The Importance of Being Earnest about Respiratory Protective Equipment
Before a respirator is used (AS/NZS 1715:2009)

Workers must receive training on how to:

a. Identify respiratory hazards
b. Understand the reasons for using RPE
c. Select correct RPE
d. Use and properly fit their RPE
e. Determine wearing times
f. Recognize the limitations of RPE
g. Inspect, care for, maintain & store their RPE correctly.
**WHS Act 2011, s. 19 (3)**  
under ‘Primary duty of care’

The PCBU must ensure AFARP,

The provision of:

(b) safe plant (*PPE is plant*)

(c) safe system of work

(f) any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work

**Provision to workers and use of PPE –**

- Having regard to the nature and hazards of the work
- Be suitable size, fit and comfort for the worker
What’s the difference?

**Respirators**
- Meet AS/NZS 1716:2012 – Respiratory protective devices
- Are designed to help reduce the wearer’s respiratory exposure to airborne contaminants, e.g. particles, gases, vapours
- Particulate respirators are used to reduce exposure to particles that are small enough to be inhaled

**Masks**
- Do not meet AS/NZS 1716. Some may meet AS 4381 for surgical masks
- Are designed to help prevent contamination of the work environment or sterile field from particles generated by the wearer, e.g. spit, mucous
- Do not have adequate filtering or fitting attributes to provide effective respiratory protection from airborne contaminates, e.g. small particles, aerosol, gases or vapours
What’s it all about, Alfie? Mask vs Respirator


<table>
<thead>
<tr>
<th>Filter Class</th>
<th>Nuisance mask</th>
<th>Surgical mask</th>
<th>P1 respirator</th>
<th>P2 respirator</th>
<th>P3 respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection against</td>
<td>Extremely coarse, non-toxic particulates</td>
<td>Helps reduce the risk of splashes of bodily fluids from reaching the wearer’s mouth &amp; nose</td>
<td>Mechanically generated particulates</td>
<td>Mechanically or thermally generated particulates or both</td>
<td>Highly toxic or highly irritant particulates</td>
</tr>
<tr>
<td>Types available where it meets AS/NZS 1716</td>
<td>Does not meet AS1716. No protection against gases or vapours. Disposable</td>
<td>Does not meet AS1716. May meet AS 4381. Disposable</td>
<td>Powered type, replaceable filter type &amp; disposable</td>
<td>Powered type, replaceable filter type &amp; disposable</td>
<td>Powered type &amp; replaceable filter type</td>
</tr>
<tr>
<td>Examples of use</td>
<td>Mowing, gardening &amp; sweeping</td>
<td>Clinical settings, e.g. dentists, vets &amp; doctors</td>
<td>Hand sanding</td>
<td>Metal fumes e.g. welding with zinc. Hospital workers &amp; paramedics while treating suspected C-19 patients</td>
<td>Beryllium as used in alloys to make springs</td>
</tr>
</tbody>
</table>
To valve or not to valve?
That is the question!

Advantages of valves:
- Stays drier longer
- Extra comfort
- Improved breathing
- Effective removal of heat build up
- Removes exhaled air and minimises the risk of fogging eyewear
Respirator selection

- **Disposable**
  - valved or non-valved
- **Reusable**
  - ½ face or full-face
- **PAPR**
  - ½ face (e.g. clean space) or full face (e.g. 3M hood)

See S.D.S. for respirator required for the task and it needs to be suitable and comfortable

**What’s next?**
Facial fit-testing

- A validated method of matching a tight/close fitting facepiece to an individual
- Conducted by a person who is competent in fit-testing

Facial fit-checking

- A simple check to ensure the respirator fits each time it is worn
- Conducted by the wearer
Qualitative or Quantitative Tests? Are both needed for fit testing?


