MTC
SOLUTIONS

Fall Arrest Anchor Design Guide

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FALL ARREST ANCHOR

Our fall arrest anchor is designed to provide on-site safety when working in high rise mass timber buildings

Mass Timber Hardware Specialist

At MTC Solutions, our core focus is to supply structural hardware for modern mass timber applications in commercial, industrial, and residential projects. Our pride lies in collaborating with leading industry experts to offer design solutions and tools for code-compliant, sustainable buildings and continuously pushing the boundaries of the North American construction industry.

Our in-house team of mass timber specialists support professionals in designing customized connections that cater to the specific requirements of each project, resulting in truly innovative and cost-efficient solutions. With our industry-recognized expertise and tested proven solutions, we stand at the forefront of the industry, driving progress and innovation in mass timber construction.

Expertise

We provide our customers with the knowledge and tools necessary to construct cutting-edge, code-compliant mass timber projects while pushing the boundaries of the North American construction industry.

Commitment

We are dedicated to making your project a success, offering support from design and installation assistance to fast and precise delivery of high-quality products.

Products Tailored for North America

We partner with leading research facilities across North America to ensure that our products are tested and customized to meet the unique needs of the market, including seismic considerations and solutions for large post and beam structures in various climates.

Find Your Connection Solution

MTC Solutions provides the right tools to design code-compliant buildings, educating the mass timber industry on connection solutions.

Structural Screw Catalog

Structural Screw Connection Design Guide

Structural Fasteners

Accessories

Beam Hanger Design Guide

Beam Hangers

Connector Design Guide

Connectors

Rigging Design Guide

Rigging Devices

Fall Arrest Anchor Design Guide

Fall Arrest

WHO ARE WE

YOUR MASS TIMBER HARDWARE SUPPLIER

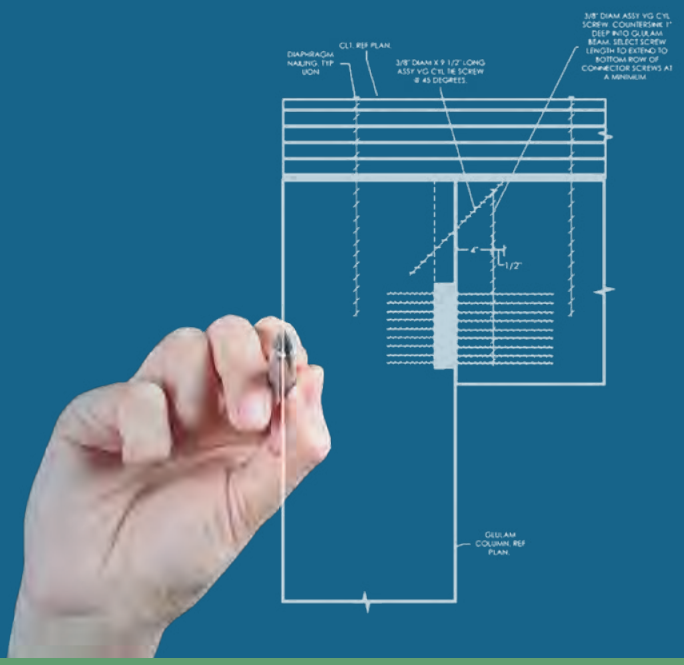
Rely on our distribution team to deliver your North American projects with speed and accuracy.

LEADING WITH INNOVATION & RESEARCH

Leading the mass timber industry with cutting edge connection solutions and partnering with renowned research facilities.

WE MAKE YOU THE EXPERT

Learn about the right solutions for your projects and Mass Timber connections with our technical resources & support team!



CONNECTIONS DESIGN SUPPORT

Reach out to the technical team for design support, from early design stages to ongoing iterative changes. We help find the most efficient connection solutions.

MANUFACTURER'S HELP DESK

Use our comprehensive & practical resources to find the most cost-effective solutions for your structural elements.

