The Hanover Insurance Group®

Hanover Risk Solutions

Scaffolds

What Is a Scaffold?

A scaffold is defined as an elevated, temporary work platform. There are three basic types of scaffolds:

- Supported scaffolds, which consist of one or more platforms supported by rigid, load-bearing members, such as poles, legs, frames, outriggers, etc.
- Suspended scaffolds, which are one or more platforms suspended by ropes or other non-rigid, overhead support.
- Other scaffolds, principally aerial lifts, personnel hoists, etc., which are sometimes thought of as vehicles or machinery, but can be regarded as another type of mobile scaffold.

Common Hazards Associated with All Scaffolds

- Falls from elevation, due to lack of fall protection such as guardrails.
- Collapse of the scaffold, caused by poor ground support or overloading.
- Being struck by falling tools, work materials, or debris.
- Electrocution, principally due to scaffolds being used near overhead power lines.

Requirements for Designing and Constructing Scaffolds

- Scaffolds must be designed by a qualified person and be constructed and loaded in accordance with that design. OSHA defines a qualified person as one who:
  - Possesses a recognized degree, certificate, or professional standing; or
  - Has extensive knowledge, training and experience; and therefore,
  - Can solve or resolve problems related to the work or the project.

Preplanning

When scaffolds will be used by workers it is important to evaluate the location where the scaffold will be used. Looking for hazards, evaluating ground conditions and determining what the working height will be can reduce the potential for problems.

- Determining the maximum intended load that will be placed on the scaffold will provide guidance to scaffold erectors in determining the spacing of scaffold components.
- Evaluating the supporting surface for soft ground, questionable support, underground voids and the structural capacity of covers will help identify where additional support may be necessary.
- Looking for any nearby electrical hazards such as power lines that may need to be de-energized or moved prior to erecting a scaffold will allow for time to abate those hazards.

Safety Program Development

Evaluation

When developing a scaffold safety program it is important to understand the types of scaffolds that will be used. Identifying the

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type of scaffold necessary for the job will help in determining what training will be necessary and allow for time to discuss any concerns with the manufacturer.

What type of scaffolds will be used?

- Prefabricated frame scaffolds are not complicated to erect, but training is still required.
- System scaffolds require more training and are more complicated to erect, especially if configurations will include angles to clear obstructions.
- Tube and clamp systems are very complicated and require specially trained workers.
- Aerial lifts will require workers to be trained on the specific type and model used.

Consider the type of work to be performed and total loading (weight) on scaffold.

- Light work such as cleaning, minor repair, general painting.
- Medium work such as maintenance, plumbing, electrical work.
- Heavy work where the scaffold will be loaded with heavy tools/equipment.

Consider the types of work areas where scaffolds will be used.

- Locations such as warehouses, gymnasiums and other areas with level floors.
- Construction areas where ground conditions will vary.
- Industrial locations where scaffold configurations may include angled components due to a variety of shaped vessels.
- Locations where vehicles may be present that could impact the scaffold and cause damage or collapse.

OSHA requirements

The requirements for scaffolding are found in 29 CFR 1926.450, Subpart L. Attempting to document ALL scaffolding requirements would be difficult as there are 26 different types of scaffolds contained in the OSHA standards. In general all scaffolds share these common requirements:

- All scaffolds must have a competent person on site for initial assessment, daily inspection and if any major changes occur when scaffolds are in use.
- All scaffolds must be used in strict accordance with OSHA standards and manufacturer's specifications.
- Scaffolds shall be erected on sound, rigid footing, capable of carrying (4) four times the maximum intended load.
- Base plates are always required. When scaffolds are not erected on a concrete slab or similar solid surface, mud sills should be used in addition to base plates.
- Only competent persons shall supervise the erection, alteration, dismantling, or inspection of scaffolding.
- Training must be conducted by a competent person.
- Scaffold frames shall not be used for fall arrest anchorage unless engineered for that purpose.
- Safe and proper access is always required for workers. (i.e., ladders/stairways).
- Scaffolding must be inspected at least daily and prior to use.

Training

Employers are required by OSHA standards to have a person qualified in the subject matter (scaffolds) provide training to each employee who performs work while on a scaffold. The training must enable employees to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards.

Training Programs

As stated, a person qualified in the subject matter must provide all training on scaffold use. This person must be familiar with the type(s) of scaffolds in use including the manufacturers' requirements for erection, dismantlement and inspection. When designing training programs there are two main types of workers:

Erectors/Dismantlers

Erectors and dismantlers are workers whose principal activity involves assembling and disassembling scaffolding before other work can commence, and after that work, or a portion of it, has been completed. Scaffold builder training must include:

- The nature of scaffold hazards
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting and maintaining the type of scaffold being erected
- The design criteria, maximum intended load-carrying capacity and intended use of the scaffold
- Any other OSHA requirements based on the type of scaffold being erected

The training provided for erectors/dismantlers should be a mix of classroom instruction and hands-on activities. Depending upon the height and type of scaffold(s) used the total time could be between 4–40 hours. The proper use of personal fall protection equipment should also be a part of the instruction.

Scaffold Users

Scaffold users are those whose work requires them, at least some of the time, to be supported by scaffolding to access the area of a structure where that work is performed. Scaffold users must understand:

- The nature of electrical hazards, fall hazards and falling object hazards in the work area
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used
- The proper use of the scaffold, and the proper handling of materials on the scaffold
- The maximum intended load and the load-carrying capacity of the scaffolds in use
- Any other requirements that may apply to scaffold safety or OSHA scaffold standards.

The training provided to end users may be a combination of classroom with additional pre-work instruction provided by the competent person. Instructions on how to access scaffolds, maintain fall protection and identify when scaffold parts are damaged should be included.

To learn more about Hanover Risk Solutions, visit hanoverrisksolutions.com

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