Steel Framing Meeting Kit

WHAT'S AT STAKE

Steel framing is often used as an economical and green alternative to traditional wood framing. While similar to wood framing, steel framing and its uses in construction is different enough that you should get training on the proper use of these innovative materials.

WHAT'S THE DANGER

HAZARDS RELATED TO STEEL FRAMING

Accident hazards. Hazard of falling down from considerable heights, while joining metal components of a building; and/or when the work is done while standing on a ladder.

- Being hit by falling objects (falls of heavy loads on the feet or on other parts of the body
- Stepping on, colliding, or hitting an object (falling objects aren't included here)
- Slips, trips, and falls, esp. where there is an oil spill.
- Injuries and cuts caused by sharp objects, broken glass, knives, and other sharp tools.
- Over-exertion, or strained movements (Potential injury of back and spinal column)
- Eye injury, as a result of flying metal splinters, while working with a chisel and hammer, or when doing sharpening, cutting, or welding works
- Exposure to, and/or contact with electric current.
- Exposure/contact with extreme temperatures
- Injuries caused as a result of working on scaffolding, including their installation, work done while standing on top of them, falling from them.

Physical hazards. Exposure to very high noise levels (including ultra and infra sound)

- Cold or heat load
- Hand and arm vibrations influencing various body organs and systems.
- Eye injury caused by UV radiation emitted during welding operations.
- Exposure to various environmental factors, as extreme, heat, or cold, and high moisture.

Chemical hazards. Dermatitis and allergic skin diseases, caused by exposure to organic solvents and their vapors.

- Difficulty in breathing resulting from exposure to organic solvents, or when working in confined places lacking oxygen or having reduced oxygen content.

Biological hazards. Respiratory infections caused by work outdoors, in a cold and windy atmosphere.

- Contracting various diseases, such as dermatitis, or due to contact with parasites in birds nests, by mosquito bites.

HOW TO PROTECT YOURSELF

THE PROTECTION – DURABILITY OF STRUCTURAL STEEL

Structural steel is a highly durable material, making it perfect for using to create building frames. It’s been used to develop commercial properties when people began realising that structural steel was significantly safer than alternative materials.

Some of the durability of structural steel comes from the various coatings applied to the alloy before construction. These coatings can provide resistance against corrosion, surface damage to the steel frames, and other issues that would negatively affect the safety of different building frames.

In particular, galvanised zinc coatings are incredibly effective at increasing the durability and, therefore, the safety of steel frame buildings. This offers barrier protection, isolating the structural steel from water and oxygen, meaning that the alloy cannot corrode.

METAL STUD CONSTRUCTION VS WOOD STUD CONSTRUCTION

- Metal stud framing is faster to install than wood, and much lighter.
- It is also stronger and performs better under the stress of hurricanes and earthquakes.
- Metal studs are less susceptible to moisture damage, making them ideal for use in wet or humid environments.
- They make consistently straight walls.
- Steel is fire resistant.

ADVANTAGES OF STEEL FRAMES

Mass fabrication. When it comes to choosing between different materials, it’s rather important to remember that steel is a material that is the easiest to mass-produce in many different sizes and shapes.

No pest- or insect-related weaknesses. Steel is straight-out immune to the degradation caused by either mammals or burrowing insects.

Durability. Steel is both stronger and lighter than your typical wooden frame, removing the problem of durability from the board in its entirety.

Resistance to fire. The fire resistance of steel is top-notch, with little to no potential fire spread, and the ability to improve this particular parameter with flame-resistant coatings.

Moisture and other factors. While steel is not immune to various types of moisture, its resistance against corrosion is rather formidable. It can be boosted either by changing the nature of the alloy or using various coatings and treatments to improve steel’s rust resistance.

BEST WORK PRACTICES TO ENSURE WHEN WORKING WITH METAL FRAMING

- Ensure that your install team has the proper tools required to install cold-formed steel framing components and accessories. Some of the most common metal framing tools

include impact drivers, screw guns, circular saws, five-point lasers, distance finders, and chop saws or plasma cutting systems.

- Always maintain a clean job site and confirm that all materials are accounted for on the jobsite. A clean active construction site can reduce unexpected hazards and injuries.
- Always follow OHSA safety guidelines for construction site safety which include gloves, boots, goggles, and hard hats.
- Frequently inspecting fall protection gear can greatly reduce the risk of falls when working on a multiple story cold-formed steel load bearing building.
- Handle all framing products with purpose and care when moving materials and installing members.
- Use screw guns correctly. Proper use of screw guns can prevent injuries and fatigue caused by repetitive stress.
- When cutting steel framing members, protective goggles ensure metal shavings do not injure the eyes.
- Wearing gloves protects against any exposed sharp edges of steel framing.
- Maintain jobsite awareness for you and others around you. Also keep an eye on extension cords that may be draped over sharp objects or other potential hazards.

FINAL WORD

Steel is the world’s most recycled material with more than 80 million tons of steel recycled annually, and the steel industry is a leader in executing eco-friendly initiatives across the world. Steel is a unique material that can be recycled for a number of purposes without ever sacrificing its integrity, which contributes to the long lifespan of a steel building.