TESTED & PROVEN SOLUTIONS

Count on MTC Solutions' 10 years of expertise, providing tested & proven ICC approved solutions, support, and resources.

General Notes To User

All suggestions and details shown in this guide are to be treated as general and cannot be assumed to be valid for all construction requirements and specific site conditions.

Fall Arrest Capacity

1. All fall arrest elements shall be approved by a licensed design professional and are to be used in a manner that is CSA Z259 or OSHA compliant. All fall arrest elements are to be utilized by a qualified person only
2. The referenced fall arrest anchor system meets CSA Z259 safety standards for fall protection and OSHA ***Clause 1910.140 Personal fall protection systems***, meeting an ultimate strength capacity of at least 5,000lbs
3. A proper force dissipating lanyard with locking hooks and body harness must be used to limit the maximum arresting force (M.A.F) during free fall on the worker to 1,800 lbs, in accordance with CSA or OSHA requirements
4. Appropriate and certified personal energy-absorbing lanyards must be used with MTC Solutions' Fall Arrest Anchor safety system
5. All elements of the fall arrest system including the anchor's supporting structure, must be capable of supporting at least 5,000 lbs
6. The capacity of the Fall Arrest Anchor is only guaranteed with the use of the listed ASSY fasteners
7. Requirements and capacities listed in this design guide are only valid for MTC Solutions Fall Arrest Anchor and excludes all other fall protection components

Site Safety

1. It is the responsibility of the site supervisor to ensure a safe work environment and to verify the condition of all equipment
2. The site supervisor must ensure that in the case of a fall, there is sufficient fall clearance with an adequate factor of safety, to arrest the fall and prevent the worker from striking the ground or other obstructions
3. The site supervisor and workers using the fall arrest anchor must perform frequent inspections to ensure the anchor's structural integrity. If damage is found, the anchor must be taken out of circulation immediately and clearly tagged “DO NOT USE”
4. If the anchor is subjected to fall arrest or impact force, remove the anchor from service immediately by clearly tagging the anchor “DO NOT USE” and properly dispose of the device
5. Work should be done in a manner to minimize swing fall and any serious injuries associated with this type of fall

Anchor Positioning and Installation

1. Each installation of the fall arrest anchor must use new fasteners to ensure safety and guarantee the capacity of the fall arrest anchoring system
2. The fall arrest anchor and carbon steel self-tapping screws are intended to be used in untreated wood only
3. Fasteners must penetrate panel plies to the largest extent possible to ensure they are not installed in gaps between wood elements
4. All four self-tapping screws must be installed when using the fall arrest anchor to guarantee system capacity
5. The anchor must not be installed on the CLT panel edge (narrow edge)
6. Maximum installation torque of the 1/2" [12mm] self-tapping screws is 38.5 ft·lbs [47.3 N·m]

FALL ARREST ANCHOR

MTC Solutions Fall Arrest Anchor is a CSA and OSHA compliant anchoring system for mass timber buildings capable of supporting an ultimate strength capacity of 5,000lbs or one worker at a time. The Fall Arrest Anchor is fastened to the timber element using four ASSY Kombi long threaded self-tapping screws, allowing for a fast and easy installation without the need for any pre-drilling. The Kombi screws used are specifically designed for high-performance steel-to-wood applications.

Associated Hardware

Fasteners and Installation Tools

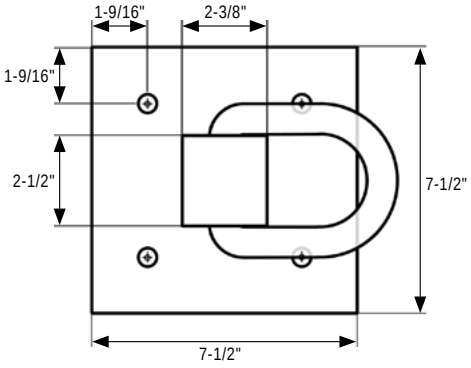
Hexagonal Head

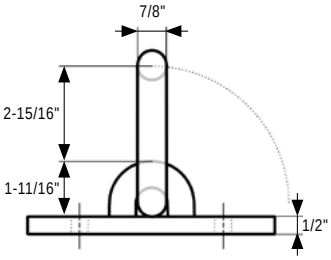
ASSY Kombi Long Threaded 1/2" x 6-1/4"

