

SELECTING THE RIGHT GEAR FOR HEAD-TO-TOE SAFETY

Product selection guide
for disaster cleanup workers

"Disaster site dangers include carbon monoxide poisoning, musculoskeletal hazards, heavy equipment, extreme heat and cold, unstable structures, hazardous materials, fire, confined spaces, worker fatigue, and respiratory hazards." — Centers for Disease Control and Prevention (CDC)

Honeywell

INTRODUCTION

Honeywell Industrial Safety is the world's largest personal protective equipment (PPE) provider. From hard hats to safety footwear, many workers utilize Honeywell solutions for head-to-toe safety.

While any work environment can pose potential safety hazards, even veteran workers facing the extraordinary experience of a disaster cleanup effort may encounter new and different risks. Although the catastrophic event itself may have passed and the affected area approved for re-entry, the worksite itself likely, literally, remains a disaster area.

Workers are advised to refer to proper governmental regulatory and corporate authorities for specific directions and mandates on work rules and procedures — as well as to employ best practices in their selection and use of personal protective equipment in their continuing support of a worksite-wide culture of safety.



HEAD PROTECTION

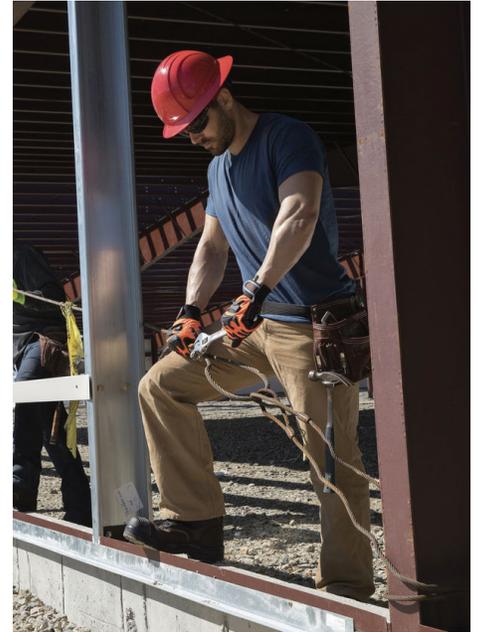
Head-to-toe protection starts at the top. Entering a damaged structure exposes workers to a variety of overhead risks including flying or falling objects, power lines, equipment, tools, and similar hazards.

Choosing the right hard hat is key to effective head protection. Hard hat impact protection is divided into two categories: Type I and Type II. Type I hard hats are designed to reduce the force of impact from a blow to the top of the head (e.g. an object falling from above the worker). Type II hard hats are designed to reduce the effect of the lateral force exerted on the head.

The proper and consistent use of a hard hat is vital to user safety. Lightweight high-impact materials and a snug and comfortable fit are essential. A good quality suspension (the support frame) within the hard hat is important. The more suspension points in the hard hat, the greater the comfort and the more energy from an impact that can be attenuated, or spread over the hat.

Depending on the work task, compatibility with other PPE and accessories such as liners, face shields, and hearing protection, might be required. Regardless of type, however, the selected head protection should conform with the Canadian Standards Association (CSA) 94.1-15 standard.

- The [Honeywell North Zone™](#) Hard Hat sets a new standard for lightweight, day-long hard hat comfort all day long. Features include a modern shell combined with a patented suspension design with multiple adjustment points for size, height and snugness; and are easily removable and replaceable.
- In addition to superior protection, comfort, and fit, the [Honeywell North Force™](#) Hard Hat features an innovative shell design providing back-of-head protection without constricting the range of motion protection. The extended shell provides 24% more back-of-head protection than standard Type I hard hats to protect workers from serious head injuries due to slips on slick surfaces.



EYE AND FACE PROTECTION

“Struck by” injuries encompass all areas of the body but, from an injury perspective, some of the most serious relate to the eyes, face, and head.

Where eye safety hazards exist, it is essential to provide protective eyewear that is compliant with CSA, UL, and other applicable eye protection standards that cover protective eyeglasses, goggles, and visors.

