



Mechanical Contractors Association of Canada

BUILDING SMARTER TOGETHER

COVID-19

GUIDELINES FOR THE MECHANICAL CONTRACTING SECTOR



April 20, 2020

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www.mcac.ca

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This Guidance Document outlines the recommended best practices for mechanical contractors to maintain the health and safety of their workers—and other individuals who may be impacted by their work—while performing their necessary duties during the current SARS-CoV-2/COVID-19 pandemic.

The Canadian mechanical contracting industry provides construction and service for the Canada built environment, including plumbing, effluent, gas, ventilation, refrigeration, heating and cooling systems, for a wide variety of sectors, such as heavy industrial, industrial, health care, commercial, institutional and residential settings. Mechanical contracting plays a vital role in maintaining the health of the Canadian economy, as well as a critical role in supporting and assisting the continued effective operation of our healthcare systems and other essential services.

It is imperative that every mechanical contractor undertake any and all available preventative and precautionary measures to prevent community transmission of the virus and to ensure consistent, safe and effective work.



This Guidance Document was developed in consultation with the qualified infection prevention and control professionals at OHS Global Risk Solutions Ltd. | www.ohsglobal.ca | info@ohsglobal.ca

OBJECTIVES

The objectives of this Guidance Document are as follows:

- Prioritize the health and safety of workers, other individuals, and the surrounding communities.
- Provide stakeholders with recommended best practices from federal, provincial and municipal health authorities, and per prevailing/applicable industry-accepted standards, practices and guidelines.
- Assist stakeholders with establishing and maintaining a robust SARS-CoV-2/COVID-19 work plan across multiple facilities.
- Promote and foster a healthy and safe work environment for all involved individuals.

LIMITATIONS

The information contained in this document is:

- Intended for guidance only.
- Based on the prevailing, applicable and available information as of the date of this publication.
- Subject to, and mandatorily superseded by, any official government or public health orders or directives.
- Subject to change on an as-required basis.

The situation related to SARS-CoV-2/COVID-19 is changing rapidly. This Guidance Document will be updated on an as-required basis to reflect the latest broadly adopted measures.

This document shall not be used in place of regulatory required safety documentation.

Each individual contractor who continues their business activities during the COVID-19 pandemic must develop (internally or in conjunction with an external Qualified Person) their own regulatory-required safety documentation:

- Per prevailing, applicable legislation, regulations, codes and/or other related laws specific to their geographic location/area of operation;
- Per the recommendations of this Guidance Document and any other applicable, industry-accepted standards and best practices (at the sole discretion of the contractor); and
- With the assistance of a Qualified Person (see definition below), whether internally employed or externally retained.

Depending on the geographic region in which you operate, you may be required to have the following regulatory required documentation:

- Exposure Control Plan.
- Risk Assessments.
- Safe Work/Decontamination Procedures.
- Other related Programs and Plans (e.g. Respiratory Protection, Personal Protective Equipment (PPE), WHMIS, Lockout/Tagout, Working Alone/In Isolation).

Contractors must refer to their specific region's occupational health and safety regulations/codes for specific regulatory requirements. Please note that this Guide provides information based on best practices outlined from the Public Health Agency of Canada, the Centre for Disease Control and Prevention, the World Health Organization. This Guide was assembled and provided by OHS Global Risk Solutions to assist MCAC and its contractors to develop their own safety policies and procedures to deal with the COVID-19 issue, and does not supersede any guidelines, protocols or best practices implemented by any level of government.

QUALIFIED PERSON

With respect to SARS-CoV-2 and related hazards/risks, a Qualified Person must be a professional who:

- Has expertise and experience in the practice of industrial hygiene and infection prevention and control as it relates to biological hazard/infectious agent hazard management and control; and
- Is an infection prevention and control professional with demonstrated education, training, instruction, knowledge, experience, expertise, skills and competencies who advises on, and monitors, required infection prevention and control strategies, approaches, methods and measures.

Acceptable professional designations (provided the holder has demonstrable experience and expertise) may include:

- Infection Prevention and Control Consultant
- Canadian Registered Safety Professional (CRSP)
- Certified Industrial Hygienist (CIH)
- Certified Safety Professional (CSP)
- Registered Occupational Hygienist (ROH)
- Certified Infection Control Practitioner

Employers should:

- Thoroughly review and vet the qualifications of any Qualified Person they plan to retain prior to engagement; and
- Confer/check with their local prevailing safety/regulatory authority to verify acceptable qualifications for their specific geographical region.

BACKGROUND

BASIC VIRUS FACTS

- SARS-CoV-2 ("Severe Acute Respiratory Syndrome-Coronavirus-2") is the virus itself which causes disease (COVID-19).
- COVID-19 (Coronavirus Disease-2019) is the name of the disease.
- SARS-CoV-2 is part of the large family of coronaviruses, which are common and widespread in human and animal populations.
 - Most human coronaviruses cause mild, cold-like symptoms.
 - Some, like SARS or MERS (Middle East Respiratory Syndrome), can cause serious or fatal illness.

- Unlike other microorganisms (e.g. bacteria, mould/fungi) viruses cannot multiply or reproduce outside of their host (i.e. an infected person).

HOW IS THE VIRUS SPREAD?

