

Selection, Use and Care of Respiratory Protection

Guideline

Office of Risk Management

uOttawa.ca



uOttawa

Contents

PURPOSE	4
SCOPE.....	4
DEFINITIONS.....	4
STANDARD	5
COMPONENTS OF A RESPIRATORY PROTECTION PROGRAM	6
ROLES AND RESPONSIBILITIES OF WORKPLACE PARTIES.....	6
Workers	6
Supervisors	6
Office Risk Management.....	7
Health and Wellness Office (Human Resources)	7
HAZARD ASSESSMENT	7
SELECTION OF RESPIRATORS.....	7
TRAINING OF RESPIRATOR USERS	8
Respirator User	8
Supervisor of Respirator User	8
FIT TESTING	9
Qualitative Test Procedure.....	10
Quantitative Test Procedure	10
Fit Testing Process	11
Employees and Paid Persons.....	11
Students.....	12
SEAL CHECK (CARTRIDGE RESPIRATOR).....	12
USE OF RESPIRATORS.....	12
MAINTENANCE OF RESPIRATORS	13
Cleaning.....	13
Inspection.....	13
Repair and Test	14
Storage	14
CARTRIDGES	14
HEALTH SURVEILLANCE	15
EVALUATION OF THE PROGRAM	15
RECORD RETENTION	15

APPENDIX 1 – RESPIRATOR SELECTION WHEN WORKING WITH ASBESTOS..... 16
APPENDIX 2 – SUMMARY OF TRAINING MATRIX – CSA Z94.4-11 17

PURPOSE

The purpose of this guideline is to protect the health of workers who are required to wear respiratory protection where engineering and work practice controls are not possible. The University of Ottawa will endeavor to eliminate and/or reduce hazards to the extent possible through engineering controls, although it is recognized that there may be scenarios where respiratory protection is required.

This document will serve to detail the procedures used to select respirators, fit-test workers with their respiratory protection equipment, as well as procedures for use and care of respirators. The decision to provide respiratory protection should not be made lightly, but only after a thorough risk assessment of potential hazards. The risk assessment may include documented complaints, potential over-exposure, or explicit requirements with the material in question. Accordingly, other avenues such as elimination or substitution of the material, engineering control, work practices etc. should be pursued first prior to requiring respiratory protection. For detailed information consult the *Ontario Health and Safety Act* and its Regulations as well as the *CSA Standard Z94.4-11*.

This document was reviewed in consultation with *CSA Z94.4-11*.

SCOPE

This guideline applies to all workers who are required, or choose, to wear respirators during their employment and/or research tenure. Note that the definition of worker can include faculty members, support staff, students, visitors, as well as any other person requiring respiratory protection.

This guideline is not intended for mouth piece or quarter-masks respirators. Therefore, this guideline *does not* apply to workers who are required to use mouthpiece respirators or quarter-mask respirators. Quarter and mouthpiece respirators are generally not in use at the University of Ottawa.

DEFINITIONS

Refer to *CSA Z94.4-11* for a complete list of definitions.

Worker – means any of the following, but does not include an inmate of a correctional institution or like institution or facility who participates inside the institution or facility in a work project or rehabilitation program:

- A person who performs work or supplies services for monetary compensation.
- A secondary school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled.
- A person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and technology, university or other post-secondary institution.

- A person who receives training from an employer, but who, under the *Employment Standards Act, 2000*, is not an employee for the purposes of that Act because the conditions set out in subsection 1 (2) of that Act have been met.
- Such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation.

Supervisor – means a person who has charge of a workplace or authority over a worker.

Competent person (OHS Act, Section 1(1)) – means a person who,

- Is qualified because of knowledge, training and experience to organize the work and its performance,
- Is familiar with the OH&S Act and the regulations that apply to the work, and
- Has knowledge of any potential or actual danger to health or safety in the workplace.

Fit factor – a quantitative measurement of the fit of a particular respirator to a particular individual.

Fit test – the use of a qualitative or quantitative method to evaluate the fit of a specific make, model, and size of respirator on an individual.

