

Safety Equipment & Protective Gear

The Right Equipment Can Save Your Life!



Properly protecting yourself from serious personal injuries

This article is designed to inform every user of tools about the importance of using safety products for any project

By Michael Panish, Construction Expert Witness

As a construction expert witness, I am often asked about the importance of using safety equipment. I have many years of personal experiences with the proper observance of safety procedures and appropriate safety equipment requirements.

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In my professional life as a general building contractor, I have conducted regularly scheduled safety meetings, provided safety equipment to my employees, and trained my workmen on the proper ways to protect themselves while on the job. I have personally monitored my crews to verify that appropriate protective gear is worn and used at all times when needed.

In my personal life, safety and appropriate protective equipment is equally as important. I own, maintain, and use just about every piece of job specific safety equipment that is available. It is my opinion that your home workshop, personal residence, and yard can become just as dangerous as a construction jobsite when work is being performed.

Many homeowners think that work around the house is not the same as work on a construction jobsite. Do-it-yourself television programs make renovations seem simple and easy to accomplish. As a result of these numerous television shows, some homeowners attempt to tackle a renovation project completely unprepared, at least with regard to the usage of safety equipment. I have watched many television programs where the contractors, workmen, and homeowners operate noisy power tools without hearing protection. They tear apart walls and demolish interior partitions without dust masks, gloves, or face protection. While performing hazardous work, these tradesmen do not always address job safety or the potential health hazards from asbestos related products, plaster dust, or mold issues that may exist within the scope of the home renovation work. These television shows can mislead or ignore the fact that the general public may view these projects as safe and easy to accomplish. They potentially create safety concerns that can affect the novice and uninformed viewer.

Serious personal injuries occur frequently to homeowners doing simple weekend yard work, mainly due to the fact that they failed to wear protective garments, eye or hearing protection. The "weekend warrior" risks potential injury by over-reaching while working on undersized or improperly positioned ladders, filling hot tools

with explosive gasoline, or digging trenches without checking for underground utilities. They purchase power tools that they may not know how to use and lack the understanding of the potential harm that the tool can create.

In many states, it is a requirement that a construction or demolition site be surveyed for hazardous materials such as asbestos or petroleum products prior to beginning any work. Even some professional contractors ignore this investigation and most homeowners are completely unaware of this necessary safety check. The importance of this preliminary site survey cannot be overstated. Contamination from construction debris or hazardous waste is not only dangerous to the site workers, but can seriously affect the environment and can create costly cleanup related fees.

I have been the retained construction expert on several personal injury cases that involved trained construction workers. These workmen are required to wear and use protective clothing such as steel toed shoes and a hard hat during normal on the job hours. However, when working on their own personal residences, they chose to wear casual clothes such as tennis shoes, and baseball hats, all the while drinking alcohol. The lack of proper protective gear, in combination with alcohol consumption, and numerous distractions ended in serious personal injuries.

In one of my past construction injury cases, an inebriated tradesman/homeowner decided to adjust an overhead sectional garage door spring. He had no training of any type dealing with these springs and paid no attention to the installed spring tension warning labels. What made him feel qualified was that he had watched a couple of garage door installer's repair or adjust a neighbors' garage door. Not understanding the tremendous stored energy in the garage door torsion spring, and after having had a few drinks, the homeowner decided he had the courage to remove the bolts that secure the spring and make an adjustment. He chose to use a small wrench. The short tool that he used became unmanageable in his hand, he lost his grip and the tool which was now powered by the force of the stored energy in the spring, flew off of the bolts and smashed into his face and head.

How does this story relate to safety products? Safety and the appropriate usage of safety products start with the conscious decision on the part of the user to employ those safety devices. Rational behavior and common sense are often impaired by the usage of alcohol, and any construction or yard work should not be performed while under the influence.

Safety products for almost every purpose are available at most local home centers. While the quality and durability of these products may or may not equal products in professional trade supply houses, they at least begin to address the importance of using appropriate safety products to keep the homeowner aware that safety concerns are real. In addition, most safety products are currently available on line and can be purchased for next day delivery.