Source: [Public Health Agency of Canada](#)

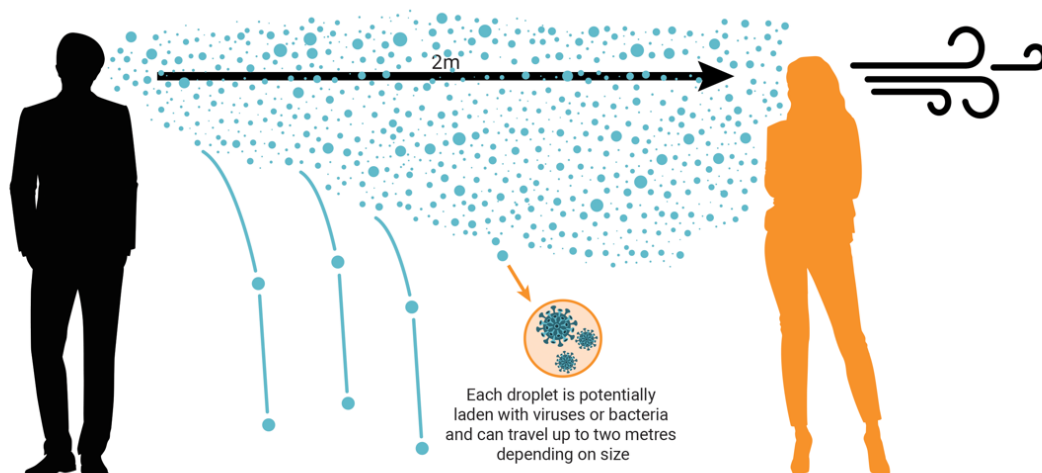
Common spread from infected persons (to uninfected individuals) occurs as follows:

- Respiratory droplets generated during coughing, sneezing, or similar exhalations;
 - Droplets can land in the mouths or noses of people who are nearby, or possibly be inhaled into the lungs.
- Close, prolonged personal contact (within approximately 2 metres (6 feet)) i.e. touching or shaking hands; and/or
- Touching something with the virus on it, then touching mouth, nose or eyes before washing hands.
 - The virus can persist on select surfaces for up to several days, depending on the type of surface and the ambient conditions.

Additionally, there is possible evidence of other transmission routes:

- Fecal-oral (possibly);
 - Therefore, assume all sanitary drains and sewage systems are potentially contaminated with the virus for at least the duration of the pandemic.
- Body fluids (possibly); and
- Zoonotic (from/via other animals) (possibly).

Current evidence suggests person-to-person spread is efficient when there is close contact. COVID-19 appears to be spreading easily and sustainably in the community (“community spread”) in many geographic regions. Community spread means people have been infected with the virus in an area, including some who are not sure how, when or where they became infected.

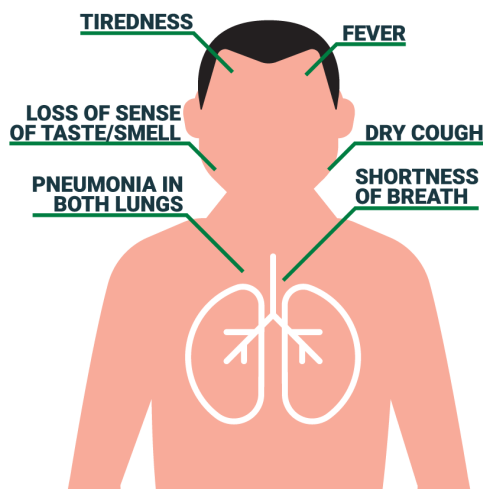


WHAT ARE THE SYMPTOMS?

Sources: [World Health Organization](#), [Public Health Agency of Canada](#)

- Infected individuals may not display or experience obvious symptoms (“asymptomatic”); mild cases may appear similar to a cold or flu.
 - NOTE: SARS-CoV-2/COVID-19 IS NOT THE FLU.
- Symptoms may take up to 14 days to appear after initial exposure to the virus.
- Main symptoms of COVID-19 include (but may not be limited to):
 - Cough;
 - Fever;
 - Unusual tiredness;
 - Shortness of breath and/or breathing difficulties;
 - Pneumonia in both lungs; and/or
 - Loss of sense of smell/taste.
- Anyone can contract COVID-19, and potentially, develop serious or life-threatening symptoms; the risk to Canadians has been upgraded to “high.”
- Recent evidence indicates that SARS-CoV-2 can be transmitted to others from individuals who:
 - Are not yet displaying or experiencing symptoms (“pre-symptomatic”); or
 - Remain asymptomatic.
- Therefore, IT IS EXTREMELY IMPORTANT to follow all proven, well-established preventative and precautionary measures.

VIRUS SYMPTOMS



Infected individuals may not have obvious symptoms; mild cases may appear similar to a cold or flu.



Symptoms may take up to 14 days to appear after initial exposure to the virus.

If you develop symptoms consistent with COVID-19, you should:

- Promptly contact (remotely, i.e. phone, video/web consult, email etc.) your medical provider (e.g. physician) or Provincial Health Agency (or equivalent health information service agency for their geographic region).
- Alternatively, the employee can go to the specific Provincial Health Agency's website to perform a self-assessment via the available Self-Assessment Tool.
- Inform supervisor and/or human resources department of your status, and who you may have come into contact with.
- Do not enter into any walk-in clinic or healthcare facility (e.g. hospital), in order to minimize potential spread.



