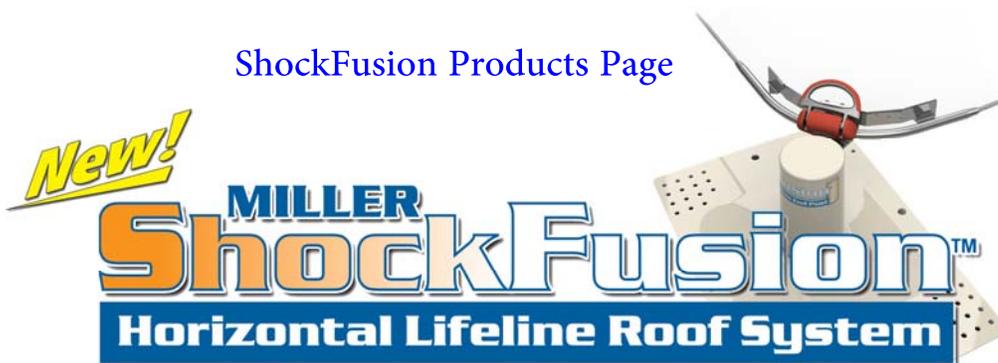


ShockFusion Products Page



Frequently Asked Questions

Q1: What is the new Miller ShockFusion™ Horizontal Lifeline (HLL) System?

A1: The Miller ShockFusion Horizontal Lifeline (HLL) System is an innovative, permanently installed fall protection system for rooftop safety. The system provides multiple workers continuous fall protection while providing maximum mobility. The unique surface-mounted design eliminates the need to penetrate the roof structure, making installation quick and easy which reduces labor costs. In the event of a fall, the ShockFusion minimizes deflection in the lifeline while effectively managing system forces to maintain a solid connection to a variety of roof configurations.

Q2: What are some of the unique, key performance features of the ShockFusion System?

A2: The ShockFusion HLL system offers many unique key features:

- **ShockFusion Posts for Ends & Corners are engineered to keep system forces consistent during a fall without adding excessive deflection** – ShockFusion Posts effectively manage system forces without tipping over. Competitive surface-mount end posts tip over adding excessive deflection into the line.
- **Fusion™ Intermediate Posts are designed to absorb energy and effectively orient the force low to the roof** – Fusion Posts incorporate a tipping action to manage forces within the system. The tipping action of intermediate posts does not add to the length of the line. Instead, the patent pending internal element activates during a fall and lays the line over close to the roof structure for an effective reduction of force on the roof connection.
- **Minimized deflection requires less fall clearance** – Many applications require the need for less fall clearance given multiple roof elevations and other obstructions that must be avoided in the design of a system.
- **Less hazard for multiple workers** – Minimized deflection decreases the probability of creating a fall for additional workers. When a worker falls into a system with excessive deflection, it is more likely that the horizontal lifeline will pull additional workers over the edge of a roof.
- **Provides for an easier rescue** – The ShockFusion system has less line deflection, which leads to easier rescue of a worker who has fallen.
- **Protects multiple workers while providing maximum mobility** – The ShockFusion HLL system provides continuous, safe access to all areas of a roof for up to six workers per system (up to four per span).
- **Versatile connection systems adapt to a variety of roof designs** – With a variety of models available, the Miller ShockFusion HLL System can accommodate most industrial roof designs including standing seam, membrane, built-up, metal sheathing, trapezoidal, concrete and wood.
- **Attaches to the surface of existing roof structures** – Quick, easy installation reduces labor costs and reduces the need for roof penetration and repair.

- **Reduces the fall forces on the roof structure** – In the event of a fall, the ShockFusion energy-absorbing load distribution system manages system forces to ensure a solid connection while minimizing roof damage and protecting the roofing structure.
- **Durable design that withstands the changing outdoor environment** – Internal components are constructed of stainless steel. The steel post and base are plated with zinc followed by a premium powder coating for two layers of protection.

Q3: Why is the Miller ShockFusion a better solution than traditional-style horizontal lifelines with posts that penetrate the roof structure?