<table>
<thead>
<tr>
<th>Test</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Pass or fail</td>
<td>Numerical result</td>
</tr>
<tr>
<td>Response to test agents</td>
<td>Relies on the wearer</td>
<td>DOES NOT rely on the wearer</td>
</tr>
<tr>
<td>Equipment required</td>
<td>Fit test kit</td>
<td>Portacount or similar</td>
</tr>
</tbody>
</table>
1. With reverse side up and using tab, separate top and bottom panels to form a cup shape. Bend slightly at the centre of the nose-clip

2. Ensure both panels are fully unfolded

3. Cup respirator in one hand with open side towards the face. Take both straps in one hand. Hold respirator under chin, with nose-clip up, and pull straps over head

4. Locate the upper strap across the crown of the head and the lower strap below the ears. Straps must not be twisted. Adjust top and bottom panels for a comfortable fit, ensuring panels and tab are not folded in

5. Using both hands, mould nose-clip to the shape of the lower part or the nose to ensure a close fit and good seal. Pinching the nose-clip using only one hand may result in less effective respirator performance

6. The seal of the respirator on the face should be fit-checked before entering the workplace
Fit checking (AKA user seal check)

1. Cover the front of the respirator with both hands being careful not to disturb the fit of the respirator
   a) **VALVED** respirator - **INHALE** sharply *(negative)*
   b) **UNVALVED** respirator – **EXHALE** sharply *(positive)*

3. If air leaks around the nose, readjust the nose-clip to eliminate leakage. Repeat the above fit check

4. If air leaks at the respirator edges, work the strap back along the sides of the head to eliminate leakage. Repeat the above fit check
Fit check of reusable RPE

**Positive pressure fit check**
1. Block **valve**
2. Gently **exhale** & hole for 10s
3. Facepiece should **bulge** slightly
4. Respirator is properly **fitted**
5. If leaks are detected, **readjust** straps & recheck

**Negative pressure fit check**
1. Block cartridges
2. Gently inhale & hold for 10s
3. Facepiece should collapse slightly
4. Respirator is properly fitted
5. If leaks are detected, readjust straps & recheck
And then there’s the paperwork!

- Keep the **Fit Test Record** in the wearer’s personnel file
- Record results in the **Fit Test Register or Spreadsheet**
- Issue (laminated) **Fit Test Card** to wearer
- Can issue the wearer with a training **Certificate of Attendance**
Prior to the testing *(email content)*

1. View the 3 U-Tube clips, which will explain the testing, checking and wearing processes
2. Men are to be clean shaven (refer AS/NZS 1715:2009, Appendix B1–5)
3. Do not wear facial creams (e.g. sunscreen or make-up) or facial jewellery (e.g. earrings) (refer AS/NZS 1715:2009, Appendix B6)
4. Bring your current respirator (if you have one)
5. Bring your usual glasses/safety glasses
6. Do not eat, drink, smoke or chew gum for at least **30 minutes** prior to the testing time (water being the exception)
7. Please allow at least **30 minutes** for the testing time.
A picture (or U-Tube) says a 1,000 words

- Fit test video (3M-UK) (8m 15s)  
  https://youtu.be/PthSES4O9d8

- Negative pressure RPE check (NORCAT Canada) (1m 08s)  
  https://youtu.be/nFTtfA73Oa4

- RPE program (HSE) (18m 32s)  
  https://youtu.be/WZUgUcRoQV4
**Fit Test Record**

**Respirator Fit Test Record**

Using fit test kits - 3M EX-10 (exhalation) kit, FT-50 (inhalation) kit or TSI Particulate 8338 kit

**Weaver's Name**

**Date**

- Responses from the weaver to the questionnaire below are purely indicative only and the answers taken at face value.

**Medical and physical questionnaire** (Refer AS/NZS 1715:2003 Sections 6, 8 & Appendix D IO)

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Example</th>
<th>Y or N</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you currently exhibiting any cold or flu like symptoms?</td>
<td>COVID-19</td>
<td>Y</td>
<td>YES, cease fit testing process and reschedule</td>
</tr>
<tr>
<td>Chronic lung conditions</td>
<td>emphysema</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulatory disease</td>
<td>heart disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sarcoid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facial hair</td>
<td>board</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological factors</td>
<td>claustrophobic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physiological issues</td>
<td>near glasses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face shape/size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other factors</td>
<td>means make-up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facial jewelry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weaver's suitability to be fit tested</td>
<td>Refer: AS/NZS 1715:2003 Clause 2.3 (b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Regular wearing of negative respirators imposes an extra burden on cardiac and respiratory systems. A person with disorders in these areas should be medically assessed by a doctor.

- A winter and nearly trimmed beard or moustache may be acceptable providing the surrounding skin is clean-shaven and the facial hair does not extend into the respiratory seal region.
- Beard / moustache must be short enough that they do not interfere with the valve function.
- A reusable respirator (i.e. NOT a disposable respirator) is required if the wearer has a beard.
- Make-up and facial cream should not be worn as they may interfere with the facial seal.