GENERAL GUIDANCE

GENERAL GUIDANCE FOR EMPLOYERS

To ensure that mechanical contractors can continue to operate safely and effectively during this pandemic, proper planning, implementation and monitoring of effective policies and protocols is critical.

The following guidelines are recommended:

Manage perceptions (and potential misperceptions):

- Provide and share only thoroughly reviewed, vetted and confirmed facts, information and data.
- Communicate all implemented preventative and precautionary measures with all involved stakeholders, including but not limited to:
 - Subtrades;
 - General contractors;
 - Customers.; and/or
 - Employees.
- Communicate via clear, simple and straightforward messages; ensure proper risk messaging and accuracy of provided facts, information and data.
- Update stakeholders regularly and as needed, as your work circumstances change.

Implement effective, written safe work policies, including but not limited to:

- Working from home (teleworking):
 - Ensure employees can effectively perform their work remotely.

Physical distancing:

- Cancel all in-person meetings, conduct via phone or video conference.
- Enforce physical distancing (minimum 2-3 metres/6-10 feet) for all employees where practically possible.
 - If not possible, ensure appropriate PPE (refer to ***Guidance for PPE and Decontamination/Personal Hygiene*** below) is worn amongst coworkers while in close proximity, and based on the type of work and working conditions as outlined in your own contractor-developed regulatory-required safety documentation.

Cleaning/disinfection:

- Provide employees with hand sanitizing solutions and/or hand washing stations, and required PPE.
- Provide instructions and training on proper hand-washing and personal hygiene techniques, and ensure they are followed by everyone.
 - Refer to [WHO instructions for proper hand washing/sanitizing technique](#).
- Frequently and properly clean and disinfect all high-touch/contact surfaces, items (tables, phones, door handles, etc.).
 - Ensure individuals responsible for cleaning/disinfecting are properly educated, trained, instructed and competent in proper methods, techniques, procedures, equipment and products.

Travel:

- Prohibit all non-essential business travel.
- Instruct any employee returning from travel outside Canada (or inter-provincially if applicable) to self-isolate for 14 days, and to seek approval before returning to work (if unable to work from home).
 - **NOTE:** It is up to the individual Employer to determine if self-isolation is required where workers have travelled inter-provincially. A multifactorial risk analysis must be conducted to identify potential COVID-19 risks for employees who return home or back to work from another Province or Territory.

Employee illnesses:

- Review, update as necessary, and clearly communicate employee sick leave policies.
- If not yet implemented, establish strict protocols regarding confidentiality of personal worker information (i.e. medical etc.), so that it is:
 - Not disclosed to any individual not authorized by the specific worker themselves.
 - Only accessed by select/authorized company personnel, and only if the worker provides written authorization/consent.
 - Never used as a condition of employment for any reason whatsoever, per prevailing/applicable labour laws.
- Ensure employees fully understand and know COVID-19 symptom information.
 - Post clear signage in conspicuous locations (e.g. entrances/exits, washrooms, break areas, stairwells etc.) that:
 - Reminds employees of COVID-19 symptoms; and
 - Monitoring instructions etc.
- Instruct/require employees to stay home if they feel unwell, and to promptly communicate their status to their supervisor, manager and/or human resources department.
- If an employee starts to feel unwell or develops symptoms of COVID-19 while at work, they should immediately:
 - Stop their work.
 - Stay away from all other individuals.
 - Perform proper decontamination/personal hygiene, per implemented policies (Employer, Site Owner).
 - Not interface directly with anyone; perform all communication remotely (by phone etc.).
 - Leave the workplace and go directly home without delay.
 - Communicate their status, and who they were in contact with, to their supervisor, manager and/or human resources department.
 - Stay at home and self-isolate as directed/instructed.
- If employees develop symptoms of COVID-19 specifically, then instruct them to:
 - Promptly contact (remotely, i.e. phone, video/web consult, email etc.) your medical provider (e.g. physician) or specific Provincial Health Agency (call 8-1-1) (or equivalent health information service agency for their geographic region);
 - Alternatively, the employee can go to the specific Provincial Health Agency's website to perform a self-assessment via the available Self-Assessment Tool.
 - Report their symptoms; and
 - Follow instructions provided by the specific Agency's representative.

- Instruct/require employees who are self-isolating to remain at home and not return to work until they:
 - Have completed at least 14 days of isolation, or until they are symptom-free (whichever is longer);
 - Take a COVID-19 detection test for which the result is confirmed negative (as required by their municipal or provincial health authority); and
 - If possible, obtain written medical clearance that they can safely return to work.
 - **NOTE:** If an employee is tested for COVID-19, and subsequently refuses to provide the test results (whether positive or negative), or proof of the test results, to their Employer, then the Employer must decide, per their implemented policies, what actions must be undertaken in order to safely allow that employee to return to work.

Develop written safety documents:

NOTE: Refer to Section 1-4 Qualified Persons above for guidance regarding who would be considered qualified to develop these documents.