Qualitative fit test (QLFT) – a pass / fail test method that relies on the subject's sensory response to detect a challenge agent in order to assess the adequacy of respirator fit.

Quantitative fit test (QNFT) – a test method that uses an instrument to assess the amount of leakage into the respirator in order to assess the adequacy of respirator fit.

IDLH (immediately dangerous to life and health) – An atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

Respirator –

- Air purifying – a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element
- Atmosphere supplying – a respirator that supplies the user with breathing air/gas from a source independent of the ambient atmosphere.
- Tight-fitting respirator – a respirator that is designed to form a complete seal with the face or neck. Tight-fitting respirators include half-face piece, both elastomeric and filtering-face piece respirators, full-face piece, and certain hoods equipped with a tight-fitting seal.

STANDARD

All respirators and fit testing procedures shall be in accordance with the *CSA Standard Z94.4-11; Selection, Use, and Care of Respirators*, or its equivalent, which sets out requirements for the proper selection, fit testing procedures, use and care of respirators and related materials.

COMPONENTS OF A RESPIRATORY PROTECTION PROGRAM

The basic elements of a Respiratory Protection Program include:

- Roles and responsibilities of the applicable workplace parties
- Hazard assessment
- Selection of appropriate respirators;
- Training of respirator users
- Respirator fit testing;
- Appropriate maintenance procedures (cleaning, inspecting, storage, etc.);
- Health surveillance protocols;
- Evaluation of the program;
- Record retention.

ROLES AND RESPONSIBILITIES OF WORKPLACE PARTIES

Workers

- Wear respiratory protection at all times when performing tasks requiring respiratory protection;
- Wear respiratory protection at all times when working in areas with atmospheric hazards;
- Inspect the respirator prior to each use in accordance with training and manufacturer's recommendations;
- Clean, maintain and store respirators in accordance with training and manufacturer's recommendations;
- Perform necessary seal checks after donning a tight-fitting respirator;
- Report any damage to their supervisor and remove the respirator from service;
- Report to the Health and Wellness Office any change in physical and / or psychological condition which could limit his or her ability to wear a respirator;
- Be clean shaven for purposes of wearing a respirator;
- Understand limitations associated with the use of respiratory protection;

Supervisors

- Identify situations where respiratory protection may be required due to the nature of the activity;
- Conduct assessments for respiratory hazards within their work area(s);
- Provide workers with appropriate respiratory protection;
- Provide appropriate storage locations for reusable respiratory protection;
- Refer prospective respirator users to the Health and Wellness Office for purposes of health screening and fit testing;
- Notify Health and Wellness and Office of Risk Management of changes to the initial risk assessment;
- Ensure that respirator users have received appropriate respirator training;
- Ensure that workers wear respiratory protection, where required to do so.

Office Risk Management

- Participate in supervisor risk assessments, as required;
- Provide guidance in risk assessment process;
- Provide assistance in the selection of appropriate respiratory protection.

Health and Wellness Office (Human Resources)

- Be knowledgeable of health effects to which a respirator user may be exposed;
- Be knowledgeable of the physiological burden and psychological stresses associated with the use of respiratory protection;
- Assess suitability of the prospective respirator user to verify if the respirator can be safely used;
- Determine if the person is medically fit to wear a respirator;
- Arrange for fit testing appointments for the prospective respiratory user;
- Reassess users every two years, or more frequently as necessary (i.e. physiological or psychological changes);
- Maintain individual fit test records for respirator users;

HAZARD ASSESSMENT

The nature of the hazard shall be determined with guidance from the following criteria:

- i. Identification of contaminants present in the workplace;
- ii. Identification of the physical states of airborne contaminants;
- iii. Measurement (or estimation) of the concentration of the contaminants;
- iv. Determined if the atmosphere is oxygen-deficient
- v. Identification of the established occupational exposure limit for each airborne contaminant;
- vi. Determine if an IDHL atmosphere is present
- vii. Determine if there is a specific health regulation or substance-specific standard for the contaminant;
- viii. Determine (for particulate hazards) if there is oil present in the workplace;
- ix. Determine if the contaminant can be absorbed through, or is irritating to, the skin or eyes.