**Respirator Details**:

**Manufacturer / Brand**

**Model**

**Respirator type / style**

- Disposable
- Half Face Reusable

**Face piece size**

- Small
- Medium
- Large

**Respirator Date of Manufacture**

**Testing Details**:

**FIT TEST CHECK** (if all three criteria are met)

- Negative pressure
- Positive pressure

**FIT TEST** (if all three criteria are met)

- Qualitative FT-30 (water turbine)
- Qualitative FT-50 (water solution)
- Quantitative (TSI Portacount)

**Comments**

The following topics were discussed with the weaver (Refer AS/NZS 1715:2003, Clause 7.4):

- a) Identifying respiratory hazards
- b) Reasons for using RPE
- c) Selection of respirators
- d) Use and proper fit of respirators
- e) Viewing times
- f) Limitations of various respirators
- g) Inspection, care, maintenance and storage of equipment

**Weaver's signature**

**Tests conducted by**

**Trainer's signature**

**Date**

**Records**

The weaver will be issued with a FIT TEST CARD and a CERTIFICATE OF ATTENDANCE for participating in the RPE training.

- The **tests** (for internal trainer / tester) will:
  - Keep a copy of this FORM and scan this FORM as an attachment to the POBU and distribute the FORM to the weaver.
  - The weaver will provide this completed FIT for the POBU to record.
  - The POBU is responsible for filing this form on the weaver's personnel file.

- The **tests** (for external trainer / tester) will:
  - Provide the **FIT TEST RECORD** to the POBU.
  - The POBU ensures the information is entered into the SPREADSHEET and REGISTER for FIT TESTS for RPE wearers and then to file in the weaver's personnel file.
### FIT TEST REGISTER for RESPIRATORY PROTECTIVE EQUIPMENT

**Business name**

**EXAMPLE**

Attach training records for the wearers as per AS/NZS 1715:2009, Clause 7.4, to cover sections (a) to (g)

<table>
<thead>
<tr>
<th>Worker’s Name</th>
<th>Respirator Type</th>
<th>Make / Model / Size</th>
<th>Filter Type (if applicable)</th>
<th>Manufacture Date</th>
<th>Issue Date</th>
<th>Fit Test Date</th>
<th>Fit Test By</th>
<th>Fit Test Method</th>
<th>Respirator Container Issued</th>
<th>Training of Use / Maintenance Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Bloggs</td>
<td>P2, ½ face, Reusable</td>
<td>Protector. XYZ. Small</td>
<td>Organic cartridge</td>
<td>12/04/18</td>
<td>17/01/19</td>
<td>17/01/19</td>
<td>Peter Black (internal)</td>
<td>Qualitative</td>
<td>Yes</td>
<td>17/01/19</td>
</tr>
<tr>
<td>Jane Doe</td>
<td>P2 disposable</td>
<td>Pro Safety Choice PC321</td>
<td>Has valve</td>
<td>18/03/30</td>
<td>20/03/20</td>
<td>20/03/20</td>
<td>Peter Black (internal)</td>
<td>Qualitative</td>
<td>Resealable bag</td>
<td>20/03/20</td>
</tr>
</tbody>
</table>

**References:**
- AS 1716:2012 - Respiratory protective devices, Section 12 – Marking and instructions.
- AS 1715:2009 - Selection, use and maintenance of respiratory protective equipment, Section 2.9 - Record keeping.

**Notes:**
1. Fit Test Method – either Qualitative or Quantitative
2. Fit tests may need to be performed when the shape of a person’s face changes, e.g. due to weight loss
3. Respirator replacement will depend on the amount of time used and how well the product was maintained
4. Cartridges will need to be replaced as required. Cartridges that are not enclosed in a container, while not in use, will keep absorbing vapours from the workplace and shorten the effective life of the cartridge
### Fit Test Records - Spreadsheet May 2020-v1

<table>
<thead>
<tr>
<th>Name of wearer</th>
<th>Category of RPE</th>
<th>Medical concerns see comments</th>
<th>Testing Date YYMMDD</th>
<th>Issue Date YYMMDD</th>
<th>Respirator (manufacturer date is YYMMDD format)</th>
<th>Make</th>
<th>Model</th>
<th>Type</th>
<th>Size</th>
<th>Manufactured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Bloggs</td>
<td>3M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jane Doe</td>
<td>3M</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary Smith</td>
<td>3M</td>
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<tr>
<td>Paul Jones</td>
<td>Survivair</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter Pan</td>
<td>Molder</td>
<td>2200</td>
<td>P2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micky Mouse</td>
<td>3M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dino Flintstone</td>
<td>Unisafe</td>
<td>2000V</td>
<td>200V</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Charlie Brown</td>
<td>3M</td>
<td>8110</td>
<td>S</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wylie Coyote</td>
<td>181024</td>
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</tbody>
</table>