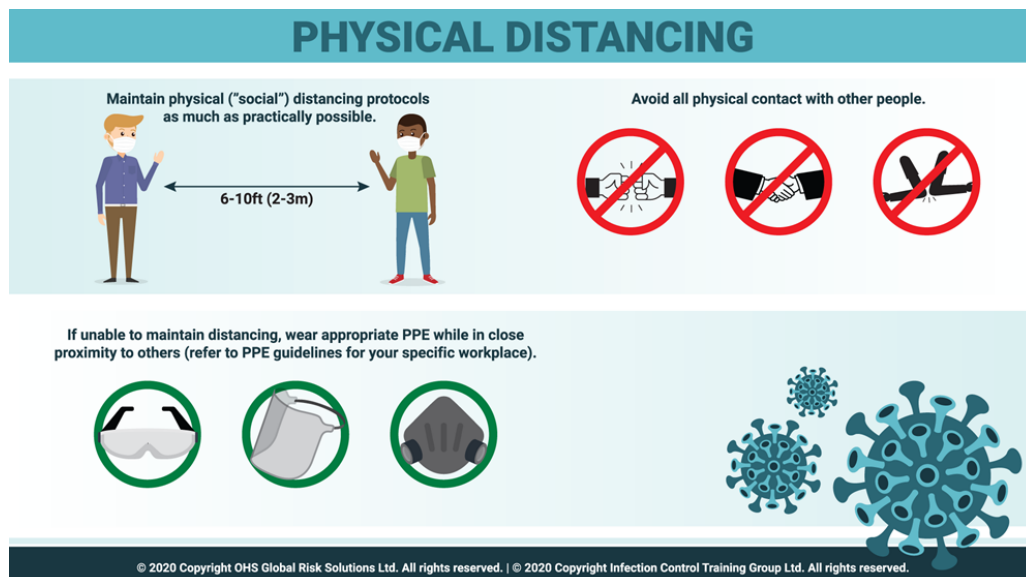
- Documents need to:
 - Be comprehensive, detailed, and robust.
 - Include infection prevention and control plans, programs, assessments and procedures that address:
 - Your specific working environments.
 - Prevailing safety regulations and standards for your geographical area(s) of operation.
 - Potential interactions with all individuals at the site, including your customers/clients.
 - Proper PPE selection, inspection, use, care and maintenance.
 - Proper decontamination/personal hygiene standards, requirements and protocols.

GENERAL GUIDANCE FOR EMPLOYEES

All individuals should adhere to the following general precautions at all times, both during work activities and outside work:

- Check the following websites regularly for updated information and directives:
 - [Public Health Agency of Canada](#).
 - [IPAC Canada](#).
 - Other trusted government sources (i.e. provincial health agencies and centres for disease control).
- Maintain physical (“social”) distancing protocols:
 - Remain a minimum of 2-3 metres (6-10 feet) from other people as much as practically possible.
 - If unable to maintain distancing, wear appropriate PPE (refer to Section 5: Guidance for PPE and Decontamination/Personal Hygiene below) while in close proximity to other individuals.
 - PPE must be selected based on the specific workplace conditions and required work tasks/activities, per prevailing/applicable safety regulations/code and each Employer’s regulatory-required safety documentation.
 - Avoid physical contact with other people – no handshakes, fist or elbow bumps, etc.
 - Remain at home except for required work; telework where possible.
 - When performing site work, avoid (where practically possible):
 - Crowded (including public) areas.
 - Work areas with multiple individuals in a limited workspace.

- Any other locations/areas where the ability to maintain physical distancing is, or may be, compromised.
 - Schedule any required movement through these areas for lower traffic or user periods (i.e. early or late in the day, or after business hours), where practically possible.
- Maintain hand hygiene and droplet control:
 - Wash hands frequently, and thoroughly for at least 20 seconds, with soap and water.
 - After coughing, sneezing, blowing nose or using the washroom.
 - Before eating, drinking, or touching face.
 - Use “approved” hand sanitizer or disinfectant wipes if soap and water are not available.
 - When coughing or sneezing, cover mouth and nose with tissue, or cough/sneeze into elbow.
 - Avoid touching face with unwashed or unsanitized hands or contaminated clothing/PPE.
 - Minimize unnecessary contact with items, surfaces when at work, especially high/contact touch surfaces (e.g. door handles, elevator call buttons, handrails, guard rails, countertops, etc.).
- Where possible, do not share tools, equipment, phones, pens, etc.
 - Where items must be shared, thoroughly and properly clean/disinfect prior to sharing, use.
 - Items should be cleaned/disinfected each time they are passed to a different person.
- Self-monitor for any symptoms, however minor.
- If you develop symptoms consistent with COVID-19, you should:
 - Promptly contact (remotely, i.e. phone, video/web consult, email etc.) your medical provider (e.g. physician) or specific Provincial Health Agency (call 8-1-1) (or equivalent health information service agency for their geographic region).
 - Alternatively, go to the specific Provincial Health Agency’s website to perform a self-assessment via the available Self-Assessment Tool.
 - Report your symptoms; and
 - Follow instructions provided by the specific Agency’s representative.
 - Promptly notify and inform supervisor, manager and/or human resources department of your status, and who you may have come into contact with.
 - **DO NOT ENTER** into any walk-in clinic or healthcare facility (e.g. hospital), in order to minimize potential spread.