A re-assessment must be conducted when the nature of the hazard changes. All hazard assessments must be maintained by the Department in which the atmospheric hazard exists.

SELECTION OF RESPIRATORS

The two main types of breathing apparatus at the University of Ottawa are:

- i. Air-purifying respirators;
- ii. Atmosphere supplying respirators.

Air purifying respirators can be either mechanical or chemical. Mechanical filters remove contaminants in the air by filtering out particulates (e.g. metal fumes, mists, etc.). Chemical cartridge filters purify air by adsorbing or neutralizing gases or vapours on a sorbent (adsorbing material) in a cartridge. They are tight-fitting and are available in several forms including half and full face respirators.

Atmosphere supplying respirators serve to supply the user(s) with breathable air.

The supervisor is responsible to assess the hazard associated with each task and location. If the hazard cannot be eliminated through engineering or administrative controls, proper practices and procedures must be put in place and the personal protective equipment used as last line of defense.

Appendix 1 will provide information for the proper respirator selection when working with asbestos or asbestos-containing material.

Each worker who requests a respirator or who is required by his or her supervisor to wear a respirator, must be medically assessed prior to fit-testing and / or using a respirator. This is to ensure that the person is physically and psychologically able to perform work while using the respirator. The supervisor must notify the Health and Wellness Office (Human Resources) who will arrange for the assessment and fit testing to be done at the expense of the worker's Faculty / Service. This medical assessment is confidential and is not shared with the worker's Faculty / Service.

No matter the type of respirator selected, the end user must be trained on its proper use and limitations prior to using the protective device.

TRAINING OF RESPIRATOR USERS

Training of the following workplace parties must involve, at minimum, the following criteria:

Respirator User

- Duties defined within this program;
- Requirements for participation in the health surveillance program;
- Fit testing procedures;
- Proper use of the assigned respirator(s);
- Limitations of the assigned respirator(s);
- Care and maintenance of the assigned respirator(s).

Supervisor of Respirator User

- Duties defined within this program;
- Requirements for participation in the health surveillance program;
- Fit testing procedures;
- Proper use of the assigned respirator(s);
- Limitations of the assigned respirator(s);
- Care and maintenance of the assigned respirator(s).

Refer to Table 3 – Summary of Training Matrix found in *CSA Standard Z94.4-11* for duties of other workplace parties (Appendix 2).

Regular refresher training is strongly encouraged for all users.

FIT TESTING

The purpose of a respirator fit test (either qualitative or quantitative) is to verify the user's ability to obtain an effective seal and acceptably comfortable fit for the selected respirator. This process also serves to verify that a respirator user is able to demonstrate the required level of competency in donning and doffing the respirator and performing a respiratory inspection as well as a seal check.

Under no circumstances are persons to be assigned, or expected to use, a respirator prior to having a satisfactory fit test conducted via the Health and Wellness Office.

The selection of a respirator must be based on adequate protection, proper fit and comfort. Workers are to be shown how the respirator is properly positioned on the face, how the strap tension should be set, as well as how to determine a proper fit of the respirator. A mirror should be available during the respirator selection to aid in evaluating the fit of the respirator. The most comfortable respirator should be donned and worn for a short period of time (i.e. 5-10) minutes to assess comfort. The comfort assessment of the respirator includes the following points:

- Proper placement of the chin
- Positioning and fit of the mask on nose (for a half piece)
- Adjusting the strap tension
- Room for safety glasses - without adversely affecting the seal of the respirator
- Ability to speak without adversely affecting the seal of the respirator
- Tendency of the respirator to slip
- Self-observation in mirror

Important note: The respirator will not provide the needed protection if the seal between the skin and the respirator mask is broken; this may occur if the worker has:

- A beard or facial hair; a worker donning a respirator shall be clean-shaven – no exceptions.
- Glasses.
- Facial scars.
- Long side burns.
- Dermatological condition (ex. acne).

Individuals shall present themselves for fit testing in the same personal condition they would expect to be in when using the respirator. This includes hair styles, wearing or not wearing dentures, eyeglasses, lotions, creams, or other personal items.

