TOTAL GROUP

SAFETY & EQUIPMENT GUIDE

Mining PPE Selection: Building a Practical Mobile-Worksite Core

Practical equipment guidance for industrial teams.

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General information only. Confirm site-specific equipment decisions, applicable requirements, and manufacturer instructions before purchase or use.

Mining and heavy-industry teams should start PPE planning with a dependable mobile-worksite core, then add specialized protection only when the work, exposure, and site conditions establish a need. That approach is more useful than trying to build one “complete” kit for every worker and every work area. CCOHS identifies hard hats, protective footwear, and highly visible clothing as general PPE considerations around heavy equipment, while eye and hearing protection depend on conditions. Its underground mining guidance also points to varied concerns such as silica, diesel particulate matter, gases, low-light work, mobile equipment, electrical risk, and oxygen-deficient air (CCOHS: Working Safely Around Heavy Equipment; CCOHS: Underground Mining).

Key Takeaways

- Begin with recurring mobile-worksite categories: head, eye/face, visibility, footwear, hand, hearing, work clothing, and weather layers.
- Treat a mining site as a set of work areas and tasks, not as one hazard category. Conditions can differ across surface, underground, plant, and low-light work.
- Use respiratory, gas-detection, electrical, fall, chemical, and emergency equipment only through a defined task and risk review.
- When evaluating examples online, confirm the current product details, fit, condition, and suitability for the specific work before selecting an item.

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1 Start With a Mobile-Worksite PPE Core

The right starting point is a broad core that supports recurring work around mobile equipment and changing field conditions. For many mining and heavy-industry teams, that core includes head protection, safety eyewear and task-appropriate face protection, high-visibility apparel, safety footwear, gloves, hearing protection, durable work clothing, and weather-ready outerwear. It is a practical starting list, not a universal issue list.

The evidence behind that approach is straightforward. CCOHS identifies hard hats, protective footwear, and highly visible clothing as general PPE considerations for work around heavy equipment; vision and hearing protection are added as conditions warrant (CCOHS: Working Safely Around Heavy Equipment). Ontario's mining guidance similarly connects high-visibility apparel selection to the environment and task rather than treating one garment choice as right for every role (Ontario: High-Visibility Safety Apparel in Mines and Mining Plants).

That distinction matters when procurement is trying to control complexity. A core gives crews and buyers a clear place to start. It can support routine replenishment and help standardize the categories that appear across mobile worksites. It should not erase the differences between a haul road, a crusher area, a maintenance bay, a warehouse, and underground work.

For a useful browse point, see the Mining & Heavy Industry — Mobile-Worksite Core. The collection is intended as an entry point for core categories, not as a substitute for reviewing the conditions of the work.

2 Turn Work Areas Into Task-Based PPE Decisions

A strong PPE process moves from the location and task to the equipment category. Before adding an item to a crew issue list or a purchase order, identify where the work happens, what the worker is doing, what conditions may change during the shift, and what other equipment or controls are already part of the job.

This is especially important in mining and heavy industry because the work environment is not fixed. CCOHS's underground mining guidance identifies silica, diesel particulate matter, gases, low-light work, mobile equipment, electrical risk, and oxygen-deficient air among the conditions that can arise in that setting (CCOHS: Underground Mining). Those conditions do not point to one product list. They point to a need to understand the task before the category is selected.

A short, repeatable review can help procurement and HSE teams stay aligned:

1. **Define the work area and task.** Separate routine travel, equipment operation, maintenance, processing work, and any underground activity.
2. **Identify the exposure or operating condition.** Consider the conditions identified for that area, including lighting, mobile equipment, dust, noise, weather, or atmospheric concerns.
3. **Confirm the role of the item.** Decide whether it belongs in the broad core or needs a separate task-specific review.
4. **Check the full work system.** PPE is one part of the control plan; it does not replace measures such as isolation, guarding, ventilation, traffic management, or safe work procedures.
5. **Document the decision point.** A clear note on the task basis gives buyers a better way to revisit the choice when work conditions change.

The last two steps are central. CCOHS explains that the hierarchy of controls places elimination, substitution, engineering controls, and administrative controls ahead of PPE, while OSHA describes PPE selection as hazard-based (CCOHS: Hierarchy of Controls; OSHA: Personal Protective Equipment). PPE supports a broader work system; it is not the whole system.

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3 Make Visibility Part of the Work Environment Decision

High-visibility apparel is often an important part of work around mobile equipment, but the decision should be tied to the environment and task. Work locations can differ in light levels, traffic patterns, surrounding backgrounds, and the type of mobile equipment present. A garment selection that makes sense in one area may not address the same visibility needs somewhere else.

Ontario's guidance for mines and mining plants makes this link directly: high-visibility apparel selection depends on the environment and the task (Ontario: High-Visibility Safety Apparel in Mines and Mining Plants). CCOHS likewise includes highly visible clothing in its heavy-equipment guidance (CCOHS: Working Safely Around Heavy Equipment). For buyers, the practical lesson is to involve supervisors and workers who know the work area before treating visibility as a simple clothing line item.

Visibility should also be considered alongside the rest of the mobile-worksite approach. Site design, separation from equipment, traffic controls, communication, and work practices all matter. The hierarchy of controls is a useful reminder that apparel does not replace the higher-order controls used to manage a worksite (CCOHS: Hierarchy of Controls).