A3: Roof penetrating horizontal lifeline systems incorporate rigid posts to support the horizontal lifeline. These posts transfer a significant amount of force into the roof structure due to the height of the post above the roof surface. The moment force applied is high even with the addition of an in-line shock-absorber. These systems are expensive to install since each system post must be securely tied into the underlying structural support of the roof. In many cases, additional brace supports must be added to the roof structure to handle the forces in the event of a fall. When installing traditional systems on existing roofs, the roof must be opened up and repaired. This procedure is time consuming, costly and increases the potential for roof leaks that lead to water damage.

The Miller ShockFusion HLL System offers many benefits over a traditional-style post. These benefits include:

- **Attachment of the system to the roof surface is quick and easy reducing installation time by more than 50%! –** Since all models are installed from the roof's surface, there is no need to open up the roof to connect to the underlying structural members. This eliminates the need for roof repair.
- **Installation cost is minimized** – Quick installation and avoidance of roof repair equates to reduced labor cost.
- **Installation is less invasive** – The less you have to penetrate the roof, the more assured you are to preserve the integrity of the original roof installation. This minimizes the chance for leaks and helps preserve the warranty of the roof.

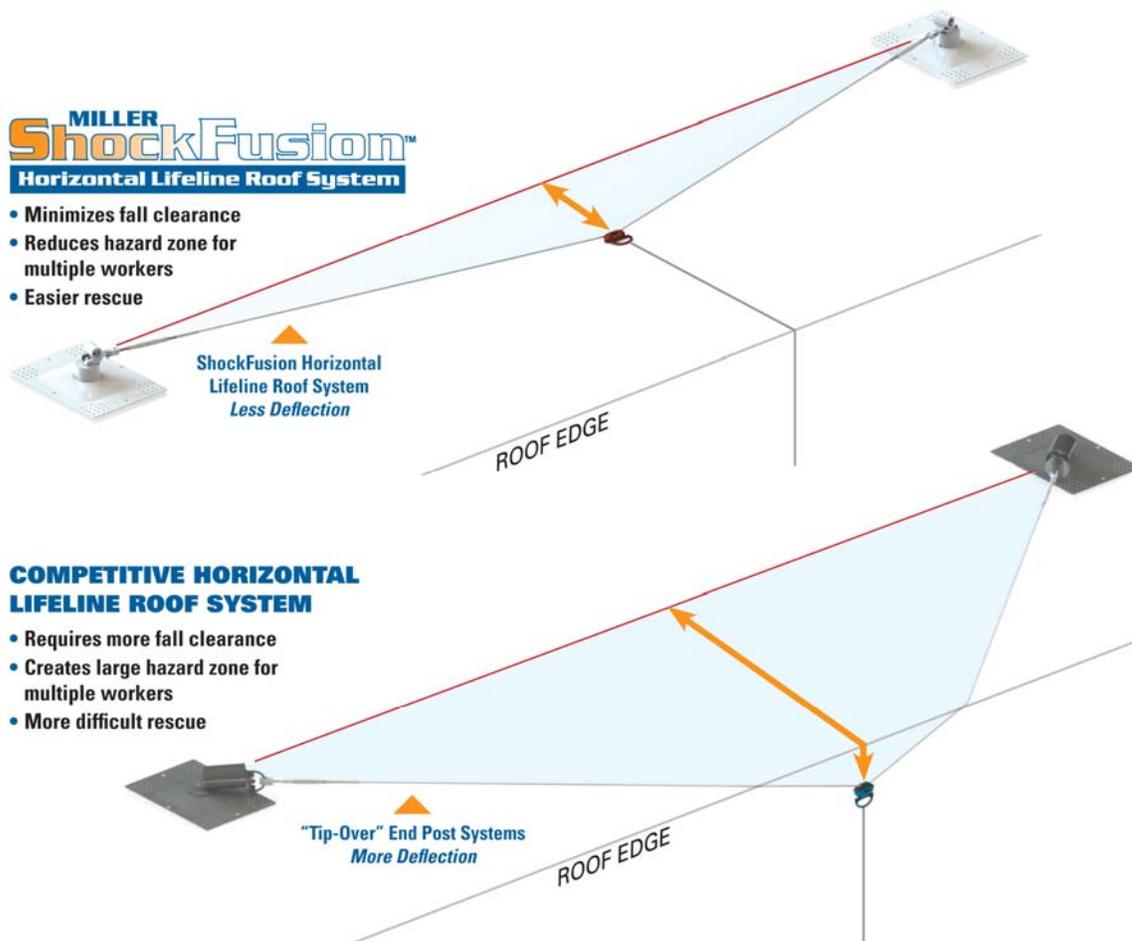
Q4: Why is the Miller ShockFusion a better solution than competitive surface-mounted systems with end and corner posts that tip-over?