In the aftermath of a disaster, work activity in a dirty, damaged structure can cause particles such as dust and soot to become airborne — and a safety risk to workers’ eyes.

Sealed eyewear is ideal for protection against airborne debris as well as from impact, the sun, and the wind. Sealed eyewear provides protection for wearers of prescription glasses. Models with extended wraparound frames improve protection and peripheral vision. Flexible width sizes, an adjustable nose bridge, and ratcheting temple hinges that enable the wearer to customize the fit and lens angle increase comfort and promote usage. Anti-fog lenses help preserve vision when exertion, heat, and humidity exist.

- [Uvex Livewire](#) sealed eyewear is engineered for an extreme environment. Can be worn with temples or headband for a close, sealed fit to protect against dirt, dust, debris, the wind, and the sun as well as high heat and humidity. Livewire sealed eyewear also features 10X longer-lasting anti-fog performance.
- [Uvex Seismic](#) sealed eyewear can be worn with templates or headband for protection against impact, the sun, the wind, and debris. Ideal for high-particulate environments such as grinding, chipping and sanding.
- [Uvex Tirade](#) sealed eyewear offers protection in high particulate environments where dust, dirt and debris present the risk of eye injury. Designed with a large unilens for a wide field of unobstructed peripheral vision. Also available with temples or headband.
- [Uvex Stealth](#) google features a low-profile design for chemical splash and impact, toric lens for superior optics and peripheral vision, and a quick adjust headband. [Uvex Stealth OTG](#) (over-the-glass) goggle offers premier performance, comfort, and adjustability features. Ideal for impact, dust, chemical splash, and UV and welding radiation. Fits comfortably over most prescription eyewear.
- [Uvex V-Maxx](#) OTG (over-the-glass) goggle fits a wide variety of workers and can be worn over prescription eyewear or with most half-mask respirators.



- [Uvex Strategy](#) goggle features innovative, face-hugging material and a rugged design that withstands the harshest environments.

Demolition or cleanup work involving steel cutting and concrete sawing increases the risk of eye injury from flying particles or hot liquid droplets. In these environments, workers will need protection in the form of full face visors. Heavy mechanical work will require polycarbonate visors, chemical contact will require acetate or propionate visors, and electrical work will require polycarbonate visors, and welding tasks will require a polycarbonate visor with an Infrared (IR/UV) level 3.0 or 5.0 lens.

- The [Honeywell Forestry Kit](#) combines a hard hat and ear protection earmuffs with a metal mesh face screen to provide head, eye, face, and hearing protection with the ultimate impact shield from flying chips and debris.
- The installation of on-site emergency eyewash stations can help provide immediate remedy of eye injuries if an accident does occur. The portable [Fendall Flash Flood station](#) offers immediate, hands-free eye flushing — and delivers a saline solution for three minutes.

HEARING PROTECTION

Most worksites are enveloped by the sounds of working tools, equipment, and heavy machinery — and many present the risk of permanent, noise-induced-hearing-loss.

Effective hearing protection reduces the level of sound exposure to permissible limits while allowing users to maintain real-time personal communication and situational awareness for their personal efficiency and safety.

There are many options for hearing protection. Selection factors include noise exposure and desired protection levels, product type (earplug or earmuff), style (single/multiple uses, banded, etc.) and other product features (size, corded, sound management, etc.). Training and testing help users ensure the proper fit of the hearing protector and the desired level of protection. Regardless of the type, the chosen hearing protection should be compliant with CSA Z1007 for hearing conservation.

Earplugs require their insertion into the ear canal. In a dirty workspace, ensure the cleanliness of the earplug with the use of disposables or earplugs with stems

- The soft foam with the dimpled tip of the new Honeywell Howard Leight [TrustFit™ Pod](#) push-in foam earplug collapses to be easily and gently pushed into the ear without the need to roll down — to reduce hygiene concerns and deliver day-long comfort. The earplug's ergonomically contoured paddle fits naturally between the finger and thumb, even when wearing lightweight work gloves.