A qualitative or quantitative fit test shall be performed by a competent person to determine the ability of a worker to obtain an effective seal when using a tight-fitting face-piece. A seal check **cannot** be used as a substitute for a qualitative or quantitative fit test.

Fit testing shall be carried out:

- Prior to first wearing a respirator, but after the aforementioned medical assessment;
- When changes to the user's physical condition could affect the respirator fit (i.e. excessive weight gain / loss, dental changes, major physiological changes, etc.);
- When additional personal protective equipment are introduced that could affect proper fit;
- In case of any change in respirator face-piece (brand, model, size, age etc.);

- If the user reports discomfort / difficulty completing work; and
- At least every two (2) years that the respirator is in use.

Qualitative Test Procedure

A qualitative fit test can be performed with a variety of test agents including isoamyl acetate, saccharin solution aerosol, bitter aerosol (denatonium benzoate), and irritant smoke (stannic chloride). The choice of the test agent will depend on the type of mask selected.

Note: Workers should not chew gum or tobacco, smoke, eat or drink anything other than plain water for 30 minutes prior to a qualitative fit testing to make sure that workers can detect the fit test agents by smell or taste.

A **qualitative** fit test shall be done in the following matter:

1. The worker puts on the selected respirator according to the manufacturer's instructions
2. He/she is asked to perform a seal check
3. When using a half-face respirators and irritant smoke as a test agent, workers should be reminded to keep their eyes closed during the test, since smoke can irritate the eyes.
4. A threshold check is performed.
5. The worker is exposed to an atmosphere containing an odorant, irritant or taste agent.
6. The worker is then asked to perform the following exercises for at least 30 seconds:
 - Breathe normally
 - Breathe deeply
 - Turn their head from side to side; inhale and exhale when the head is at either side
 - Nod head up and down; inhale when the head is in fully up position, and exhale when the head is in fully down position
 - Talk aloud and slowly
 - Bending over
7. The worker then reports any noticed odor or taste changes. If the test agent is detected, the test is immediately terminated due to improper fit. A different respirator is then selected, adjusted and the entire test procedure is then repeated until a respirator is deemed to fit that individual.
8. If the worker does not detect the test solution during the entire test, then the respirator fits properly. The type, size and style of respirator, including the cartridges needed are then documented and kept on file.

Quantitative Test Procedure

A quantitative fit test is designed to detect **any** leak and is used for oxygen-deficient and toxic environments. The procedure is similar to the qualitative fit test; whereas an agent is presented and if detected by the user/instrumentation then the fit is not sufficient.

Note: Workers should not smoke within 30 minutes prior to the quantitative fit test, to avoid erroneously low fit factors.

The **quantitative** fit test should be done in the following manner:

1. The worker puts on the selected respirator according to the manufacturer's instructions
2. He/she is asked to perform a seal check.
3. The test agent concentration is measured in the test chamber.

4. After the worker enters the test chamber, the test agent concentration inside the respirator is measured.
5. The test agent concentration is measured consecutively while a worker is performing the following exercises for at least 30 seconds:
 - Breathe normally
 - Breathe deeply
 - Turn their head from side to side; inhale and exhale when the head is at either side
 - Nod head up and down; inhale when the head is in fully up position, and exhale when the head is in fully down position
 - Talk aloud and slowly
 - Bending over
6. A particle counting instrument then compares the dust concentration in the surrounding air with the dust concentration inside the respirator.
7. The fit factor is determined by taking the ratio of the average test chamber concentration to the concentration measured inside the respirator for each test exercise (with the exception of the grimace exercise).
8. A person shall be considered to have passed the fit test if the overall fit factor equals or exceeds the minimum required fit factor.
9. If the respirator passes the test, then it fits properly. The type, size and style of respirator, including the cartridges needed are then documented and kept on file.