GENERAL HYGIENE/DROPLET CONTROL



Wash hands frequently with soap and water for at least 20 seconds or use "approved" hand sanitizer or disinfectant wipes.

BEFORE



Eating, drinking or touching your face.

AFTER



Coughing, sneezing, blowing nose or using washroom.



Avoid touching face with unwashed hands or contaminated clothing/PPE.



- Where practically possible, do not share tools, equipment, phones, pens etc.
- Where items must be shared, thoroughly and properly clean/disinfect before passing to another person, or returning to a shared storage space (e.g. tool cribs, kitchen cupboards etc.).



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HAND WASHING GUIDELINES

1



Wet hands with warm water

2



Apply soap

3



For at least 20 seconds, make sure to wash:



Palm and back of each hand



Between fingers



Under nails



Thumbs

4



Rinse well

5



Dry hands well with paper towel

6



Turn off tap using paper towel



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GUIDELINES FOR WORKSITE SAFETY

BEFORE WORKING

It is critical to have a full understanding and comprehension of the hazards and risks at worksites at all times. This is especially important during the current pandemic, and the risks regarding SARS-CoV-2/COVID-19 must be properly anticipated, identified, considered and determined prior to deploying to any location to perform any contracting work.

Contractors should ask their clients multiple questions, such as but not limited to the following, prior to deploying to any worksite:

- Are there any individuals with presumed or confirmed COVID-19 present?
- Have there been any suspected or confirmed exposures to COVID-19 cases at the site?
- Where are/were these individuals in the building, and what measures were undertaken, or are being undertaken, regarding isolation, cleaning/disinfection, etc.?
- Where is the mechanical work to be performed in relation to these areas?
- Do you have any specific requirements, policies or protocols for contractors at this site, and if so, what are they?

Before starting work, workers (and/or employers) must conduct a risk assessment that considers the following factors:

- **WHERE** am I working?
 - Workplace, building, facility, premises
- **WHEN** do I need to work?
 - Regular day, night, weekends?
- **WHO** are the occupants?
 - Type(s) of occupants. Still present? Could be present? Could enter and be present?
- **WHAT** are the COVID-19 hazards/risks?
 - Anyone potentially infected with COVID-19?
- **WHAT** am I doing, need to do?
 - Clean/disinfect, perform my “regular” job.
- **HOW** will I do my work?
 - Means, methods, techniques, procedures, protocols.
- **WHAT** additional measures do I need to do my work safely?
 - Protective tools, equipment, materials.
- **HOW** will I decontaminate myself, others?
 - Means, methods, techniques, procedures, protocols.
 - Protective tools, equipment, materials.

WHILE WORKING

All employees (managers, supervisors, workers, and others) need to be properly educated, trained, and instructed in, and follow, the below practices at all times while performing site work.

- **Verify/confirm** site conditions, client-specific protocols, and work requirements before deploying.
- **Ensure** their Employer has properly educated, trained and instructed them on the correct selection, inspection, use, care and maintenance of all:
 - Preventative and precautionary measures, controls and means; and
 - Assigned PPE, tools, equipment and materials.
- **Conduct** a pre-job hazard/infection control risk assessment prior to starting work, and consider all aspects of the required work, including potential infection risks.
- **Conduct** a safety/planning meeting prior to starting work (while maintaining physical distancing).
 - Ensure everyone knows:
 - what they need to do,
 - where they need to do it, and
 - how to safely get to where they need to go in order to minimize the duration of potential exposures.
- Per your Employer's (and/or the specific site's) policy, **don all PPE before** entering the site/building/facility.
- **Carry** on your person hand sanitizing solution, extra gloves, extra impermeable suits/coveralls, and a sealable waste disposal bag (for used PPE and cleaning/disinfection materials) at all times.
- **Follow** all established policies regarding personal protective practices (physical distancing, hand hygiene, droplet control, minimizing contact).
- **Avoid** moving through, working in the following areas as much as practically possible:
 - Crowded (including public) areas.
 - Work areas with multiple individuals in a limited workspace.
 - Any other locations/areas where the ability to maintain physical distancing is, or may be, compromised.
 - Schedule any required movement through these areas for lower traffic or user periods (i.e. early or late in the day, or after business hours), where practically possible.
- **Do not share** tools, equipment, materials with other workers unless absolutely necessary.
 - Where items must be shared, thoroughly and properly clean/disinfect before passing to another person, or returning to a shared storage space (e.g. tool boxes/cribs).

GUIDANCE FOR PPE AND DECONTAMINATION/PERSONAL HYGIENE

PPE

Employers are required to provide their workers with appropriate PPE for their specific, assigned work and the identified hazards/risks. Employers are also required to provide proper education, training and instruction for their workers in the proper selection, inspection, use, care and maintenance of their assigned PPE.

It should be noted once again that contractors must develop their own internal regulatory-required safety documentation, and determine their own appropriate and necessary PPE based on the type of work/risk and the conditions under which the work will be done. PPE should be selected based on the exposure hazards/risks identified for the specific work location and work tasks/activities being performed.