RESPIRATORY PROTECTION

Physical injuries are not the only hazard in a cleanup effort. It is important to protect the lungs because various gases, toxic chemicals, fumes, and particles can remain airborne long after a catastrophic event has passed or a structural fire is extinguished.

Those working on clean-up, refurbishment, and construction teams are strongly advised to wear respiratory protection.

Asbestos and silica are leading respiratory hazards and cause of ill health on the job site, often inhaled as dust during demolition and refurbishment activities. Respiratory protection is also vital when drilling, painting, and cutting concrete or working with sand and concrete.

Ways to reduce inhalation risks can include changing working practices, for example by adding water when cutting concrete to reduce dust. Single use, re-usable face masks, half-face or full-face respirators or ventilated hoods are available to prevent dust inhalation.

- The economical, elastomeric Honeywell North [5500 Series Half Mask](#) features a wide contoured sealing area and great fit. The low “dead air” space limits re-breathing of exhaled air for increase comfort and worker productivity. Latex free straps stretch and move with the worker while providing optimum support.
- The Honeywell North [RU6500 Full Facepiece](#) Mask is an economical silicone full facepiece that provides all day comfort.
- Depending on the hazard present in the environment, Honeywell’s line of cartridges and filters for use with both half and full facepieces are low profile, which means they will not catch on pipes or other objects. Use seal checks are easy to perform, even with gas and vapor cartridges. Most common uses are the P100, N95 (and holder), Organic Vapor Cartridge and Organic Vapor Cartridge with P100 filter.
- The [Saf-T-Fit](#) Disposable Mask comes in three sizes, S, M/L and XL, and is great for use in areas where contaminants may be less potent, but respiratory protection is still needed.



GAS MONITORING

A burnt-out building structure and its contents can produce a lethal combination of chemicals and carcinogens that can remain long after a fire is extinguished.

Worker safety concerns include the availability of sufficient Oxygen (O₂) as well as the lingering presence of dangerous Combustibles (LEL) and toxic gasses such as Carbon Monoxide (CO), Hydrogen Sulfide (H₂S) and Hydrogen Cyanide (HCN).

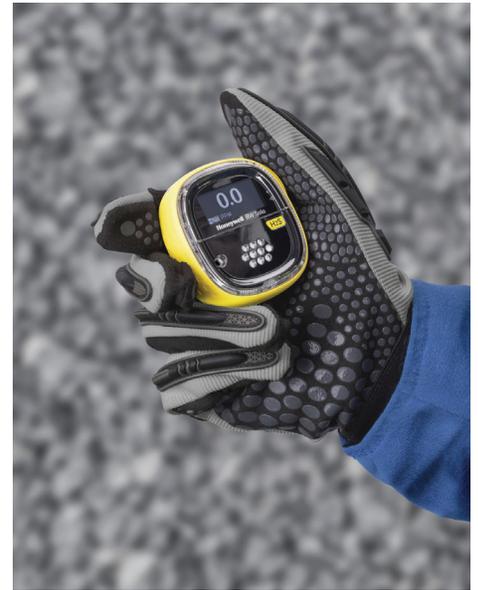
Portable gas detectors can alert wearers of these dangers at worksites, in confined spaces, and when performing spot leak testing. Single-gas detectors offer low-cost protection and rugged reliability, with options like extended battery operation. Multi-gas detectors combine a comprehensive range of features and flexible options. A fleet of gas detectors can be managed easily by docking/charging stations designed to simplify bump tests, calibration, charging and records-keeping.

For advanced protection, an area-wide wireless gas monitoring scheme can be deployed rapidly, using a command-control center established to collect and transmit data from wireless multi-sensor monitors worn by first responders or installed along the perimeter of the defined area.

Plume modeling software can be added as well so that the wind speed and, in the case of a fire, its direction, can be monitored. The advantage of the wireless system is that information is captured in real time and is available to share across an entire enterprise, or between first responder teams.