Fit Testing Process

Employees and Paid Persons

1. Refer employees requiring a fit test to Health and Wellness.
2. Health and Wellness conducts initial medical screening. Once completed, employee is referred to external organization for a fit test.
 - Organizations offering this services include:
 - GEM Health Care Services
383 Parkdale Ave, Suite 304
Ottawa, Ontario K1Y 4R4
Fees: 45\$
Duration: 20 minutes
Testing is done by appointment only
 - Paramed
1145 Hunt Club Rd, Suite 400
Ottawa, ON
K1V 0Y3
Fees: 48\$
Duration: 20 to 30 minutes
Testing is done by appointment only
3. If the medical screening indicates potential health issues, the fit testing process moves to further medical consultation (outside uOttawa).
4. External organization provides confirmation on mask and fit to Health and Wellness.
5. Information on employee's fit test stored with Health and Wellness.

6. Employee is re-fitted per requirements in CSA Z94.4, if they still require respiratory protection.

Students

1. Advise student / PI that initial medical screening and fit testing is required prior to the use of a respirator. Example of screening is available in CSA Z94.4.
2. Refer student to external organization.
 - Organizations offering these services include those listed above.
3. If the medical screening indicates potential health issues, fit testing process moves to further medical consultation (outside uOttawa).
4. External organization provides confirmation on mask and fit to user / supervisor / PI.
5. Information is maintained by user / supervisor / PI.
6. Student is re-fitted per requirements in CSA Z94.4; if they still require respiratory protection.

SEAL CHECK (CARTRIDGE RESPIRATOR)

Before fit testing and **whenever the respirator is put on**, a seal check shall be performed. Workers should perform a negative (inhalation check) and a positive (exhalation) pressure seal check; or a check recommended by the respirator manufacturer.

To conduct a negative pressure seal check: cover the cartridges with your hands, inhale gently to collapse the face-piece slightly, and hold your breath for 10 seconds. If the face-piece remains slightly collapsed and no leakage is detected, the respirator fits properly.

To conduct a positive pressure seal check: cover the exhalation valve with your hand and exhale gently into the face-piece. If a slight positive pressure is built up inside the face-piece without any evidence of leakage, the fit is suitable.

USE OF RESPIRATORS

Prior to assigning a worker any task that requires the use of a respirator, the worker shall complete the selection, fit-testing, and training required for the use of respirators.

Personnel using respirators shall always be clean-shaven to allow for a proper seal between the skin and the respirator. A worker shall check the seal of the respirator immediately after donning it and periodically during use by positive and negative pressure checks. If an effective seal to the skin cannot be achieved, due to interference with other personal protective devices, a change in physical condition of the worker, or for any other reason, the respirator shall not be worn and the worker will not enter the hazardous area.

A worker must always ensure that the following materials do not interfere with the seal of the tight-fitting respirator:

- Side arms of eyeglasses
- Hair – including facial hair
- Clothes
- Prosthetics
- Straps

- Jewelry
- Any other obstructions

Approved respirators are required under the following conditions:

- When working with hazardous chemical(s) that may expose the worker to gas, vapour, dust, fumes, mists, etc.
- When a Material Safety Data Sheet recommends a respirator use for certain chemicals.
- When a worker is working within the immediate vicinity of the potential exposure area; even though he/she is not working with a hazardous substance.

MAINTENANCE OF RESPIRATORS

Respirators should be properly maintained to preserve their original effectiveness. A good program of care shall include:

- Cleaning and sanitizing
- Inspection, testing, and repair
- Storage
- Record keeping (shall be kept current)

Cleaning

Respirators must be cleaned after every use according to the respirator manufacturer's instructions or according to the following alternative procedure:

- Remove filters, cartridges canisters or any other components recommended by the manufacturer (anything not to be washed).
- Wash the respirator in warm water with a mild cleanser that contains a disinfecting agent.
- Rinse the respirator very thoroughly in warm running water.
- Allow respirator to air dry; alternatively, hand-dry with a clean, lint-free cloth.
- Reassemble the face-piece, replacing filters, cartridges, and canisters where necessary.
- Test the respirator to ensure that all components work properly.
- Properly store the respirator. Storing a respirator in a sealed bag is recommended.

Note: If the respirator is not individually assigned, then cleaning and sanitizing must be performed before the next use of the device.