Inform Others to Leave You Alone While You Are Working

One of the most basic forms of safety for any jobsite or home location is to make sure that you have a clear and secure work area. Inform co-workers or your family to leave you alone to do your work. Do not play games around your work space or allow children or animals to distract you or divert your attention in any way. A quick glance toward a diversion can create enough distraction to create severe personal injuries. Whether you are

using a portable saw, table or hand saw, distractions equal danger. Pay strict attention to your work, stop when you become tired or lose interest, and remain focused on your project without any outside interruptions. This aspect of safety does not require purchasing any piece of equipment. Continual and ongoing safety should always be your first priority.

What Safety Devices Should a Homeowner Have in Their Home?

The following list is a suggested start to basic equipment you should have around the house.

Fire Extinguishers

Many common fires around the house can be stopped with the usage of a proper fire extinguisher. While quick action and correct usage may put out the fire, it is important to also be aware of the limitations of the extinguisher used. Fully understand and read all included instructions prior to usage. It is a good and safe practice to regularly inspect your extinguisher to verify that it is properly charged. It is also a good idea to make sure that the contents of the extinguisher do not become a solid mass. A few times a year it is recommended that the contents be shaken. Alternatively, a rubber mallet can be used to smack the bottom of the device (do not hit the valve or hose components). This agitation will help to prevent the solid materials from clumping into an unusable mass.

Smoke, Fire, Carbon Monoxide Detectors

These devices give advance warning to unseen, unknown, or undetectable dangerous conditions. It is important to check the condition of the power source to these detectors. If they are hardwired into the building, check to verify that a battery back-up exists. If the type of battery installed charges during normal conditions it probably does not need replacing every six months. If the battery is expendable, it is good practice to change it whenever daylight savings events occur. It is good practice to test these devices, either hard wired or battery type, at least once a month to verify that they are working correctly. If a test fails, replace the device immediately to assure your protection. Seek additional information regarding these devices from the manufacturer or online sources.

Fire Escape Ladders

Add extra safety to your family if you have multiple floors. Stairwells can often become chimneys, depending upon the location of a fire. In the event of a fire, it is important to have multiple egress points. Pre-boxed fire escape ladders can be kept under windows, beds or adjacent closets to be used in the event of a fire. Always check the condition of the ladder immediately after purchase to assure that the ladder is usable in the event of an emergency situation. These ladders are available in some home centers and online for immediate shipping.

Dust Masks & Respirators

Respirators and dust masks are an important part of many jobs. It is important to make sure that your lungs and airways are protected from adverse chemicals and airborne contaminants. There are many types of dust masks available. Dust masks should not be confused or interchanged with respirators. A dust mask is generally a low cost paper or synthetic filtering device manufactured to help stop dust, debris, and dirt from entering your nose and mouth. A respirator is generally considered a cartridge and filtered system to trap contaminants and purify the air particles prior to entering your respiratory system. Make certain that the usage

of the proper type of mask or respirator is proven for the type of work that you are performing. Make certain that the filters and cartridges in a respirator are approved by NIOSH or OSHA and meet the requirements to protect you. An indication that a respirator needs the replacement of filters is when you begin to smell or taste the products you are using the respirator to filter. When that occurs, always stop work, replace the cartridge or filter prior to continuing. Always read, follow, and understand the instructions that come with this piece of safety equipment. Check with the manufacturer or supplier to verify that you are using appropriate products for your job.

More professional and stringent requirements for the usage of certain type of respirators include medical evaluations prior to the issuance of the respirator. An example of this type of requirement would pertain to work related to asbestos or mold abatement. In addition to proper training prior to working with asbestos, it is important that a medical evaluation determines that your body is able to properly function while you are wearing the approved respirator. The removal of asbestos or mold is not to be taken lightly and should not be performed by an untrained, unlicensed or uncertified contractor. This is not a project for a homeowner.

