Structural Iron and Steel Worker Safety Meeting Kit

WHAT'S AT STAKE

In constructing the iron and steel backbone of buildings, bridges, and other major structures, structural iron and steel workers hoist, maneuver, weld, rivet, and bolt heavy, awkward girders, columns, and plates—all while working at great heights. Iron and steel workers cannot ignore workplace hazards because of the size and weight of the materials they handle, and the often-dizzying heights at which they work.

WHAT'S THE DANGER

DANGERS/HAZARDS OF STRUCTURAL IRON AND STEELWORK

Falls: Falling is one of the most prevalent dangers to ironworkers. If working several feet above the ground, ironworkers run the risk of losing their balance, slipping tripping, and falling. They can lose footing on surfaces made slick by rain or ice. They may even fall because of defective or improperly installed scaffolding. These types of falls can result in death or catastrophic injuries such as brain and spinal cord trauma.

Amputations: Contact with sharp objects and equipment brings with them the danger of cuts and amputations. Metal shears used to cut iron or steel can result in catastrophic amputation injuries.

Head injuries: Falls often result in head injuries such as traumatic brain injuries or concussions.

Broken bones: Fractures or broken bones are common injuries suffered by construction workers who fall. In some cases, broken bone injuries can become career-threatening.

Burn injuries: Since iron and steel workers do a lot of welding on

the job, they risk suffering burn injuries. Ironworkers are required to wear protective goggles, clothing, and gloves to prevent these types of injuries.

Muscle injuries: Ironworkers are required to move heavy objects and equipment. Lifting and bending can lead to strained muscles or back injuries.

Struck-by injuries: Ironworkers can also become injured because of being struck by objects. These incidents tend to involve victims who are hit by construction materials such as rebar falling from elevations.

Impalement: There is the danger of workers getting impaled on unguarded ends of rebar or on forklift tines.

HOW TO PROTECT YOURSELF

Typical Duties of Iron and Steel Workers

- Read and follow blueprints, sketches, and other instructions.
- Unload and stack prefabricated iron and steel so that it can be lifted with slings.
- Signal crane operators who lift and position structural and reinforcing iron and steel.
- Use shears, rod-bending machines, and welding equipment to cut, bend, and weld the structural and reinforcing iron and steel.
- Align structural and reinforcing iron and steel vertically and horizontally, using tag lines, plumb bobs, lasers, and levels.
- Connect iron and steel with bolts, wire, or welds.

IRON AND STEEL WORKER BEST SAFETY MEASURES

Fall Prevention

Iron or steel workers need training in company fall prevention programs, which may include nets, scaffolding, or fall protection harnesses. Ensure that you wear the appropriate fall protection

gear every time that you work at heights. All of the components of fall protection should be compatible, preferably from a single manufacturer. Make sure that there is an appropriate anchoring and positioning mechanism for the job task. Inspect your gear every time you put it on and don’t use it longer than the manufacturer’s recommended lifetime for the materials.

Hoisting

Hoisting equipment is invaluable in providing the power needed to move heavy and awkward loads, but it poses a risk when you place a load and cables under stress. Get training in your hoisting equipment and procedures. Inspect the hoisting gear and line each time you use them. Ensure that the load is even and securely fastened. Do not operate a hoist if it’s not in a safe condition; a shifting load, a sudden loss of lifting power, or a snapping cable could cause a serious crush injury or death. Move the load slowly while watching for obstacles and other workers. Practice worksite communication techniques so you can get positioning and emergency shut-off information immediately.

Ergonomics

Because it’s your job to physically maneuver the structural components into place and fasten them down, be aware of the ergonomic risks. Let the hoists do the heavy lifting for you; good communication with the hoist operator can save your work and back muscles. When using power tools, be aware of the potential for ergonomic vibration injuries. Watch for symptoms such as finger blanching, tingling, and numbness. Use low-vibration tools and protective gloves and remember to hold the tools with a light, secure grip. Practice good body mechanics. Avoid prolonged awkward postures and take mini-breaks every 20-to-30 minutes to give your body a break.

Falling Objects

Protect yourself and coworkers from falling objects. Ensure that you securely fasten the materials you’re working with to the loading equipment or to the structure before you remove supporting

cables. Use tool lanyards to ensure that they will not fall if you misplace or drop them. A one-ounce bolt can feel like a bullet when coming from 10 stories up, so always wear your hard hat.

PPE

A hard hat and fall protection gear aren’t the only protection you’ll need on the job. Wear all of the personal protective equipment (PPE) necessary for your job site and the tasks you will be assigned. This may include safety shoes, safety glasses, sturdy work gloves, and/or life jackets for over-water operations. Because a construction site can be an extremely noisy environment; use hearing protection. Also, as you’re often exposed to the heat and the cold, wear layers of appropriate clothing to protect you from the elements.

FINAL WORD

As rebuilding crumbling infrastructure becomes more urgent, structural steel formed in metal fabrication facilities will create a safer, sturdier future for highway overpasses, railways, bridges that span rivers and gorges, and subterranean structures that support water, sewer, and transportation systems.