BASIS: Thousands of workers are injured every year due to improper use of hand and portable power tools. Serious injury or death can be the result of electrocution, severed fingers, blindness, and a host of other types of injuries. OSHA estimates that most of these accidents can be prevented if proper safety precautions at job sites are initiated. The OSHA Hand and Portable Power Tools Regulatory Standard establishes uniform requirements to ensure that the hazards of using these tools are evaluated, safety procedures implemented, and that the proper hazard information is transmitted to all affected workers.

GENERAL: The company will ensure that tool hazards are evaluated. This safety program is intended to address comprehensively the issues of evaluating and identifying tool selection and use deficiencies, evaluating the associated potential hazards, communicating information concerning these hazards, and establishing appropriate procedures and protective measures for employees.

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Hand and Portable Power Tools

1. **Purpose.** The company requires that hand and portable power tools be purchased, maintained, and used only by qualified personnel who understand the limitations and requirements for the safe use of such tools. This safety program will be reviewed and evaluated:

   1.1 On an annual basis or more frequently as needed.

   1.2 When changes occur to 29 CFR 1910.221 - 244 that prompt revision of this document.

   1.3 When facility operational changes occur that require a revision of this document.

2. **Scope.** Applies to all locations where portable hand and power tools are used or maintained.

3. **Responsibilities.**

   3.1 Management/Supervisors:

   3.1.1 Purchase only those electrical tools that have been listed by a Nationally Recognized Testing Laboratory (NRTL) such as Underwriter’s Laboratory (UL).

   3.1.2 Ensure that procedures are in place to conduct visual inspections of tools prior to use.

   3.1.3 If testing is required (e.g., GFCI testing before each use) procedures will be in place to ensure compliance.

   3.1.4 Ensure that employees using tools understand and follow manufacturer's instructions, routinely inspect tools, and use them only for the purpose for which they were designed.

   3.1.5 Be aware of and make available, as appropriate, ergonomically designed tools for repetitive tasks and for those jobs for which a job hazard analysis or ergonomic assessment indicates a need for such tools.

   3.1.6 Ensure that a maintenance program is in place to identify and repair defective or unsafe tools. Repairs to portable electrical tools may only be made by an authorized manufacturer's tool service/repair group or by the approved company sources.

   3.1.7 Training may be conducted as part of an apprenticeship program or in other recognized training forums.

   3.1.8 Employees who indicate they have had prior training will be required to demonstrate understanding and capabilities prior to being assigned to work.

   3.1.9 Retain manufacturer's instructions for training/reference purposes.

   3.1.10 Ensure that periodic assessments and inspections of tools and tool use are performed.
3.2 Employees:

3.2.1 Use only company provided tools. Tools brought from home may not be used.

3.2.2 Attend training, as needed or required, for tool use.

3.2.3 Report incidents, accidents or signs and symptoms of injury to your supervisor.

3.3 Safety Officer (as needed or required):

3.3.1 Assist in the development and implementation of this program.

4. Procedure.

4.1 General Requirements:

4.1.1 No one will use an unsafe/defective tool. Tools that are damaged or defective will be removed from service.

4.1.2 Hand and power tools that may generate sparks or high temperatures will not be used in areas that are hazardous due to the presence of flammable or combustible materials.

4.1.3 The company is responsible for supplying proper power and specialized application tools for employee use.

4.1.4 Only qualified/trained personnel will operate powder-actuated tools.

4.1.5 Before a job is started, the supervisor or designee will ensure that the employee is fully aware of the hazards associated with the particular tool to be used.

4.1.6 Either Ground Fault Circuit Interrupter (GFCI) Protection or an Assured Equipment Grounding Conductor Program will be provided for all 120V (or greater) powered tools.

4.1.7 Adapters that interrupt the continuity of the equipment grounding conductor will not be used (e.g., 3-wire to 2-wire adapter.)

4.1.8 Double-insulated tools do not require an equipment grounding conductor (3rd wire) in the cord, but they do require GFCI protection.

4.1.9 Modifications will not be made to any tool or related equipment. Follow site or business unit established procedures when repairs are necessary.

4.1.10 Do not abuse power cords or hoses. Never carry tools by the cord or hose or yank to disconnect. Protect cords and hoses from heat, oil, and sharp edges.

4.1.11 Cords and hoses will be routed in such a manner as to not create a tripping hazard.
4.2 Types of Tools Appropriate for Use:

4.2.1 Ensuring the type of tool is appropriate for the job requires:

4.2.1.1 Recognition of applicable hazards associated with the work to be completed.

4.2.1.2 Tool determination and additional requirements.

4.2.1.3 Procedures for removal of a tool from service.

4.2.1.4 Where tools are used which could present a hazard to anyone other than the user, all other employees will be instructed concerning hazards.

