

Labour Safety in Construction Site - A Study

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Abstract

Construction industry has accomplished extensive growth worldwide particularly in past few decades. For a construction project to be successful, safety of the structures as well as that of the personnel is of utmost importance. The safety issues are to be considered right from the design stage till the completion and handing over of the structure. Construction industry employs laborers and workforces are in need of safe work conditions. Though labor safety laws are available, the numerous accidents taking place at construction sites are continuing. Management commitment towards health and safety of the workers is also lagging. A detailed literature study was carried out to understand the causes of accidents, preventive measures and development of safe work environment.

Key Words: Construction, Safety, Risk, First Aid, Injury, Accidents, Precautions

Introduction

In India construction industry is the second largest employer when compared to agriculture. Throughout the world the construction area of the civil engineering is one of the most hazardous industries. The number of the fatal accidents taking place at the construction sites is quite alarming and the major cause was found to be fall of persons from height and through openings. In the construction industry the possibility of a fatality is five times more likely than in a manufacturing industry, whereas the risk of a major injury is two and a half times higher. India has the world's highest accident rate among construction workers, according to a recent study by the international labour organization that cited one survey by a local aid group showing that 165 out of every 1000 workers are injured on the job. Construction workers are not

the only sufferers of accidents but also the public including children are affected. These accidents diminish the image of the construction industry, and as a result there is shortage of skilled labour. In the past few decades, need for safety awareness among construction industries was recognized.

This is due to the high cost associated with work related injuries, workers compensation, insurance premium, indirect cost of injuries, and litigation. Every year, a considerable amount of time is lost due to work related health issues and site accidents. There are several factors responsible for health problems and construction site accidents. There are several techniques that can be adopted for labour safety such organization and management, safety policy, safety organization, safety training, safety committees, first aid, lightning, personal productive equipment, and welfare facilities.

The construction site accidents may be caused due to the factors such as collapse of building parts and masses of earth, falling of objects and pieces of work on workers, fall of persons from heights, ladders, and stairs, loading, unloading, and transportation of loads, working on machines, and blasting with explosives.

Objective

To create awareness about labor safety in construction site by studying the risk and injuries involved during construction.

Common Construction Risks

Construction injuries carry significant risk of injury to construction workers. According to the CDC, of the 3.3 million non fatal injuries and illnesses reported in 2009, more than 9% were experienced by construction workers. Construction workers experienced 4.3 nonfatal injuries and illnesses per 100 full time workers. Falls accounted for 22% of these injuries and illnesses construction worker reported.

Causes of Construction Injuries And Some Legal Remedies

Engineering & Technology in India www.engineeringandtechnologyinindia.com

ISSN 2472-8640 1:5 December 2016

Dr. C. Swarnalatha, Ph.D. (Ed.) Entrepreneurship and Management:

Innovative Construction Techniques and Ecological Development. *Vol. 1 Management*

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The causes of construction injuries are numerous and varied. While some of these causes are easy to spot, others are less obvious. Familiarizing yourself with common injury types will help you avoid injury and identify any injuries you may have already suffered. Below, you will find explanations of some of the most common construction injury types.

Falls

One of the most common type of construction injuries are falls. Construction workers are at risk from falls from scaffolding, cranes, roofs, ladders, and other heights at work. If you are injured in fall, you may want of file a worker's compensation claim and possibly a personal injury lawsuit against your employer or another party.

Falling Objects

Construction workers are at risk of being struck by objects from above, for example, tools used above the worker or construction materials that aren't properly secured. Brain and spinal injuries can occur, even if you're wearing appropriate safety equipment such as hardhats.

Equipment Related Accidents

Heavy machine equipment used on construction sites can fail or be dangerous. For example, a forklift could fail to work properly, a dumpster could fall over unexpectedly, or a nail gun could misfire. If equipment is unsafe or dangerous and that caused your injuries, you may wish to discuss with your attorney a legal theory called "product liability." That's the law about who's responsible for defective or dangerous products.

Fires and Explosions

Construction sites often contain hazardous conditions such as exposed wiring, leaking pipes, and flammable chemicals that could lead to fires and explosions. Less common than some other types of accidents, these can, however, be fatal or result in serious injuries.