A4: While competitive surface-mounted systems with tip-over style end and corner posts absorb energy and reduce the moment force by lowering the post closer to the roof surface, these systems do a poor job minimizing deflection in the lifeline in the event of a fall. Tipping over of the end/corner posts dramatically increases deflection by adding to the length of the line, therefore, creating greater fall clearance concern, additional fall distance and more difficult rescue.

While tipping end and corner posts add line "slack", tipping over of the intermediate post has little effect on line deflection since the intermediate posts do not add to the length of the line.

Miller has designed a system that combines the best of both technologies.

- ShockFusion Posts for Ends & Corners are engineered to effectively manage system forces without tipping over. The patent pending system keeps system forces consistently low during a fall without adding excessive deflection.
- Fusion Intermediate Posts ensure a more convenient line lifeline height, but still absorb energy and reorienting like a tip-over post in the event of a fall, providing the benefits of lowering the line to the roof without adding excess line deflection.

**Q5: How is fall clearance calculated for the Miller ShockFusion?**

A5: Fall clearance is dependent upon the type of connection device, system configuration, the number of workers connected and where within the system the workers are connected. Charts are included in the installation instruction manual.

Q6: What force must be applied to activate the Miller ShockFusion End/Corner Post & Fusion Intermediate Post?

A6: The ShockFusion energy absorber is activated when a force of approximately 1,100 lbs (4.9 kN) is applied to the post by the system lifeline. Activation of the Fusion is set at 1,000 lbf (4.5 kN).

Q7: Why are the activation forces different for the ShockFusion End/Corner Posts vs. the Fusion Intermediate Posts?

A7: In the event of a fall, higher loads are applied to end/corner posts while the forces on intermediate posts are lower.

Q8: What is the maximum number of users of the Miller ShockFusion?

A8: Depending on the configuration, the ShockFusion system is designed for up to six (6) workers per system and a maximum of four (4) per span each weighing up to 310 lbs. including clothing and tools. The number of workers is dependent upon the number of spans, length of spans and the worker's connecting device. Please consult the instruction manual for information on determining the number of workers for specific configurations.

Q9: What types of roofing does the Miller ShockFusion HLL System accommodate?

A9: With multiple models and configurations available, the versatile design of the Miller ShockFusion HLL System can accommodate most industrial roof designs including standing seam, membrane, built-up, metal sheathing, trapezoidal, concrete and wood.

Q10: What is the maximum length of a total system?

A10: Depending on configuration, the maximum length of a total system is unlimited.

Q11: What is the maximum length of a span?

A11: Depending on the number of workers required per span, the maximum span length is 40 ft (12.2 meters).

Q13: Who can design, purchase and install a ShockFusion System?

A13: Only a Miller® Certified Installer can design, purchase and install a ShockFusion System. Installers have been qualified and trained by Miller Engineered Solutions to ensure they have the required knowledge and competence.

Q14: As a Miller distributor, how will a sale benefit me?

A14: There is a 6% finder's fee for distributors who provide leads that result in an installation.

Q15: I have a customer who is interested in a system. Who do I contact?

A15: Contact Miller Engineered Solutions at 800-325-6746



by Honeywell