NOTE: Where other safety hazards/risks have been identified (e.g. electrical, working at heights, etc.), select and implement required controls, PPE, and other precautionary measures to mitigate those specific hazards/risks. Ensure all selected and implemented measures, for all identified safety hazards/risks, are compatible and does not cause additional, uncontrolled hazards/risks.

Safety Eyewear:

- Some acceptable/approved form of safety eyewear should be worn at all times at the workplace, which achieves the following:
 - Protects the eyes from potential airborne droplets containing the virus (or other biological hazards).
 - Prevents or minimizes touching of the eyes and/or face with potentially contaminated hands, clothing or PPE.
- **NOTE:** While it is currently unclear whether it is possible to become infected by SARS-CoV-2 directly via exposure to the eyes and surrounding membranes, precautions should be taken to protect against this route of transmission as a *best practice*.
- Protects the eyes from other, potential physical and/or chemical hazards that may be present.
- Safety eyewear must be selected based on the exposure hazards/risks identified for the specific work location and work tasks/activities being performed; acceptable examples include (but are not limited to):
 - At minimum:
 - Safety glasses or goggles.
 - For hot work tasks (welding, torching, cutting, grinding etc.):
 - UV-filtered welding glasses, goggles, or helmet.
 - For higher risk work areas, tasks, activities:
 - Full face protection, for example.:
 - Safety or welding glasses/goggles plus full-face shield.
 - Welding helmet.
 - Full facepiece air-purifying respirator (APR).
 - Higher risk work areas, tasks, activities include, but are not limited to:
 - Close contact/proximity or other potential, direct exposure to:
 - Infected individuals (suspected, presumed or confirmed).
 - Sanitary materials (e.g. sewage).
 - HVAC-related airflows (positive or negative) to or from potentially contaminated areas.
 - Where sustained close contact/proximity (less than 2 metres (6 feet) for more than 1 minute) with co-workers or other individuals cannot be avoided.
 - Workers who require prescription eyewear must:
 - Be provided with appropriate/approved protective eyewear, that is either:
 - Prescription; or
 - Designed to safely and properly fit over regular prescription eyewear.
 - If using prescription protective eyewear, properly decontaminate (clean/disinfect) it before wearing it outside the work area, per the Employer's established policies, standards and practices.

Respiratory Protection:

Approved respirators:

NOTE: An “approved respirator” (regarding N95, P100 or similar respirator) is one that has undergone rigorous testing regarding the specific respirator’s (by brand, model) filtration efficiency. Approved respirators must meet strict testing criteria and be certified, as required by various government agencies (e.g. US National Institute for Occupational Safety and Health (NIOSH)). Additional, example resources regarding NIOSH-approved respirators can be found below (note the information present on these websites are up to date of this publication).

- **Centers for Disease Control and Prevention: The National Personal Protective Technology Laboratory (NPPTL):**
 - Respirator Trusted-Source Information.
 - NIOSH-Approved N95 Particulate Filtering Facepiece Respirators.
- Respiratory protection should be worn at all times while:
 - Working in a currently occupied, or recently (within the past 14 days) occupied building/facility.
 - Working on a currently (or previously) operational HVAC or sanitary systems.
 - Working in close proximity (less than 2 metres (6 feet)) to other individuals.
- Half facepiece elastomeric APR with P100 hard-case filters should be worn.

NOTE: Supplies of N95 respirators are limited, and urgently needed by frontline healthcare workers. Therefore, it is recommended, per industry-accepted standards and practices, to use alternate, equivalent (or higher) respirators (i.e. reusable elastomeric) wherever practically possible.
- Full facepiece elastomeric APR, or powered APR (PAPR) (tight-fitting full facepiece, helmet, or hood-type) with P100 hard-case filters may also be used if available.

NOTE: These respirator types cover the entire face, and would not require additional protective eyewear for protection from SARS-CoV-2 contaminated droplets.
- When selecting filters:
 - Where practically possible, hard-case type filters should be used, to minimize waste of respirator filter stocks.
 - Hard-case filters can be cleaned/decontaminated (on their exterior surfaces), sealed, and safely stored for re-use.
 - Soft-type (“pancake”) filters require additional, specific safe work practices and procedures for safe re-use, due to potential cross-contamination while handling after use.
 - Filtering facepiece (“dust mask”) respirators cannot be safely re-used at present.
 - Means, methods, protocols and technology to safely and reliably disinfect disposable respirators without compromising their filtration effectiveness, while currently under development, has not yet been (approved for use or sale, as of the date of publication).
 - P100-rated filters are preferred due to greater availability.
 - If P100 filters are not available, any particulate filter of at least N95 approved rating will also provide adequate protection from airborne droplets.
 - Where other respiratory hazards may be present (e.g. ammonia, organic vapours etc.), a combination filter/cartridge, with a P100 particulate filter and a chemical adsorbent media appropriate to the specific hazard, should be used.
 - Please refer to specific manufacturer’s guide for proper filter/cartridge selection; for example:
 - [North/Honeywell Cartridge and Filter Reference Chart](#)
 - [3M Cartridge and Filter Guide](#)

- Where other head/face protection (e.g. welding helmet, face shield etc.) may interfere with respirators, use appropriate accessories (e.g. “snorkel” attachment for respirator) to minimize interference.