Gloves

Gloves for all purposes (Rubber, latex, chemical resistant, electrical insulated, leather work, thermal insulated, heat resistant, Kevlar reinforced, etc.) - Gloves are a very basic and easy to find safety item. The importance of proper protection of your hands and arms cannot be overstated. There are as many types of gloves available as there are types of jobs. It is important to know the limitations and requirements of your gloves prior to beginning work.

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Hearing Protection

Hearing protection includes equipment such as ear plugs and head phones. Long term hearing loss can be created by a sudden unexpected loud noise. It is important to plan for that possibility and provide adequate hearing protection. Long term exposure to low levels of certain frequencies can also damage hearing. Consult online guides, job related service manuals, and other available sources to determine the correct type of hearing protection that should be used for any job. Repeated exposure to yard and lawn equipment can be very damaging to your ears, and even though it may occur on an infrequent basis, it is important for anyone exposed to these products to protect their ears.

Safety Clothing

Safety clothing for specialized usage. Some examples of protective clothing products and related items include Kevlar chainsaw protective chaps, gloves, boots, hard hat with face shield, etc. Chain saw users can encounter several assaults on their bodies at every usage. Hearing can be seriously affected, so headphones are essential. A hardhat is recommended to protect against the inadvertent tree branch falling from above. A face shield is suggested to protect against flying wood chips, tree limbs, and branches that may brush past a user. Safety glasses are suggested to protect against sudden projectile impacts that pass the face shield. One of the most significant and potentially lifesaving products that can be worn are products made using Kevlar fabric. This fabric, when cut with an errant chain saw chain, becomes shredded and grabs the chain, hopefully stopping the chain before cutting your body parts. It is important to wear protective boots, chaps, gloves, and vests made with Kevlar at all times during usage of a chain saw to protect all major body parts and extremities.

Work Shop / Wood Shop Protection

Face masks, goggles, dust masks, respirators, hearing protection, proper gloves for specific tasks, ventilation devices for airflow, and dust collectors are recommended. Understand the task that you are planning, and make certain to have all needed safety products and equipment prior to starting your project. A good first aid kit is important to have in your workshop.

Boots

Steel Toed Work Boots or Regular Work Boots are essential for working with heavy objects that can fall on your feet. Steel toed boots have a protective reinforcement in the toe to protect your foot from falling objects, compression, or punctures. For light products, non-steel toed shoes may be sufficient. The addition of steel in

your work boots is good additional insurance against foot injuries. Steel toed shoes are often professional requirements on most work sites. Why not add the protection of steel toed work boots when you plan to buy your next pair of work shoes?

Ladders

Proper and appropriate ladders for multipurpose use. Never use a ladder for more than its' intended purpose. Fiberglass ladders offer non conductivity from electrical sources, come in a variety of types and load ratings, and last for years. In most cases, they are far more durable than a wooden ladder or any aluminum ladder product. They may cost a little more, but are well worth the price in the long run, and will provide many years of safe usage if properly maintained and stored.

Ground Fault Circuit Protection

Ground fault circuit protectors for electrical outlets in water or moisture adjacent areas. While a G.F.I. (Ground fault interrupter) is an electrical code requirement in wet locations in newer construction, older homes may not have been upgraded to include these devices. Homeowners, not thinking about shock hazards, may not know if the outlet that they are connecting exterior extension cords to are grounded or protected by a G.F.C.I. (Ground fault circuit interrupter.) Unprotected circuits and outlets now connected to these electrical extension cords can lead to shock hazards or even death.

The above list of suggested safety equipment is not to be considered an exhaustive resource of information. Suggestions made in this article should offer some assistance in determining the type of products that will help to increase your safety when working around your home. The author is not responsible for any omitted or included content and urges the reader to make informed decisions and take personal responsibility to assure that they have received all the information to make informed decisions for any project. The author is not responsible for any manufacturers' products, defects, or usage of those products. Be informed that readers of this article assume all risks associated with using safety equipment mentioned in the article.

Remember to purchase the best quality safety products that you can find. Remember the saying: If you have a ten dollar head, get a ten dollar helmet. The same adage applies to all safety gear. Buy the best products available, check what a tool or equipment supplier recommends, and research the proper way to use the safety equipment. If you are unsure as to whether something is safe, and you have any doubts, do not proceed with any work. Seek professional assistance and protect yourself from possible severe bodily injuries.

