

## Proof of Training

Print name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### **Powder Actuated Tools (Hilti, Ramset etc.)**

#### Purpose

To establish appropriate expectations and safe work practices when working with powder actuated tools also known as direct fastener tools. In essence tools capable of driving a pin, stud, bolt or similar object into or through building materials by means of an explosive force derived from the detonation of a cartridge.

#### Scope

This policy will apply to all work performed by employees and subcontractors including, but not limited to the following activities: construction, installation, demolition, remodeling, relocation, refurbishment, testing, and servicing or maintenance of equipment or machines and at other times when powder actuated tools are required.

### **Responsibilities**

#### Management (Board of Directors and Project Managers)

Management is responsible for ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this program are readily available where and when they are required. Additionally, management will monitor the effectiveness of the program, provide technical assistance as needed, and review the program bi-annually.

#### Program Manager

Dave Simpson is responsible for the development, documentation, training and administration of the program. This position carries the responsibility of insuring this program is adhered to and that proper reporting is executed.

#### Supervisors (Superintendents and Foreman)

Supervisors are responsible for ensuring that a task specific job hazard analysis (JHA), also known as a safe work plan, is developed. The JHA will select, implement and document the appropriate site-specific control measures as defined within this policy. Supervisors will direct the work in a manner that ensures the risk to workers is minimized, adequately controlled and that practices defined by this policy will be followed. Supervisors are responsible for ensuring Unger Construction employees and subcontractors are following expectations. Supervisors will be held accountable for enforcing the requirements of this program. Undesirable behavior will not resolve itself, therefore supervisors must be directly involved with modifying behaviors inconsistent with program expectations. Supervisors will be held accountable for enforcing Unger Construction's disciplinary program.

### Workers (Employees and Subcontractors)

Unger Construction has high expectations and requires safety excellence for each employee, crew, project and for our entire company. Workers are required to follow the minimum procedures outlined in this program. Workers are responsible for knowing the hazards and the control measures established in the JHA. Workers are responsible for using the assigned PPE in an effective and safe manner. Workers are responsible for stopping unsafe acts and correcting unsafe conditions on the spot as soon as they are discovered. Any deviations from this program must be immediately brought to the attention of your supervisor. Workers that choose to conduct themselves in a manner that is inconsistent with these expectations will be held accountable for those decisions and may incur disciplinary actions.

### Hazardous Material Survey

Unger Construction requires hazardous materials surveys before demolition or renovation work begins. The survey shall include all of the following: A visual inspection of a facility or a portion thereof for suspect materials, sampling and laboratory analysis of any suspect materials found for the presence of asbestos. The hazardous materials survey will also furnish a written report that includes: a description of the area(s) visually inspected, a detailed description of any suspect material sampled, the results of any laboratory analysis of suspect materials, the method of analysis, and the total amount of asbestos containing material. Typically a floor or roof plan is included with the report to reference the written information visually.

The person conducting the survey must be certified pursuant to OSHA and/or EPA regulations. The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey needs to be kept in a project file so that it can be accessed when working on future projects.

If lead or asbestos have been confirmed to be present employees and subcontractors must follow Unger Construction's Lead and/or Asbestos program. If hazards such as asbestos or lead will be disturbed during remediation, a properly licensed professional must perform the work and follow appropriate regulations.

### Job Hazard Assessment (Safe Work Plan)

Unger Construction utilizes JHA's as our means of hazard assessment and establishing a safe work plan. JHA's are performed by supervisors and/or workers. Our library of hazard assessments is maintained on the "S" drive. Before beginning a new task refer to the JHA library, generally speaking all scopes of our work are covered. For situations that have not yet been covered select one that is substantially similar and use it as a baseline. JHA's on the "S" drive are organized by work area and job description. JHA's include strategies for elimination, substitution, engineering and administrative controls. After applying all appropriate reduction and elimination technique, the remaining hazards will be analyzed and the proper PPE to reduce the hazards will be selected. PPE will be identified for hazards that are in the process of being reduced or eliminated and/or when hazard-reduction efforts are not 100% effective in eliminating the hazards.

For complex or moderate to high hazard tasks, tasks where an additional level of safety planning is needed, the safety director will perform the JHA with the supervisor and workers.

## Training

Before any employee is allowed to perform work with powder actuated tools, they must first receive training on the principles of operation, preparing and checking the tool before use, selection of the correct (cartridge, pin or fastener), loading and firing procedures, misfire procedure, eye and ear hazards, hazards in potentially explosive environments, basic servicing of the tool. Each employee must demonstrate an understanding of the required training, and the ability to use pneumatic tools properly, before being allowed to perform work. Certification is valid for 3 years. Proof of training is available on the "S" drive. The training data base can be sorted by employee name or by subject. This ensures supervisors and employees are able to confirm they have the necessary training and if they don't which employees do. Employees that need training should contact their project manager or superintendent to make arrangements for them to be trained.

## Retraining

The need for retraining will be indicated when: An employee's work habits or knowledge indicate a lack of necessary understanding, motivation or skills required to properly use powder actuated tools, New equipment is installed/purchased, Changes in the workplace make previous training obsolete, or Upon a supervisor request.

