

Fall Protection: How to Select a Body Harness

Two ways to improve the use of fall protection equipment and devices is to:

- 1) Properly train the employee
- 2) Select the correct body harness

All harnesses are not the same. No matter how thorough the training, employees might leave the equipment behind if it isn't comfortable. Everything from harness construction to strap placement can be compared and contrasted. These elements make a difference in the comfort and safety the harness offers the user.

Donning a harness

The ability to adjust a harness correctly is important. Some employees may prefer a body harness with stretchable webbing that allows them to flex and bend. Refer to the manufacturer's instructions for details on donning a body harness.

How safe is that safety harness?

Most buyers expect a harness to meet specific safety standards, but surprisingly, some brands don't meet the basic criteria. Before purchasing fall protection products, obtain written proof from the manufacturer and ask the following questions:

- **Where are the products manufactured? Does the facility have ISO 9001 certification?**
 - ISO 9001 certification proves facilities meet strict international standards in quality assurance for design, development, production, installation, and service.
- **Do the products meet ANSI and CSA standards?**
 - Not all harnesses meet ANSI Z359.1, ANSI A10.14, CSA Z259, and CSA 259. In addition to product labeling, Insist on written proof.
- **Does the fall protection manufacturer have a Statistical Process Control (SPC) program?**
 - Fall protection products are only as good as the quality of the raw materials/components.
- **Does the manufacturer participate in SEI or any other recognized third-party testing?**
 - Reputable manufacturer's are often members of the Safety Equipment Institute (SEI), which provides independent testing programs for all fall protection products.
- **Does the manufacturer have qualified engineers designing/testing products in an in-house testing facility?**
 - Ask for documented results of the dynamic drop tests and static load tests.

Strapping Down Safety

Harness construction is anything but standard. Some harnesses are manufactured without a back strap. In the event of a fall, the employee may actually fall out of the back of the harness. Chest straps should be easy to adjust and must withstand a fall without tearing or breaking. The stronger the straps and stitching, the better the fall protection.

Selection, Inspection and Maintenance

A harness should have hardware that's sturdy, but not oversized and awkward. The hardware should easily attach to connecting devices. Harness hardware poses a hazard if it has sharp edges. The edges can cut into harness webbing or can be positioned in such a way that they dig into the skin in the event of a fall. To protect workers from hardware injuries, the components must be appropriately manufactured and assembled. Hardware with exposed springs should be avoided. Exposed springs, especially on friction buckles, can be easily disabled or removed. Reliable hardware construction is an important feature because friction buckles that are not spring-loaded can easily begin to loosen once the harness has been adjusted to fit.

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Avoiding Tangled Webs

Webbing may seem like an innocuous item that would be similar in all cases, but it varies drastically from brand to brand. Harness webbing should be composed of sturdy, tightly woven yarns so the webbing slides easily through the hardware. If webbing snags when it glides under hardware, it can result in cuts to the webbing. Once cut, the harness must be taken out of service. Examining the tensile strength of webbing is important. After abrasion tests some webbing begins to fray and pucker, bringing the harness to the end of service. Stitching is just as important as the structure of the webbing. The stitching must not rip away during a fall. Harness webbing should resist the effects of sun, heat, and moisture for an extended period of time. If a harness is used in an electrical environment, it must also resist conductivity. If it is used in a harsh chemical environment, the webbing must be able to resist exposure to degrading chemicals.

Inspecting for Wear

In order to ensure a harness will perform its intended function--saving a life--it must be inspected prior to every use. All harnesses have a limited life cycle. The length of wearable life will vary depending on the amount of wear it receives and its use environment. For example, a harness worn indoors a couple of times in a week, will have a much longer life than one worn outdoors every day. When inspecting your harness, a good rule of thumb is: Any Doubt, Remove it from Service. (See [LINK-Fall Protection: Systems Inspection](#))

How Does It Work?

Clear, easy-to-read instructions should accompany every harness. Ideally, the instructions will be in more than one language. All instructions should include explicit guidelines for usage, maintenance, and inspection.

It Adds Up to Safety

When purchasing a harness, make sure you are buying the correct harness for the appropriate application. Employees will more readily and properly wear a comfortable harness that easily adapts to lanyards and other connecting devices. The better the harness the more likely it will be worn which increases regulatory compliance and most importantly saves lives.