11/16” Magnetic Socket

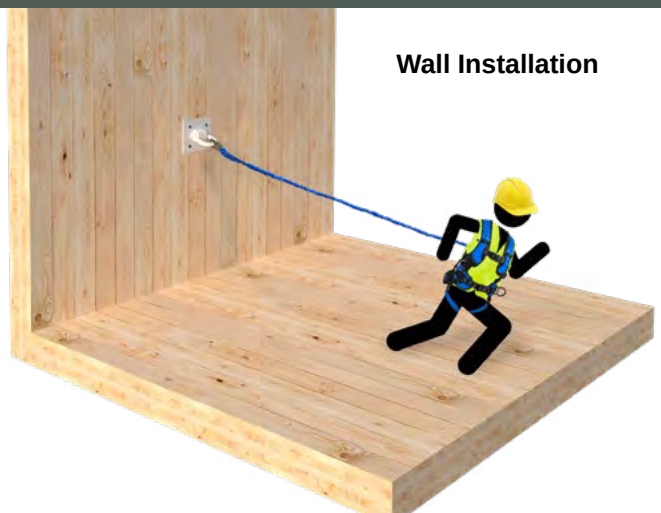
Drill Bit - AW 40

Product Specifications





Applications



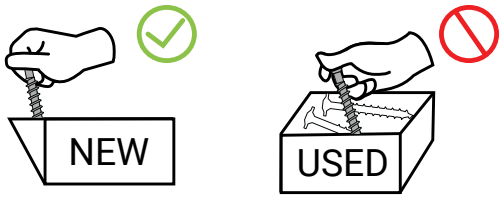
Wall Installation

Floor Installation

Fall Arrest Anchor Safety Considerations

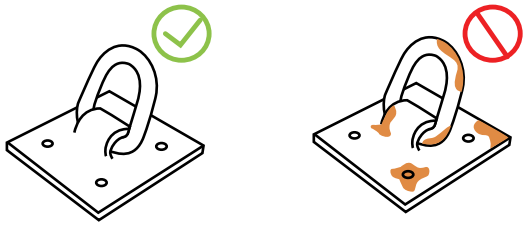
A Use New Fasteners For Each Installation

New fasteners must be used for each anchor installation to maintain system capacity



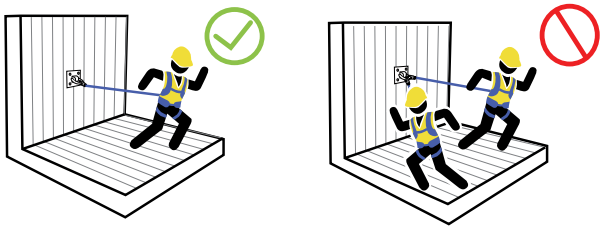
B Anchor Inspection

Inspect anchors for any corrosion or damage prior to each installation



C One Worker Per Anchor

The fall arrest anchor meets an ultimate strength capacity of 5,000lbs or one worker at a time



D Fall Clearance

Sufficient fall clearance, with an adequate factor of safety, is required to arrest the fall and prevent the worker from striking the ground or other obstructions. When designing a fall arrest system, the following variables must be considered:

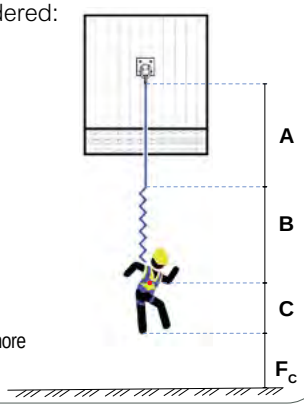
A = Maximum stretched length of rope*

B = Maximum stretched length of personal energy absorber device and full body harness*

