Additional Information

On-site Consultation Program
Massachusetts Department of Labor Standards
(508) 616-0461
www.mass.gov/dols

OSHA Regional Office
JFK Federal Building- Room E340
Boston, MA 02203
(617) 565-9860
www.osha.gov

The Center for Construction Research and Training
Fall prevention safety materials and resources.
www.cpwr.com

MA FACE Project
Occupational Health Surveillance Program
Massachusetts Department of Public Health
250 Washington Street
Boston, MA 02108
(617) 624-5627
www.mass.gov/dph/FACE

FACE is an occupational injury prevention project conducted by the Massachusetts Department of Public Health. FACE is not responsible for the enforcement of safety standards. FACE investigates workplace fatalities to identify risk factors that lead to fatal injury in order to prevent future deaths.

The FACE Project is funded by the National Institute for Occupational Safety and Health (NIOSH).

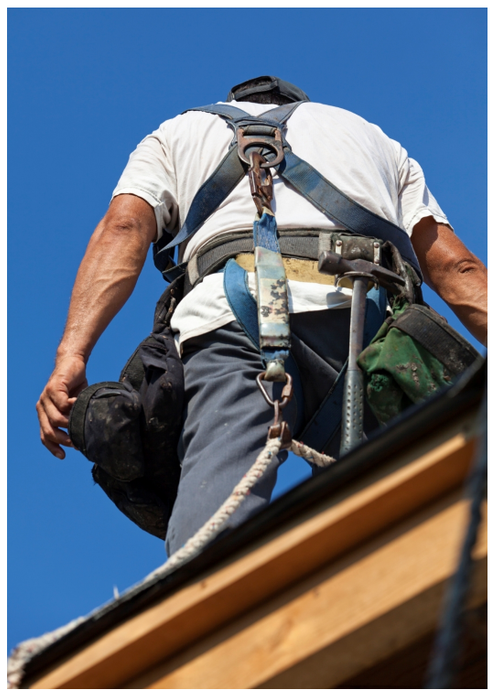
Many thanks to the contractors and others who helped develop this brochure.

Special thanks to the Arizona Construction Training Alliance for use of interior photos.

Last updated 11/2012

PFAS SAFETY: Personal Fall Arrest Systems

For Residential Construction Contractors



Massachusetts Department of Public Health

Fatality Assessment and Control Evaluation (FACE) Project

Keep Your Workers Safe — Any Fall Can Be Fatal or Debilitating!

When is fall protection required for residential construction workers?

Fall protection must be provided to any employee working at a height of 6 feet or more above a lower level. The best fall protection is a passive system because it does not require active participation from the worker: these include guard rail systems and safety nets. But sometimes active fall protection is needed, such as a personal fall arrest system (PFAS).

What is a PFAS?

A PFAS (personal fall arrest system) consists of three major components:

- a full-body harness;
- a shock-absorbing lanyard or retractable lifeline;
- secure anchors.

The pressure that contractors face to complete construction jobs both accurately and quickly can sometimes overshadow in-the-moment safety decisions. Planning ahead for safety can do more than save time at the worksite, it can save lives.

In November 2010, a Massachusetts carpenter fell 19 feet from the roof of a single-family home under construction. He died five days later from injuries sustained.

Sadly, this is just one of many preventable incidents. Had use of a personal fall arrest or other system been planned out ahead of time, he might still be with his family today.

When used according to the manufacturer's instructions **a PFAS can save a life** should a fall occur, by stopping the worker from striking the surface below.

Despite the components, **a PFAS is inexpensive and easy to use**. Personal fall arrest systems cost around $150.

A PFAS must always be used with oversight from a competent person, and should be part of a fall protection program.

When is a PFAS required for residential construction workers?

A PFAS is required in any situation in which a worker

- is **exposed to a vertical drop** of 6 feet or more to a lower level; and
- **cannot be protected by other fall protection**, such as guardrails.

For example: A PFAS is required for construction workers performing roof work, work from aerial lifts, or any height work in which they cannot be protected by some other fall protection.

The ABC's of PFAS

A PFAS must meet specific requirements. Some of these are described below. ***

A – Anchor Point

The anchor point (tie-off point) is a secure point of attachment for the fall arrest system's lanyard or lifeline.

- **Anchor point locations should be planned out before work begins.**
- The anchor point should be attached to a substantial structural member, such as a beam, girder, roof truss or rafter.

- The anchor point must support either 5,000 pounds per worker (the weight of two small cars) or twice the intended load.
- **When installing anchor points, follow the manufacturer's instructions**.

⚠ **Never use a pipe or vent as an anchor point.**

⚠ **Never use sheetrock screws to install an anchor point.**

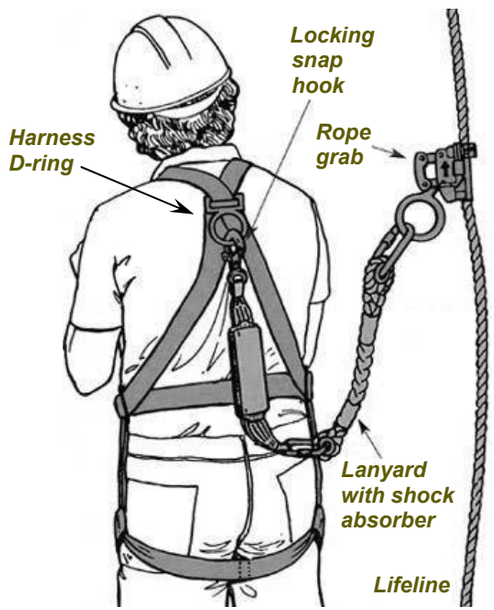
B – Body Harness

A full-body harness is required for a PFAS. The body harness distributes the force of a fall to reduce the chance of bodily injury. It includes shoulder and thigh straps, and a D-ring.

⚠ **Body belts should never be part of a PFAS.**

⚠ **Make sure that D-rings are larger than the snap hook.**

Note: The connecting D-ring in a properly fitted harness should be located in the center of the upper back.



⚠ **Not all PFAS components are interchangeable.**

C – Connecting Device

A retractable lifeline or shock-absorbing lanyard and its connectors are used to link a full-body harness to the anchor system.

⚠ **Never hook lanyards together unless manufacturer approved.**

⚠ **Shock-absorbing lanyards and retractable lifelines are rarely compatible—do not connect.**

Different types of connectors include carabiners, snap hooks, D-rings, and rope grabs. Connectors must have a minimum tensile strength of 5,000 pounds.

D – Descent & Rescue

You must have a plan for rescuing a worker whose fall has been arrested.

- The plan should be designed to raise or lower a worker to safety without any possibility of a free fall.
- The plan should be reviewed on a routine basis.

Inspection & Maintenance

Inspect a PFAS prior to each use for damage or other deterioration. **If damage is found on any component, immediately remove the item from service and destroy it**, or have it repaired by an authorized service center.

Equipment should be stored in a cool, clean, dry place out of direct sunlight.

Training

All workers should be trained by a competent person on how to correctly use a PFAS.

A competent person, by way of training or experience, is well-informed of relevant standards, able to identify workplace hazards relating to the specific job, and has the authority to promptly correct any hazards to workers.

Workers should be retrained every time there are changes to the worksite that affect the planning, setup or use of fall protection.

*** *This brochure highlights key points. Consult the OSHA standard 29 CFR 1926.502(d) for a complete list of PFAS requirements.*