make sure your property is ready for the lower temperatures ahead. A frozen water pipe or clogged roof drain can lead to a disaster. Take a walk around the exterior of your building and make sure downspouts are in place, secure, free of debris, and directed away from the building. Exterior faucets should be protected from freezing and isolation valves closed. Make sure your heating units have been inspected. Have your maintenance staff stock up on shovels and salt, and gas up and test the snow removal equipment.
- Time for a trip into the shop again. With the windows and doors closed to keep the shop warm, flammable and toxic gases and vapors may present a severe fire or air quality hazard. Check the material safety data sheets for all the products you use or store in the building. Make sure you have adequate ventilation to prevent workers from being sickened or killed by toxic gases or vapors, such as carbon monoxide. Spray painting outside of an approved spray booth and improper storage and dispensing of paints can lead to fires and explosions. When in doubt contact your local fire department or General Casualty Loss Control for assistance.

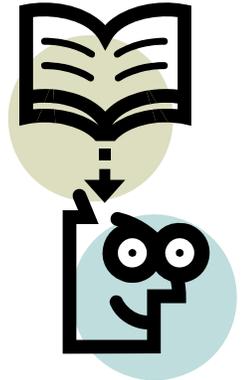
December 2010

- Time for your company holiday party. This is a great time to show your employees how much you value their hard work and dedication. Don't put their lives and the lives of others at risk, not to mention potential liability for your organization. Don't provide alcohol to your employees at the holiday party. It's not worth the risk.
- Holiday lights and decorations in the office are beautiful but keep in mind that this month has the greatest number of property fires due to misuse of electrical appliances. Check all your electrical lights and decorations for damage. Cords with cuts or defects should be discarded. Don't overload circuits by plugging too many electrical appliances into power strips. Make sure outdoor cords and decorations are rated for outdoor use and make sure they are plugged into an outlet protected by a ground fault circuit interrupter. Candles cause more fires than any other ignition source. Never leave them unattended or place them close to combustible items.

Let's get all these in the out-box before next quarter!

Construction Safety and Health Training Resources – Added a few new ones this month

Many standards promulgated by the Occupational Safety and Health Administration (OSHA) explicitly require the employer to train employees in the safety and health aspects of their jobs. Other OSHA standards make it the employer's responsibility to limit certain job assignments to employees who are "certified," "competent," or "qualified"-meaning that they have had special previous training, in or out of the workplace. The term "designated" personnel means selected or assigned by the employer or the employer's representative as being qualified to perform specific duties. These requirements reflect OSHA's belief that training is an essential part of every employer's safety and health program for protecting workers from injuries and illnesses. Listed below are a few national construction safety resources that may be able to assist with your training needs.



Builders Associations

Associated General Contractors (AGC) www.agc.org

Associated Builders and Contractors (ABC) www.abc.org

Safety Associations

The Construction Safety Council www.buildsafe.org

National Safety Council www.nsc.org

Occupational Safety and Health Administration (OSHA) www.osha.gov

Mine Safety and Health Administration (MSHA) www.msha.gov

American Society of Safety Engineers www.asse.org

Center for Protection of Workers Rights www.cpwr.com

American Trainco www.americantrainco.com

Scaffolding Safety Resources

Safeway Scaffolds www.safeway.com

Waco Scaffolds www.wacoscaf.com

Scaffold Industry Association – www.scaffold.org

American Work Platform Training www.awpt.org

Scaffold, Shoring, and Forming Institute - www.ssfi.org

Excavation Safety Resources

National Utility Contractors Association www.nuca.com

American Shoring www.americanshoring.com

Efficiency Products Inc. www.epi-shields.com

Electrical Safety Resources

Ericson Safety Products www.ericson.com

Salisbury Personal Safety Supplies & Dielectric Supplies www.whsalisbury.com

Ideal Electrical Tools and Supplies www.idealindustries.com

Martin Technical Arc Flash Assessment www.martinarcflash.com

Electrical Safety and Arc Flash Training <http://www.avotraining.com/>

Westex Incorporated FR Arc Flash Clothing www.westexinc.com

Lewellyn Technology Arc Flash Assessment www.lewellyn.com

Crane Safety Resources

The Crane Institute of America www.craneninstitute.com

The National Commission for the Certification of Crane Operators www.nccco.org/

Concrete Pumping Resources

www.concretepumpers.com

Vehicle Safety Resources

The National Work Zone Safety Clearinghouse www.workzonesafety.org

Federal Department of Transportation MUTCD www.mutcd.fhwa.dot.gov

American Trucking Association www.atabusinesssolutions.com

General Casualty Insurance www.generalcasualty.com

Tool Box Meeting (answers) – Scaffold Safety on the Job Site

Answers to tool box meeting on page 2.

1. False. The majority of scaffold frames are not designed to be climbed. Cross bracing should never be climbed. Properly erected, secured, and utilized extension ladders are a more suitable method of accessing scaffolds.
2. False. Base plates and screw jacks should be used on all frame scaffolds regardless of what surface they are placed on. Base plates distribute the load and help reduce the chance of the scaffold sinking in the soil or punching through the concrete, and screw jacks allow the scaffold to be plumbed up and leveled.
3. False. Mud sills should be placed under the base of all scaffold legs on all types of soil. Soil bearing capacity may be difficult to predict and may change with temperature, moisture, or even vibration. Mud sills provide additional bearing surface for the scaffold legs and will decrease the chances of the scaffold legs sinking into the soil.
4. False. It is never a good practice to move rolling tower scaffolds while workers are on them. If the scaffold's casters roll into a hole or get hung up, they may tip over.
5. False. The primary means of fall protection while working on a scaffold is a complete guardrail system. Guardrails are passive fall prevention systems and, when possible, should be chosen before other active fall protection systems such as harnesses and lanyards (PFAS). Personal fall arrest systems are a suitable choice when an adequate guardrail system cannot be provided.
6. True. Mud sills can help prevent a scaffold from sinking into the soil.
7. True. All working levels must be fully planked from front to back and side to side. There should be no gaps of more than 1 inch between planks.
8. True. There are a few trigger heights for fall protection in the OSHA construction standards. When working on a scaffold it is 10 feet.
9. False. Scaffold components must be designed to withstand 4 times their maximum intended loads.
10. False. A Competent Person, not an Authorized Person, must inspect every scaffold before allowing workers on it. See the definitions under the OSHA Speak section of this newsletter.

It is not our intention that this newsletter cover the requirements of the Federal Occupational Safety and Health Act or any other Safety or Health Act, or to infer or imply that there are no hazards and exposures in existence. The maintenance of safe premises, operation and equipment, and the avoidance of unsafe conditions and practices, and compliance with all statutes and laws are the sole legal responsibility of the insured. We assume no liability for the service provided. To the extent any referrals to service providers are included with this newsletter, please note that such referrals should not be construed as recommendations as we cannot provide any representation or warranties regarding work done by others. Further, we are not requiring that you use a listed service provider, you are free to choose from our referral list or another vendor to meet your needs.