Inspection

Workers shall inspect their respirators before and after each use in accordance with the manufacturer's instructions. Inspection of the respirator includes the following points:

- Condition of component parts
- Tightness of connections
- End-of-service-life indicators
- Shelf-life dates
- Proper functioning of regulators, alarms, and other warning systems / devices

Defective or nonfunctioning respirators must be identified and tagged as “**out of service**” or equivalent and removed from service until repaired or replaced.

Repair and Test

Only qualified persons shall repair and test respirators and cylinders, using original manufacturer’s replacement parts and repair procedures.

Storage

Respirators must be stored in a manner to protect them against dust, ozone, sunlight, heat, extreme cold, excessive moisture, or any other potential hazard that may have a detrimental effect on the respirator. Respirators shall be stored in accordance with the respirator manufacturer’s instructions to prevent the deformation of rubber or other parts.

Emergency respirators must be quickly accessible at all times, and the storage compartment must be clearly marked.

It is important to store the cylinders that are not in current use at reduced pressure to reduce the corrosion rate. For the same reason, cylinders shall be stored in the vertical position (valve up, never inverted), with the main valve closed. It is preferable to store cylinders indoors, in a temperate and dry environment.

CARTRIDGES

Respirators equipped with cartridges must be monitored to ensure that the cartridges are changed before their useful service life has ended. Warning properties of the contaminant shall not be relied on for cartridge change-out. Factors impacting cartridges include the:

- Contaminant's chemical properties, physical state, and concentration;
- Environment, temperature, humidity, and atmospheric pressure;
- Physical/chemical characteristics of the air-purifying element; surface area, volume, and the mechanism used to remove the contaminant; filtration, electrostatic charge, and absorption or adsorption;
- Effectiveness of the air-purifying element against the contaminants;
- Breathing rate and volume of the respirator user; and
- Pattern of use, whether continuous or intermittent.

Gas or vapour removing cartridges not equipped with an end-of-service-life indicator shall be replaced based on an established procedure or schedule that ensures that the cartridge is changed before the service life has ended.

Particulate cartridges are to be replaced if they become damaged or unhygienic, based on the established change-out schedule, when breathing becomes difficult or as recommended by the manufacturer. In the case of powered air-purifying respirators (PAPRs), particulate filters shall be replaced when the air flow does not meet the manufacturer's requirements.

HEALTH SURVEILLANCE

Prior to fit testing and initial respirator use, the supervisor of the respirator user shall follow-up with the Health and Wellness Office that documentation is completed that confirms that the worker (person using the respirator) is free from any physiological or psychological condition that may preclude him or her from being assigned the use of the selected respirator. To assist, the prospective respirator user will be asked to complete a health questionnaire.

All health information shall be treated as medically confidential – please visit the [Health and Wellness Office, Human Resources](#) (Tabaret 017) for more information.

EVALUATION OF THE PROGRAM

The program will be reviewed on a regular basis by Risk Management. The evaluation will be consistent with section 13 of *CSA Z94.4-11*.

RECORD RETENTION

Appropriate records of activities conducted within the confines of this program must be kept by the applicable workplace parties. Documentation required to be maintained includes:

- i. Hazard assessments (including monitoring of the workplace atmosphere as applicable) to document the initial and ongoing need for respiratory protection (Respirator User Department);
- ii. Selection of the appropriate respirator for the individual respirator user, including applicable hazards identified and evaluation; (Respirator User Department);
- iii. Fit test records, including specific make and model of respirator, type of test and agent used, conditions at time of fit test, notes on restrictions, fitting difficulties, etc. (Health and Wellness);
- iv. Training records for the respirator user / supervisor of respirator user specifying the content of the training, the date(s) that the training occurred, the qualifications of the person providing the training, etc. (Respirator User Department);
- v. Maintenance records of respirators, including any repairs, calibration, storage procedures (Respirator User Department);
- vi. Health surveillance records indicating any limitation of use (Health and Wellness);
- vii. Program evaluation records (Office of Risk Management).