When reviewing apparel and accessories, use the task discussion to guide the shortlist. A Dynamic Safety Hard Hat Safety 2 Point Chin Strap 10 Pack is one example of an accessory to review where the site process identifies a need for headwear retention. It is an example only; confirm the current product details and whether it is appropriate for the helmet, work conditions, and task before selection.

4 Keep Specialist Protection Behind a Defined Risk Review

Specialist equipment matters in mining and heavy industry, but it should not be treated as a default add-on to every PPE bundle. Respiratory protection for silica, diesel particulate matter, gases, moulds, or oxygen-deficient conditions is conditional. It also identifies fall protection, chemical or hazardous-material protection, FR or arc-rated apparel, electrical equipment, gas detection, underground or low-light lighting and communications, and confined-space or emergency rescue as conditional categories.

The word "conditional" is important. It means the task, exposure, site, worker role, inspection needs, training, and emergency planning should establish the basis before the item is selected. It also means that supplied-air or SCBA equipment, chemical suits, electrical or arc-flash systems, fall systems, confined-space retrieval or rescue equipment, specialized monitors, and mine-rescue or escape equipment should not be presented as a generic mining kit.

CCOHS's underground mining guidance is a helpful basis for this separation because it identifies diverse atmospheric, lighting, mobile-equipment, and electrical conditions rather than one uniform exposure profile (CCOHS: Underground Mining). The hierarchy of controls adds the wider context: PPE selection should sit after consideration of other controls, not instead of them (CCOHS: Hierarchy of Controls).

This approach protects against two common purchasing mistakes. The first is adding specialist equipment to a catalogue because it sounds relevant to mining. The second is assuming that an item purchased for one defined job can be moved into another work area without review. In either case, the better question is: what specific job, condition, and work system is this item meant to support?

5 Build a Procurement Process That Can Be Checked

A practical procurement process should make it easy to check why an item was chosen and when the choice needs to be revisited. Start by grouping recurring purchases under the mobile-worksite

core. Then keep task-specific items in separate review paths. That structure helps leaders avoid mixing everyday replenishment with equipment that depends on a defined exposure or emergency role.

Use product pages as examples and starting points, not as pre-approved combinations. For instance, a Dynamic Safety Curve Safety Glasses Clear Lens listing may be relevant to a safety-eyewear review, while a JB Goodhue Insulated Iron Worker Work Boot, 07865/07 listing may be a footwear example. A 3M Peltor Ear Muffs with Helmet Attachments, X2P5E listing can support a hearing-protection review, and a Pioneer 2035 Disposable Polypropylene Coverall - White listing can be considered where the work scope calls for an apparel review. These are examples only. Confirm the current product information, fit, condition, and suitability for the actual task; do not assume that listed products are compatible with each other or appropriate for every mining environment.

For a purchase process that holds up over time, keep four records with the order or issue list:

- the work area and task the item supports;
- the exposure or condition that led to the category decision;
- the site review that separates core items from conditional items; and
- the trigger for reassessment, such as a new work area, changed task, changed conditions, or a new equipment interface.

This is not paperwork for its own sake. It gives operations, procurement, and HSE leaders a shared record of the decision. It also makes future reviews more focused. If the work changes, the team can revisit the documented basis instead of relying on a broad assumption about what “mining PPE” should include.

6 Frequently Asked Questions

6.1 What belongs in a mining and heavy-industry PPE core?

A practical starting core can include head protection, safety eyewear and task-appropriate face protection, high-visibility apparel, safety footwear, gloves, hearing protection, durable work clothing, and weather layers. The final mix depends on the work area and task. CCOHS identifies hard hats, protective footwear, and highly visible clothing for work around heavy equipment, with vision and hearing protection added as needed (CCOHS: Working Safely Around Heavy Equipment).

6.2 Why is there no universal mining PPE kit?

Mining and heavy-industry work can involve different site conditions, including surface, underground, plant, low-light, atmospheric, and electrical environments. CCOHS identifies silica, diesel particulate matter, gases, mobile equipment, low-light work, electrical risk, and oxygen-deficient air in its underground mining guidance (CCOHS: Underground Mining). Those differences call for a task- and exposure-based review rather than one universal bundle.

6.3 When should specialist PPE or equipment be considered?

Consider specialist categories when the work scope identifies the relevant exposure or task. Respiratory, gas detection, fall protection, chemical protection, electrical equipment, low-light communications, and emergency or confined-space equipment are conditional categories. Selection should be confirmed through the site’s hazard assessment, work plan, and applicable requirements.

7 Discuss Your Mining PPE Requirements

If you are reviewing a mining or heavy-industry issue list, Total Group can help you organize the conversation around work areas, recurring core categories, and items that need a separate task

review. Bring the job scope, site conditions, and any existing program requirements to the discussion. Final selection should be confirmed for the actual work, workers, and site conditions.

8 References

- Canadian Centre for Occupational Health and Safety. Working Safely Around Heavy Equipment
- Canadian Centre for Occupational Health and Safety. Underground Mining
- Government of Ontario. High-Visibility Safety Apparel in Mines and Mining Plants
- Canadian Centre for Occupational Health and Safety. Hierarchy of Controls
- Occupational Safety and Health Administration. Personal Protective Equipment