The instructions, cautions, and warnings of using portable gas monitors are governed by Canadian Standards Association (CSA) standards including C22.2 NO. 152-M1984 (R2001), "Combustible Gas Detection," the CSA standard that covers the details of construction, performance, and test procedures for portable instruments used to detect or measure combustible gasses, and protocols issued by the International Safety Equipment Association (ISEA) related to calibration and bump testing the instruments.

– The [Honeywell BWTM Clip 4](#) is a wearable, easy multi-gas detection that's always on. No charging, no battery replacement, no hassle. Simpler, low cost of ownership guaranteed by the Honeywell commitment to quality, and backed by a full ecosystem of supporting technologies. Simply turn your new detector on and then after two years replace it for a new one.



- The [Honeywell BW™ Solo](#) is a easy to service single-gas detector with BLE connectivity that provides real-time visibility into the status and safety of hazardous-area workers, helping companies respond faster, more knowingly and decisively to safety incidents.
- The [Honeywell BW™ MicroClip Series](#) is the world’s most popular multi-gas portable detector, delivering long runtime (an entire shift) and reliability – along with small size, low cost, and a superior user experience.

HAND PROTECTION

As the chief points of contact in potentially hazardous situations or with dangerous substances, a worker’s hands deserve special safety consideration. Unfortunately, hand injuries such as cuts and lacerations continue to be all-too-common.

The cut resistance of a glove is mainly a function of the fiber composition, and blend of fibers in the shell of the glove. For various handling tasks, protection can be increased by using fiber technologies like Honeywell Spectra® Fiber, a High-Performance Polyethylene (HPPE), aramid fibers like Kevlar®, or blend of cut-resistant fibers with stainless steel or fiberglass to achieve the cut level required.

Select glove materials according to the specific protection required. Chemicals, and even concrete, can pose a major threat to hands. Coating polymers provide protection in different degrees; a chemical resistance chart should always be referred to when selecting the best glove to wear. If permeation and degradation information is not provided, please consult with the manufacturer.

Comfort, dexterity, grip, and breathability are important attributes of work gloves. Gloves that are the wrong size, uncomfortable, or inappropriate for the task are likely to be quickly discarded by the wearer – along with the protection they were intended to provide.

In Canada, the prevailing standard for hand protection selection is ANSI ASTM F1790 (US) or CE EN388 (Europe).

- [GuardDog®](#) Kevlar® gloves’ inner shell is lined with premium split leather/heavy duty canvas exterior. It provides ANSI cut level 3 protection. Kevlar® aramid fiber will not support a flame and provides low-level heat resistance, depending on environmental factors.



FOOT PROTECTION

Disaster cleanup sites can present workers with surfaces that are rough and uneven; muddy or slick with water, chemicals or liquids; or otherwise hazardous. The safety risks to a worker's feet can include impact, crush, puncture, or slipping injuries.

The proper safety footwear can guard against these hazards while providing maximum support. Select safety footwear featuring a protective toe cap, steel midsole, and ankle protection to protect from falling debris or puncture risks; enhanced slip resistance on the sole; a self-cleaning tread design; and high flexibility and durability. Footwear uppers should be constructed of breathable, water-resistant material. Comfort is essential for helping to prevent overall fatigue for the wearer.

– Honeywell Servus [XTP™ PVC](#) footwear is engineered with steel toe protection, a chemical resistance formulation, 100% waterproof and outsole compounds are formulated for long wear and slip resistance.

Footwear should be tested to CSA Z195-14 standards.



WORKSITE SAFETY

In case an accident does occur, the availability of on-site CSA-compliant [Honeywell First Aid Kits](#) can assist workers with the treatment of a wide variety of worksite-related injuries.

The presence of moving vehicles and equipment in and around disaster cleanup sites can pose a myriad of hazards for workers and others. Accessories such as barricade tape, cones, flags, and traffic vests can provide added visibility to area hazards and increase safety in the management of worksite traffic.

FALL PROTECTION

Falls from height represent the leading risk factor for serious injury or death at the worksite. To reduce the risk, consider the following series of options.