C = Worker height, measured from harness dorsal D-ring attachment point to worker's feet

F_C = Fall clearance with adequate factor of safety

*Consult manufacturers of these components for more information

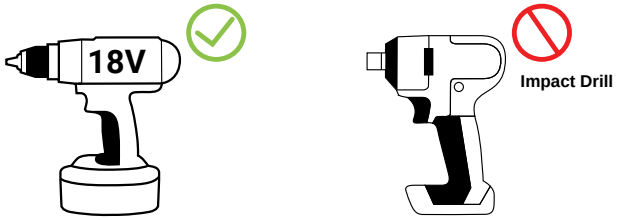


Fall Arrest Anchor Installation Instructions

A Correct Drill for Installation

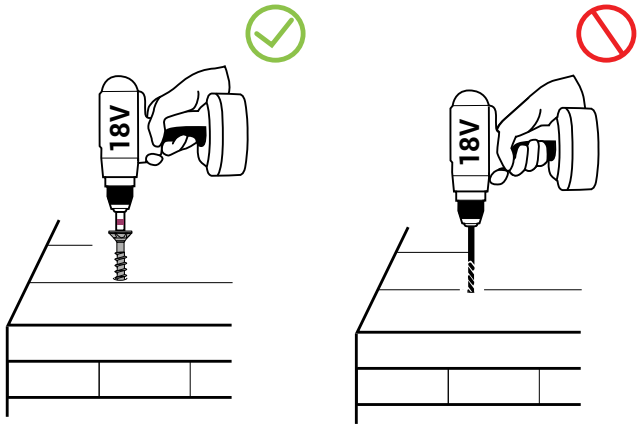
Use 18V cordless battery powered drill (no impact drills)

Maximum torque for 1/2" [12mm] dia. screw: 38.5 ft•lbs [47.3 N•m]



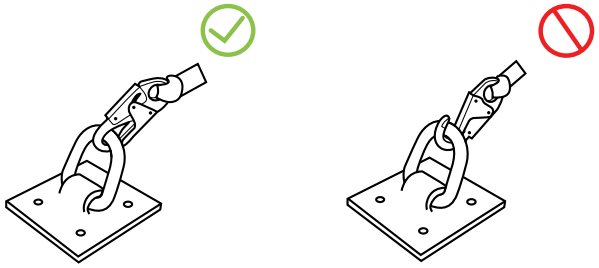
B Fasteners Installation

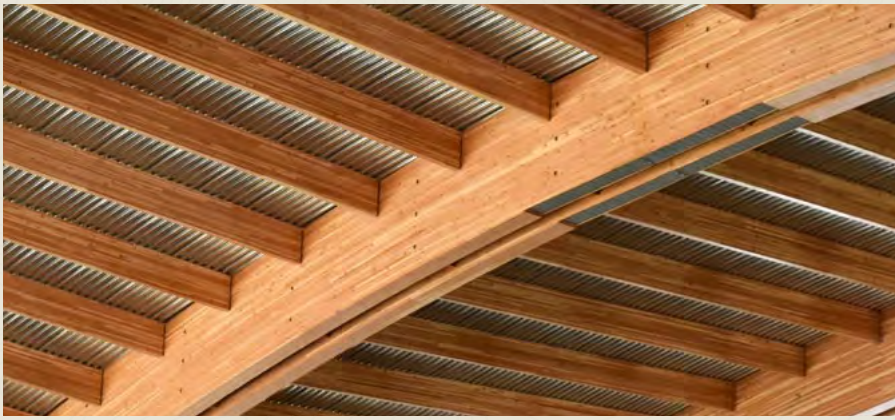
No predrilling required for self-tapping screw installation. Use Magnetic Socket or AW Drive Bit for a fast and easy installation



C Anchor Hook

Fall arrest devices must fully engage anchor loop





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