4.2.2 Tool identification. Tools having identification numbers will be checked for legibility.

4.3 Pre-Use Safety:

4.3.1 Use the correct tool for the job.

4.3.2 Tools producing 100 dB (A) of noise will be labeled with a "Hearing Protection Required" sticker or tag.

4.3.3 Remove adjusting keys and wrenches before connecting to the power supply.

4.4 Pre-Use Inspection:

4.4.1 Prior to each use, visually inspect all portable electric tools and accessories for damages or defects, per the following:

4.4.1.1 Portable electric tools-check:

4.4.1.1.1 Tool general condition.

4.4.1.1.2 Cord for damage or deterioration.

4.4.1.1.3 Cord grip tightness.

4.4.1.1.4 Plug cap condition (grounding prong integrity).

4.4.1.1.5 Inspect extension cords and equipment for loose parts and damaged cords.

4.4.1.1.6 Portable GFCI's - Test per manufacturer's specifications.

4.4.1.2 Before using the tool, check workplace for nails, defects, or similar hazards/imperfections.
4.4.1.3 Attachment Plug/Connector Body/Cord; check for:

4.4.1.3.1 General condition
4.4.1.3.2 Cord grip tightness
4.4.1.3.3 Grounding Prong integrity
4.4.1.3.4 Polarization integrity
4.4.1.3.5 Condition of outer cord jacket. Cord will not be spliced and must be replaced if outer jacket is damaged
4.4.1.3.6 Boot and visible parts of body for damage, loose parts, or deterioration
4.4.1.3.7 Portable lights-check
4.4.1.3.8 Handle, guard and other visible parts for damage, loose parts or deterioration
4.4.1.3.9 Lamp (should be rough-service type)
4.4.1.3.10 Low voltage lights (12 volts) to ensure that transformer has not been by-passed. Check lamp voltage rating.

4.5 In-Use Safety:

4.5.1 Dress appropriately for the job

4.5.1.1 Do not wear loose clothing or dangling jewelry.
4.5.1.2 Confine long hair in a hair-net, cap, or fasten securely to the back of the head.
4.5.1.3 Use extreme care when wearing gloves.
4.5.1.4 Safety glasses are the minimum requirement when using any tool; additional PPE requirements may be necessary depending upon tool being used and job application (e.g., face shield, side shields, goggles, etc.)
4.5.1.5 Use hearing protection if required.

4.5.2 Use all tools per manufacturer's recommendations.

4.5.3 Keep cutting tools in good condition. Sharpen/replace when necessary.

4.5.4 Never use fingers to pull or dislodge chips or turnings from tools or parts. Use pliers, rakes, or hooks.
4.5.5 In some areas, compressed gas lines have been installed for specific uses. Be sure that air powered tools are hooked up only to lines supplied for the purpose.

4.5.6 Do not set down or carry a portable power tool in any way so that the starting-trigger or button can be accidentally struck.

4.5.7 Appropriate precautions will be utilized when tools are used in a wet location (e.g., electrically insulated gloves).

4.6 Post-Use Safety:

4.6.1 Disconnect tools when not in use.

4.6.2 Never lubricate, clean, repair, or adjust a tool while it is connected to a power source.

4.6.3 After a job is finished, clean all scrap and debris from the work table and surrounding area. Use proper receptacles.

4.6.4 Take care of all tools. Keep them sharp and clean. Follow manufacturer's instructions for lubricating, changing accessories, and inspection.

4.7 Repair:

4.7.1 All electric tool repairs will be made by a factory authorized tool repair service or company designated portable power tool repair service.

4.7.2 The only exception is cord plugs and connector bodies that may be replaced by a qualified person with an electrical background. Upon completion of plug or body replacement, ground integrity will be tested.

4.7.3 No repairs will be made to portable GFCIs.

5. Safety Information.

5.1 Specialized Applications:

5.1.1 Hand and power tools that may generate sparks or high temperatures will not be used in areas that are hazardous due to the presence of flammable or combustible materials. Use of non-sparking tools will be required unless monitoring ensures levels below 25% of the lower explosive limit (LEL). For more information, reference Portable Electronic Devices in Hazardous Areas.

5.1.2 Training for use of a powder actuated tool is provided by the manufacturer (usually HILTI).

5.1.2.1 A license is issued after training; individuals using powder actuated tools must have the license on their person when using the tool.