Sample Injuries that can occur around the Home:

Chainsaw related injuries

in many areas around the country, it is not unusual for a homeowner to own and routinely use a chain saw. From information given to me at many chain saw supply stores, very few people choose to purchase the protective garments such as Kevlar lined gloves, boots and chaps. And, they don't always concern themselves with eye, ear, or head protection. When I purchased a chain saw several years ago, the local store owner was surprised and pleased that I requested and purchased all of the safety products that pertained to usage of that saw. The usual homeowner attitude is that "I am not working professionally, so my casual usage of this chain saw will not be a problem." With all accidents, it only takes one incident to change your life completely. The chain saw itself is only one part of a potential serious injury. Falling tree branches can strike you on the head, scratch your face, and injure your eyes. Loud noise from the chain saw is also significant in damaging your ears and creating fatigue while working for long periods of time. Wearing proper Kevlar protective clothing can

save your life. The steel like threads that make up Kevlar become entangled in a chain saw chain stopping its' cutting action instead of allowing the chain to cut a vital body part such as arteries in your leg, arm or hand. Kevlar reinforced steel toed work boots also help protect your feet from heavy objects and accidental contact with your chain saw blade.

Work shop related injuries

Many homeowners enjoy the time spent in their workshops in out-buildings, garages, and basements. Workshop injuries occur for many reasons. Working without protective clothing or eye and ear protection top the list. Working for too long, becoming tired, and attempting to finish a project often create careless mistakes that lead to life altering injuries. Over working tools (pushing the tools to perform tasks that they are not designed to do or the over-stressing of blades and drill bits) lead to fracturing and projectile ejection. Quality safety equipment can help to limit the potential injuries from unpredictable occurrences. But, most importantly, common sense and knowing when to stop work are the most important aspect in preventing personal injury. Fresh air is also essential to assure your safety. Make sure your work space is properly ventilated and there is adequate air exchange. Never spray paint or other finishes in an enclosed space. In addition to becoming difficult to breathe and see, sprays can become explosive if the right conditions and airborne concentrations exist.

Summary

The purpose of wearing protective products should make perfect sense to everyone. It is important that you, as the power tool user, take it upon yourself to purchase and use appropriate safety equipment. Many big box stores gladly sell potentially dangerous power tools to anyone. Normally, there is not any verification to see if the new power tool buyer has proper training, safety equipment or enough information to use the tool safely.

While there is no law regarding regulating the purchase of most dangerous tools, even a simple hammer can create bodily injury if not used properly. It is not the responsibility of a store to enforce the usage of safety equipment, but it seems that it would be a good policy to inquire with the new tool buyer whether or not they are prepared to safely use their new tool and have proper safety equipment.

Major life threatening injuries can result from the improper usage of power tools and even small hand tools. It is important to remember to use any necessary safety equipment that would protect you from injury while using a specific piece of equipment.

Personal safety is the responsibility of the individual. Safety information and products are available online and in trade publications and journals that offer construction related products.

Mike has been designated by Plaintiff and Defense as construction expert witness in jobsite injury and accident cases resulting from improper or unsafe tool usage, inappropriate safety precautions, and hazardous working conditions. He has been called upon by insurance adjusters and claims representatives to evaluate the jobsite conditions and assist them in determining the reason for the claim or injury. In addition, insurance claims adjusters have called upon him to help them analyze the causation of fires and floods that have resulted from incorrect usage or mishandled tools and equipment. Mike has been an invaluable part of the team representing the Plaintiff when a claim of unsafe and reckless behavior on the part of the employer was determined. He has provided his expert services in defense of claims that have limited the Defendant's liability in other cases. His past experience in the trades has allowed his evaluations to carry significant weight during mediations and arbitration hearings. The vast majority of cases where he was the retained construction expert have settled favorably for his clients. A full list of Mike Panish's construction expert witness services is available on his website at www.ConstructionWitness.com.

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