Non-approved respirators:

CRITICAL NOTES:

- Non-medical masks/personal respiratory coverings (“NMM/PRC”) have the following limitations:
 - DOES NOT meaningfully provide, and IS NOT INTENDED to provide, protection for the wearer from airborne droplets or any other chemical, biological or physical hazard.
 - Its only function is to REDUCE respiratory droplet spread from the wearer to nearby individuals and the surrounding work environment.
 - MUST NOT be relied on as the sole means of preventing the spread of contamination or infection.
 - Only functions effectively when used in conjunction with all other practically available preventative and precautionary measures, controls and means.
 - Is only as effective as the personal hygiene and donning/doffing protocols followed by the wearer.

Regarding use of NMM/PRCs:

- A recent (April 6, 2020) update from the Public Health Agency of Canada (PHAC), based on ongoing research and evaluation of effective preventative and precautionary measures, now recommends the wearing of an NMM/PRC as an additional means of minimizing the spread of SARS-CoV-2/COVID-19, under certain circumstances.
- While this is nonmandatory in Canada, the MCAC has adopted this recommendation for all contractors and work sites.
- All employees should wear an NMM/PRC at all times while at the workplace, except when:
 - Wearing an approved, higher level of respiratory protection (as required by their specific work tasks/activities and other known/anticipated respiratory hazards);
 - Eating and drinking;
 - Working alone in a non-shared office work space (i.e. private office); or
 - Otherwise required for overriding safety or medical reasons.
- The size, shape, design, and construction of the NMM/PRC must:
 - Permit full coverage of the wearer’s nose and mouth.
 - Be able to remain securely in place while the wearer conducts any required work tasks, without being held by the wearer’s hands (e.g. by adjustable or elastic straps, or wrapping completely around the face and head).
 - Not pose a hazard to the wearer or other workers, e.g. entanglement, air flow restriction, etc.
 - Allow reasonably clear and effective verbal communication while worn.
 - Not be equipped with an exhalation valve.
 - Adhere to all legislative and regulatory requirements, and all Employer- and work site-specific policies, regarding appropriate appearance/decoration (i.e. no offensive images or wording).
- An NMM/PRC may be:
 - Home-made or commercially purchased.
 - Made of any suitable materials (e.g. cotton, linen, or other fabrics) which can meet the above requirements.

- Washable, or disposable.
- Individuals wearing an NMM/PRC must:
 - Maintain it so that it is clean and does not pose a health risk to themselves (or others).
 - Follow all appropriate personal hygiene, donning and doffing protocols (use “Universal Precautions”).
 - Dispose of it into a proper waste container after each use, if not re-usable or washable.
 - Continue to follow all other implemented preventative and precautionary measures, controls and means (i.e. physical distancing, hand washing, etc.)

Limb/Body Protection:

- Impermeable nitrile gloves (minimum 5-mil thickness).
 - 2 pairs of gloves should be worn, with the outer pair replaced frequently.
 - Use of doubled gloves limits the need for hand sanitization during work.
 - Outer gloves may be exchanged for work gloves (e.g. rubber, cut-resistant, leather welding gauntlets) for specific tasks.
- Impermeable suits (e.g. fluoropolymer material or similar).
 - Don/wear for higher risk work areas, tasks, activities, including but are not limited to:
 - Close contact/proximity or other potential, direct exposure to:
 - Infected individuals (suspected, presumed or confirmed).
 - Sanitary materials (e.g. sewage).
 - HVAC-related airflows (positive or negative) to or from potentially contaminated areas.
 - Where sustained close contact/proximity (less than 2 metres (6 feet) for more than 1 minute) with co-workers or other individuals cannot be avoided.
 - Non-impermeable suits may be acceptable in lower-risk areas, provided no infected individuals are present.
 - Ensure suits are flame resistant (FR) rated if conducting hot work tasks (e.g. welding, cutting, torching).
 - Alternatively, if required, FR coveralls and hood may be worn over impermeable suits.
 - Coveralls should be removed, placed in a sealable bag, and laundered with regular detergent and hot water between each use (wear impermeable gloves when handling soiled clothing). [Public Health Agency of Canada—How to Care For Someone With COVID-19](#)
 - Ensure suits have hoodie where a risk of contaminated droplets, dust/debris falling onto head (e.g. from opened ceiling tile/hatch, HVAC duct interior, etc.) is identified.
- Footwear:
 - Laceless rubber boots for work regarding sanitary systems.
 - Regular safety boots with disposable booties for other areas.

Decontamination/Personal Hygiene:

- Hand sanitizing solutions, cleaning/disinfectant products:
 - Minimum 70% alcohol, 0.5% to 5% hydrogen peroxide, or “approved” equivalent.

NOTE: Although select benzalkonium chloride-based products have been “approved” for use with, some research suggests they may be less consistently effective than alcohol- or hydrogen peroxide-based products.