5.1.2.2 A record of training will be kept in personnel training files or equivalent recordkeeping system.
5.2 Power Tool Precautions:

5.2.1 Power tools can be hazardous when improperly used. The company uses several types based on the power source they use such as electric, liquid fuel, hydraulic, pneumatic, and powder-actuated. The following precautions will be taken by employees to prevent injury.

5.2.1.1 Power tools will always be operated within their design limitations.

5.2.1.2 Eye protection, gloves, and safety footwear are recommended during operation.

5.2.1.3 Store tools in an appropriate dry location when not in use.

5.2.1.4 Work only in well illuminated locations.

5.2.1.5 Tools will not be carried by the cord or hose.

5.2.1.6 Cords or hoses will not be yanked to disconnect it from the receptacle.

5.2.1.7 Cords and hoses will be kept away from heat, oils, and sharp edges or any other source that could result in damage.

5.2.1.8 Tools will be disconnected when not in use, before servicing, and when changing accessories such as blades, bits, and cutters.

5.2.1.9 Observers will be kept at a safe distance at all times from the work area.

5.2.1.10 Work will be secured with clamps or a vice where possible to free both hands to operate tools.

5.2.1.11 To prevent accidental starting, employees should be continually aware not to hold the start button while carrying a plugged in tool.

5.2.1.12 Tools will be maintained in a clean manner and properly maintained in accordance with the manufacturer’s guidelines.

5.2.1.13 Ensure that proper shoes are worn and that the work area is kept clean to maintain proper footing and good balance.

5.2.1.14 Ensure that proper apparel is worn. Loose clothing, ties, or jewelry can become caught in moving parts.

5.2.1.15 Tools that are damaged will be removed from service immediately and tagged "Do Not Use". They will be reported and turned over to the job site supervisor or Safety Officer for repair or replacement.

5.2.1.16 Cracked saws. All cracked saws will be removed from service.
5.2.1.17 Grounding. Portable electric power tools will meet the electrical requirements of this safety program and 29 CFR 1910.331 - 335.

5.2.1.18 Compressed air used for cleaning. Compressed air will not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

5.3 Methods of Guarding:

5.3.1 One or more methods of guarding will be provided where required to protect the operator and other employees in the area from hazards such as those created by point of operation, in-running nip points, rotating parts, flying chips and sparks. Examples of guarding methods are barrier guards, two-hand tripping devices, electronic safety devices, etc. The guard will be such that it does not offer an accident hazard in itself. Employees will:

5.3.1.1 Inspect tools without guards for signs of guard removal. If it is evident that a guard is required, tag-out the tool and obtain a replacement. Tools will not be energized during inspection.

5.3.1.2 Inspect tools having guards for proper operation and maintenance prior to use. Tools will not be energized during inspection.

5.3.1.3 Never remove a guard during use.

5.4 Self Assessment:

5.4.1 Each division/work unit should conduct a self-assessment to assess compliance with this standard and develop action plans to correct deficiencies. See Section 6 for more information.

6. Training and Information.

6.1 Powder Actuated Tools:

6.1.1 Users of powder-actuated tools must be licensed and trained.

6.1.2 Training may be conducted as part of an apprenticeship program or in other recognized training forums.

6.1.3 Employees who indicate they have had prior training will be required to demonstrate understanding and capabilities prior to being assigned to work.

6.1.4 Manufacturer's instructions will be retained for training/reference purposes.
6.2 Initial and Re-Training:

6.2.1 This safety program will be provided to and read by all employees receiving training. Training will be conducted on an as needed basis or when the following conditions are met:

6.2.1.1 Re-training will be provided for all authorized and affected employees whenever (and prior to) there being a change in their job assignments, a change in the type of tools used, or when a known hazard is added to the work environment.

6.2.1.2 Additional re-training will also be conducted whenever a periodic inspection reveals (or whenever there is sufficient reason to believe) there are deviations from or inadequacies in the employee's knowledge or use of tools.

6.2.1.3 The re-training will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

6.3 Certification:

6.3.1 The company will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training.

7. Definitions.

- **Powder Actuated Tools** – A tool that uses an explosive charge to drive a bolt or nail. Normally used in concrete construction or steel erection. Electrically powered nail guns are not considered a powder actuated tool.

8. Summary. The company requires that hand and portable power tools are purchased, maintained, and used only by qualified personnel who understand the limitations and requirements for the safe use of such tools.

8.1 Basic Responsibilities:

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8.2 Training:

8.2.1 Users of powder-actuated tools must be licensed and trained.