APPENDIX 1 – RESPIRATOR SELECTION WHEN WORKING WITH ASBESTOS

Work Category		Required respirator
Type 1 Operations – (See asbestos regulation and University asbestos program)		
Worker requests that the employer provide a respirator to be used by the worker, as described in paragraph 12 of section 14		Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter
Type 2 Operations		
Work described in paragraph 1 of subsection 12 (3)		One of the following: - Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filter - Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, P-100 or R-100 particulate filter - Negative pressure (demand) supplied air respirator equipped with a full-facepiece - Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece)
Work described in paragraphs 2 to 7 and 9 to 11 of subsection 12 (3)		Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter
Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable material containing asbestos by means of power tools, if the tool is attached to a dust collecting device equipped with a HEPA filter as described in paragraph 8 of subsection 12 (3)	Material is not wetted	One of the following: - Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filter - Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, P-100 or R-100 particulate filter - Negative pressure (demand) supplied air respirator equipped with a full-facepiece - Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece)
	Material is wetted to control spread of fibre	Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter
Type 3 Operations		
Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable material containing asbestos by means of power tools, if the tool is not attached to a dust collecting device equipped with a HEPA filter as described in paragraph 5 of subsection 12 (4)	Material is not wetted	Pressure demand supplied air respirator equipped with a half mask
	Material is wetted to control spread of fibre	One of the following: - Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filter - Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, P-100 or R-100 particulate filter - Negative pressure (demand) supplied air respirator equipped with a full-facepiece - Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece)
Work with friable material containing asbestos, as described in paragraphs 1 to 4 and 6 of subsection 12 (4)	Material is not wetted	Pressure demand supplied air respirator equipped with a full facepiece
Work with friable material, as described in paragraphs 1 to 4 and 6 of subsection 12 (4), that contains a type of asbestos other than chrysotile	Material was applied or installed by spraying, and is	Pressure demand supplied air respirator equipped with a half mask
Work with friable material, as described in paragraphs 1 to 4 and 6 of subsection 12 (4), that contains only chrysotile asbestos	wetted to control spread of fibre	One of the following: - Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filter - Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, P-100 or R-100 particulate filter - Negative pressure (demand) supplied air respirator equipped with a full-facepiece - Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece)
Work with friable material containing asbestos, as described in paragraphs 1 to 4 and 6 of subsection 12 (4)	Material was not applied or installed by spraying, and is wetted to control spread of fibre	One of the following: - Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filter - Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, P-100 or R-100 particulate filter - Negative pressure (demand) supplied air respirator equipped with a full-facepiece - Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece)

Occupational Health and Safety Act - O. Reg. 278/05 - Table 2. Accessed from eLaws on May 28, 2015.

APPENDIX 2 – SUMMARY OF TRAINING MATRIX – CSA Z94.4-11

Modified from CSA Standard Z94.4-11

Position	Roles and Responsibilities	Respirator Selection Process	Respirator User Screening	Fit Testing	Instruction	Care and Practical Use	Limitations	Repair and Maintenance
Employer	Clause 4.2	--	--	--	--	--	--	--
Program Administrator	Clause 5.1	Clauses 6, 7, Annexes G, K, L	Clause 12, Annex E	Clause 9, Annexes A, B, C, F, M	Clauses 1, 8	Clause 10	Annex G	Clause 11
Respirator User	Clause 5.2	--	Clause 12, Annex E	Clause 9, Annexes A, B, C, F, M	Clauses 1, 8	Clause 10	Annex G	Clause 11
Supervisor of Respirator User	Clause 5.3	--	Clause 12, Annex E	Clause 9, Annexes A, B, C, F, M	Clauses 1, 8	Clause 10	Annex G	Clause 11
Person Selecting Respirator	Clause 5.4	Clauses 6, 7, Annexes G, K, L	--	--	Clauses 1, 8	--	Annex G	--
Fit Tester	Clause 5.5	--	--	Clause 9, Annexes A, B, C, F, M	Clauses 1, 8	--	--	Clause 11
Issuer	Clause 5.6	--	--	--	--	--	--	--
Respiratory Maintenance Personnel	Clause 5.7	--	--	--	Clauses 1, 8	--	--	Clause 11
Health Care Professional	Clause 5.8	--	Clause 12, Annex E	--	Clauses 1, 8	--	--	--