Types of Medical Conditions Caused by Construction Injuries

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The construction injuries described above can lead to medical conditions including:

- Amputation of a finger, toe, or limb.
- Broken bones or fractures.
- Burns from fires, explosions, or electrocutions.
- Cuts or lacerations from exposed nails, tools, machinery, etc.
- Death, in which case the construction worker's family should consider a wrongful death claim to be compensated the loss of their loved one.
- Eye injuries or loss of vision from being impaled by objects, such as shrapnel from grinding metal, can also lead to loss of vision, or dangerous chemicals or gases.
- Shoulder, knee, or ankle injuries such as sprains or overuse damage.
- Loss of hearing from the loud noises on construction sites or failure to wear hearing protection while using machinery like a jack hammer.
- Paralysis and other spinal cord injuries, especially from falls.
- Post-Traumatic Stress Disorder (PTSD) from the experience of a traumatic accident, such as when fellow workers are also injured or killed.
- Toxic exposure to chemicals, such as from welding jobs.
- Head or traumatic brain injuries (TBI) often from falls or having objects dropped on a construction worker on the job site.

Safety Orientation

It is our intention to provide and maintain a totally safe site. Your commitment to safety is a condition for continuous employment on this project. After you have reviewed these guidelines, sign the last page where indicated and return that page to your superintendent or foreman.

Evacuation

In the event of a fire or any time project evacuation is required, all personnel onsite will be informed via a radio signal, or other method as designated by the Owner or the owner's designated representative. you shall immediately cease all work and shut off all electrical

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equipment, including welding machines, air compressors, etc.

Close Valves on Gas Cylinders

Walk to the designated assembly points. Remain at the assembly point until the all-clear signal is sounded. Be prepared to follow the directions from your supervisor.

First Aid

- All injuries are to be reported to the general contractor's representative
- Immediately.
- Injuries requiring a doctor's care will require a drug screen and a medical authorization form from your supervisor.
- If we have an employee injured on our job we want the best medical care possible. However, if we have an injury that we suspect is fraudulent we will spare no expense
- Investigating and prosecuting.

Protective Equipment

Head Protection

Hardhat must be worn at all times (with the bill to the front) once entering the work area. Areas of exception are offices, equipment with fully enclosed cabs, lunch and break periods provided no work is going on in the immediate area.

Eye and Face Protection

- Appropriate eye protection with side shields is required to be worn by all personnel on the construction site at all times.
- Prescription glasses must be approved safety glasses, approved glasses and frames, or approved eye protection.
- When grinding or buffing, a face shield with approved safety glasses will be required.
- When cutting or burning, goggles will be required.

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- When welding, a welding hood and lens with an appropriate number filter.
- Chemical goggles are required to be worn when working with corrosive or toxic material.

Respiratory and Hearing Protection

Respiratory and/or hearing protection is required in designated areas and or when performing specific tasks. Employees must be clean-shaven prior to using a respirator.

Barricades

- Barricade tape is not to be used in lieu of physical barricades for floor, hole, wall openings or when permanent handrails have been removed.
- Yellow barricade tape indicates to use caution when approaching or entering the area.
- Red barricade tape requires authorization to enter area. Anyone entering area without authorization is subject to disciplinary action.

Fall Protection/Tie-Off

- A 100% tie-off policy is in effect anytime you are exposed to a potential of fall in more than 6 feet to a lower level.
- An approved fall arrest system will be worn when working from unprotected
- Elevations greater than 6 feet and when working in powered man-lifts.
- Approved fall arrest system consists of a full body harness, two shock absorbing lanyards, each with double action or positive locking snap hooks.

Lockout/Tag out

- Lockout/Tag out the power source prior to making adjustments or repairs to any equipment. Do not depend on the control switch on drills, grinders etc. unplug them. Electrical Tools, Cord.
- Tools are to be visually inspected by the employee prior to use. Take out of service any tool or cord found to be defective immediately.

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- Use approved ground fault circuit interrupters, for all temporary wiring, that are not part of the permanent wiring of the building or structure.
- When using existing building power that is not protected by ground fault circuit interrupters, the Contractor shall supply and utilize in-line (pigtail) ground fault circuit interrupters.
- Use an Assured Grounding Conductor Program in tandem with all ground fault circuit interrupters.
- Check the RPM rating of grinding wheels or discs. The RPM rating must be greater than that of the driver.
- Do not alter tools and guards.
- Maintain electrical cords and welding leads at a 7-foot level, avoiding pinch points and creating trip hazards.
- Do not tie electric cords to metal rods or nails.
- Ladders must be free from defects.
- Place the ladder so that its base is out 1/4 the distance of the height.
- Tie ladders at the top or secure at the base.
- Do not extend extension ladder its full length; overlap at least 3 rungs.
- Do not use stepladders as extension ladders.
- Fully extend stepladders and lock in position.
- Only one employee, at a time, shall work off a stepladder.
- Do not stand or sit on the top or top two rungs of a stepladder.

Conclusion

Thus the risk and injuries involved in the construction site are studied and the safety precautions were also suggested. Every effort must be taken to bring up the level of consciousness among the employees as we as management about the importance of the health and safety at work sites. It is highly desirable to decrease the rate of labour accidents for employee working in the construction industry all over the world.

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