## Discussion

Powder actuated tools can be dangerous due to the extreme force they create when activated, when they misfire, when used in the vicinity of flammable vapors or on combustible materials. Powder actuated tools operate like a loaded gun and must be treated with the same respect and precautions. Do not point the tool loaded or unloaded at anyone. Do not leave a loaded tool unattended. When using a powder actuated tool the operator has the responsibility to protect them and others from the hazards associated with this type of work. Powder actuated tools shall not be loaded or fired except by persons who have been trained and are authorized. The muzzle end of the tool must have a protective shield or guard to confine any fragments or particles that are projected when the tool is fired. To prevent the tool from firing accidentally, two separate motions are required. The first motion is to bring the tool into the firing position (firmly held against the target material), the second motion is to pull the trigger.

## Alteration, Modification, Servicing, Repairing

All powder actuated tools shall be used in accordance to the manufacturers intended design and function and per their written instructions. Safety devices, covers, shields, interlocks and alarms shall be fully functional as the manufacturer intended for them. Powder actuated tools cannot be modified or altered in any way without written approval from the manufacturer. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, warnings and limitations. Powder actuated tools shall be only operated, serviced and repaired by qualified personnel.

## Pre-task plan

Pre-task plans must be developed for each powder actuated tool. Operators and supporting cast members shall read and sign the Pre-task plan before beginning work. The pre-task plan shall list corresponding potential hazards for each task and the methods to eliminate or control hazards. Tasks should be listed sequentially, in the order in which they will be performed. Personnel protective

equipment (PPE) requirements for powder actuated tools are task specific; however, typical PPE includes (gloves, glasses, face shield and hearing protection. Make certain you have selected the correct cartridge load and the correct fastener.

### Set up

The work location must be properly set up signs shall be installed that are 8 x10 stating caution Powder-Actuated Tool in Use. Ensure proper body positions, work space, footing, clamping, visibility, lighting and clearance. Ensure proper ventilation if working in a potentially flammable area.

### Inspection

All powder actuated tools must be inspected prior to use to confirm they are in good, safe working condition. Safety guards, shields and protective devices must be properly positioned and functional. All moving parts should operate freely; the barrel should be clean, clear and free of obstructions. Consumable accessories shall be in near new condition before starting the task. Worn or defective consumable accessories must be replaced before use. Defective or suspect tools must be removed from service immediately.

### Loading Unloading

Load the powder actuated tool at the place where it is intended to be used and only immediately prior to its use. Insert the fastener into the muzzle of the "head first" until the plastic collar is flush with the muzzle, and then insert the cartridge into the firing position. Do not carry a loaded tool from one job location to another job location. If the powder actuated tool has been loaded but will not be put into use immediately remove both the cartridge and the fastener.

### Fasteners and Cartridges

Fasteners and cartridges have specific uses only use fasteners and cartridges as recommended by the tool manufacture. Cartridges come in varying power levels and are identified by color. Cartridges of different power levels must be kept separate from each other to prevent unintentional mixing. Each type should have its own compartment or container. Cartridges shall not be left unattended in places where they would be available to unauthorized persons. Cartridges should be stored in a secure, cool, dry environment. A cartridge strip where one or more cartridges remain unused should be separated out and retained for future use.

### Performing tasks with Powder Actuated Tools

The operator is primarily responsible for the safe operation of equipment. They must have knowledge of the safety regulations applicable to the equipment and its operation. Keep tools clean, lubricated and maintained according to manufactures instructions. Only use attachments and accessories recommended by the manufacturer. Transport and store the tool per the manufactures recommendations. Coordinate your activities with others working around you. Be aware of others working around you; don't let others work below you. Check clearances 360 degrees around the point of work. You must know what is on the other side of the material and what is inside it such as wires, pipes. The operator must know the materials they will be driving into so you can select the proper cartridge and pin. Each material will have design criteria and limitations. Follow the manufactures instructions.

Do not fire fasteners into a material that would allow the fastener to pass through to the other side. Do not fire fasteners into material that is very hard or brittle. Brittle materials (glazed tile, glass block, hollow materials) could chip or splatter very hard materials (cast iron, surface hardened steel) could cause a ricochet. Fastening into materials that are easily penetrated, thin or materials of questionable resistance requires backing by a substance that will prevent the pin or fastener from passing completely through and creating a projectile hazard on the other side. Conduct a test fire using the weakest or lowest strength cartridge. Do not fire into a cracked surface or too close to an edge. When not in use, powder actuated tools must have the cartridges and fasteners removed and properly stowed. If the work is interrupted unload the tool immediately. The tool should always be held perpendicular, right angle, to the work surface. If a tool develops a defect during use, stop using it immediately and notify your supervisor.

### Misfire

If the tool misfires hold the tool in the operating position for at least 30 seconds. Then try and fire the tool, a second time. If the misfire occurs again hold the tool in the operating position for another 30 seconds then proceed to remove the cartridge in accordance with the manufactures instructions.

### Disposal

A cartridge strip where all cartridges have been used can be disposed of as normal commercial waste. A cartridge strip where one or more cartridges have misfired (have a firing pin impression on the rim but did not ignite) should be isolated, secured and returned to the Hilti sales representative referencing Hilti Data Sheet #0189.