First, if possible, avoid work at height. Many accidents occur at low levels where the risk of a fall has not been considered.

Secondly, prevent falls with the use of collective fall protection. Thirdly, specify Personal Fall Protection Equipment (PFPE) for individuals working at height to reduce the potential (restraint) and to reduce the effects of a fall (fall arrest).

Selecting the right type of fall arrest equipment is vital for all three components of the PFPE system: Anchor point (permanent or temporary), body wear (harness, restraint belts) and connecting device (lanyards, rope grabs). When specifying PFPE, consider the user, the environment, and specific application. Proper training, inspections, and maintenance are always required. A rescue plan and qualified individuals should be in place at the worksite.

- Honeywell Miller [AirCore Harness for Tower Climbing](#) provides the ultimate in performance, comfort, and durability even when used in the most challenging climbing environments. Designed for workers climbing cell phone, TV, radio and utility towers while building/decommissioning towers, changing out transmission lines/antennas, or installing/replacing lights.
- The new economical Honeywell Miller Titan™ II harnesses (in [T-Flex™ Stretchable](#) and [Non-Stretch](#)) offer enhanced adjustability, improved comfort and increased worksite safety. Designed for the general construction, manufacturing, and oil & gas (refinery) use.
- The cost-effective Honeywell [Miller TurboLite™ Personal Fall Limiters](#) makes shock-absorbing lanyards obsolete. Workers will no longer need to “switch-out” equipment to maintain a safe fall distance.
- The new patent-pending Honeywell [Miller Twin Turbo™ G2 Connector](#) and patented D-Ring Connector easily adapts two Personal Fall Limiters (PFLs) for continuous 100% tie-off fall protection.



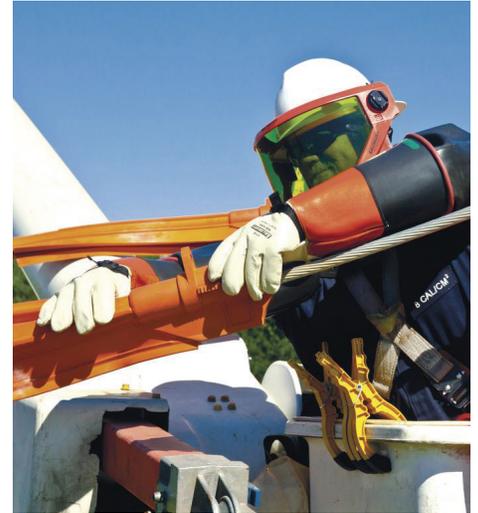
ELECTRICAL SAFETY

Structurally-damaged facilities pose multiple varieties of electrical hazards that require a full array of linemen PPE.

Utility and electrical workers must also protect themselves by wearing rubber insulating gloves with leather protectors, and head protection including face shields and hard hats. Temporary grounding equipment, voltage detectors, and insulating sticks are essential tools for the work zone.

The first order of business is to remove occupants and cut electrical power to the severely affected area, allowing the first responder cleanup team to sweep through and begin the assembly of the new infrastructure. Power and gas services won't be re-established until all cleanup and ground restoration work has been completed.

Even when electrical equipment is turned off, however, it can become temporarily re-energized, for example during an electrical storm. Qualified workers near energized equipment or downed power lines must wear arc flash protective clothing, rubber insulating gloves, hard hats and face shields. National Safety Standards require employers to train employees regarding selection, use, and maintenance of their electrical PPE. Dielectric boots and overshoes provide essential safety protection against step potential. These overshoes and overboots have been tested to the electrical requirements of ASTM F1117.



About Honeywell Industrial Safety

Honeywell Industrial Safety helps build a long-lasting culture of safety through comprehensive education, innovative technologies, and comfortable, high-performance products that inspire workers to make safer choices on their own. Our company is the ideal partner for organizations committed to a cultural transformation that minimizes injuries and maintains a safer, more productive workplace.

For More Information

www.honeywellsafety.com

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