- Only use products on listed in one of the following sources:
 - Government of Canada, Health Canada: Hard-Surface Disinfectants and Hand Sanitizers (COVID-19): List of Hard-Surface Disinfectants.
 - US Environmental Protection Agency (EPA): List N: Disinfectants for Use Against SARS-CoV-2.
- Follow all manufacturer specifications/instructions regarding safety, instructions for use and application, and the specific product's contact or "dwell" time.
- Do not re-use wipes or cloths; properly discard immediately after each use.
- Certified HEPA vacuums:
 - Are specialized vacuum cleaners that:
 - Contain a rated (as properly tested), effective HEPA filter;
 - Are designed, constructed and sealed so that 100% of the potentially-contaminated exhaust air passes through the HEPA filter; and
 - Are capable of being reliably, successfully, and repeatably performance leak tested using dioctyl phthalate (DOP) or polyalphaolefins (PAO).
 - Should be used:
 - Whenever working in a healthcare facility (HCF).
 - When available, when work may generate or disturb potentially contaminated dust/debris.
 - Should not be used:
 - To clean tools, equipment, materials, PPE after working on/with sanitary systems.
 - To clean or remove liquids, wet or damp debris.
 - HEPA vacuums should be DOP/PAO performance leak tested and certified within the last 12 months.
 - If certified HEPA vacuums are not available, non-certified vacuums equipped with a HEPA or "HEPA-like" filter (including a canister bag) may be used:
 - In non-HCF and lower risk work areas ONLY; and
 - If deemed acceptable by a Qualified Person.

GUIDELINES FOR DECONTAMINATION, PPE REMOVAL

- Clean tools/equipment:
 - If available, use certified HEPA vacuum to first remove any potentially contaminated dust or dry gross debris (if present) from all accessible parts of all tools/equipment.
 - Perform secondary decontamination/cleaning:
 - Use "approved" disinfectant wipes or cloths soaked in "approved" disinfectant solution to thoroughly clean all accessible parts/surfaces of all tools/equipment.
 - If HEPA vacuum not available to remove dust or dry gross debris, remove using wipes/wet cloths, then repeat cleaning/disinfection step with second set of wipes/wet cloths.
 - Observe electrical safety precautions for electrically powered equipment.
 - Where possible (e.g. hand tools), place items directly in bucket of disinfectant solution to soak for appropriate contact time.
- Decontaminate PPE:
 - If available, use certified HEPA vacuum to first remove any potentially contaminated dust or dry gross debris (if present) from suit (all potentially contaminated areas).

- Remove any residual gross debris from clothing/PPE using “approved” disinfectant wipes or cloths soaked in “approved” disinfectant solution.
 - Alternatively, use misting bottle with approved disinfectant solution to mist PPE, and wipe with clean cloths.
- Remove outer gloves using Universal Precautions.
- Clean/disinfect all external surfaces of respirator with “approved” disinfectant wipe.
- When removing any PPE:
 - Follow Universal Precautions, inside-out methods.
 - Assume all items are contaminated, specifically with biological agents.
 - Avoid touching external surfaces with exposed skin or potentially contaminated PPE.
 - Carefully turn gloves, suits inside-out when removing, in order to keep potential contamination contained on external surfaces, to prevent cross-contamination.

NOTES:

- The techniques to properly and safely remove contaminated gloves is similar, but is not quite the same as for suits.
- Employers must ensure workers receive proper education, training and instruction in selection, inspection, use, care and maintenance, including proper donning/doffing methods and techniques, before assigning and permitting use of any PPE.
- Discard all non-reusable consumables; do not attempt to re-use.

NOTE: Once donned/used, items are assumed to be contaminated.

- Place non-reusable consumables directly in sealable waste bag; do not place on any surface where cross-contamination may occur.
 - Remove PPE, perform additional decontamination/personal hygiene in following order:
 - Remove outer gloves using Universal Precautions; keep inner gloves on.
 - Remove coveralls/suit, booties, using inside-out methods.
 - Remove inner gloves using Universal Precautions.
 - Wash/sanitize hands and other exposed body parts.
- NOTE:** It may not be safe to use select cleaning/disinfecting products on bare skin or near your eyes, nose, or mouth. Always refer to the specific manufacturer specifications/instructions and the Safety Data Sheet (SDS) before using any “approved” disinfectant product for personal hygiene purposes.
- Clean/disinfect external surfaces of respirator, filters, protective eyewear.
 - Remove protective eyewear.
 - If using hard case filters:
 - Completely cover/seal filter air inlets with duct/tuck tape, then remove from respirator.
 - If using soft (“pancake”) filters:
 - Don fresh pair of impermeable gloves.
 - Carefully, without shaking or disturbing the filter as much as possible, remove filters from respirator.
 - Place directly into proper waste container.

NOTES:

- Soft filters cannot be properly decontaminated (cleaned/disinfected) and sealed due to their design and the type of filtering media.
- If reuse of soft filters cannot be avoided, Employers must have a Qualified Person develop specific and necessary protocols/procedures regarding safe donning/doffing, sealing, and reuse, and any other additional required personal hygiene steps.
- Remove gloves using Universal Precautions.
- Re-wash/sanitize hands, remove respirator.
- Re-wash/sanitize hands, and other exposed body parts.
- Ensure removed filters (if reusing) are properly and completely sealed, store in clean sealable bag.
- Clean/disinfect interior and exterior of respirator (with separate disinfecting wipes) and store in separate (from filters) clean sealable bag.

REFERENCES

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