### Self-fit check

<table>
<thead>
<tr>
<th></th>
<th>Fit test type</th>
<th>Fit test result</th>
<th>Training topics</th>
<th>Retest due date YYMMDD</th>
<th>Comments (if required)</th>
<th>Tester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P</td>
<td>P</td>
<td>a</td>
<td>b</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>P</td>
<td>b</td>
<td>c</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>P</td>
<td>c</td>
<td>d</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>P</td>
<td>P</td>
<td>d</td>
<td>e</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>P</td>
<td>P</td>
<td>e</td>
<td>f</td>
<td></td>
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<td>P</td>
<td>P</td>
<td>f</td>
<td>g</td>
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<td>P</td>
<td>P</td>
<td>g</td>
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</tbody>
</table>
# Key to Spreadsheet

## FIT TEST RECORD SPREADSHEET

<table>
<thead>
<tr>
<th>Key</th>
<th>Training topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Small</td>
</tr>
<tr>
<td>M</td>
<td>Medium</td>
</tr>
<tr>
<td>L</td>
<td>Large</td>
</tr>
<tr>
<td>P</td>
<td>Pass</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
</tr>
<tr>
<td>N/A</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Y</td>
<td>Yes, Information provided</td>
</tr>
<tr>
<td>N</td>
<td>No</td>
</tr>
<tr>
<td>FT-10</td>
<td>Fit test type Sweet test - Qualitative</td>
</tr>
<tr>
<td>FT-30</td>
<td>Fit test type Bitter test - Qualitative</td>
</tr>
<tr>
<td>TSI</td>
<td>Fit test type Quantitative test</td>
</tr>
<tr>
<td>YYMDD</td>
<td>Year, Month, Date using only 2 digits for each. Reverse order enables sorting</td>
</tr>
<tr>
<td>E</td>
<td>Category of RPE - Essential</td>
</tr>
<tr>
<td>M</td>
<td>Category of RPE - Moderate</td>
</tr>
<tr>
<td>P</td>
<td>Category of RPE - Periodically</td>
</tr>
<tr>
<td>Nil</td>
<td>Category of RPE - Nil or not applicable</td>
</tr>
<tr>
<td>R/A</td>
<td>Risk assessment required</td>
</tr>
<tr>
<td></td>
<td><strong>Tester's qualifications</strong></td>
</tr>
<tr>
<td></td>
<td>Refer to the TRAINER GRADUATES OF RPE FIT TESTS Spreadsheet</td>
</tr>
<tr>
<td></td>
<td>Referenced to AS 1715:2009 clause 7.4</td>
</tr>
</tbody>
</table>
Fit Test Card

Respirator Fit Test Card

Name ____________________________
Date of test ______________________
Date retest by ____________________
Tester’s name and signature
________________________________
________________________________

Respirator Details

Brand ____________________________
Model ____________________________
Style ____________________________
Size ____________________________
Issued by

20
Certificate of Attendance

TRAINING ELEMENTS

a. Identify respiratory hazards
b. Understand the reasons for using RPE
c. Select correct RPE
d. Use and properly fit their RPE
e. Determine wearing times
f. Recognize the limitations of RPE
g. Inspect, care for, maintain & store their RPE correctly.
No set of steak knives with this PPT

But the coordinator will send out:

- This PowerPoint
- Examples of the hardcopy & Spreadsheet RPE Register & Record
- Some U-Tube links for using RPE

And these as well, however the items below will need to be issued by a competent person within your organisation or an external consultant who has the training and equipment to fit test RPE:

- The Fit Test Record
- The Fit Test Card – sorry no laminating pouches
- Certificate of Attendance
Some questions have been received over “chat”
Answers will be sent out when the coordinator sends the follow-up information
Inspector’s cannot do fit testing for your business
You can also email John or myself if you need clarification on today’s topics

john.colavecchio@oir.qld.gov.au
carmel.cheers@oir.qld.gov.au