Proper Maintenance and Care of RPE

- Store new RPE and filters in cool and dry places according to the instructions for use.
- After using reusable RPE:
  - Clean it in warm water with mild detergent (used filters should be disassembled);
  - Drill the facepiece according to the recommendation of the manufacturer;
  - Rinse the facepiece completely in warm water;
  - Dry the RPE thoroughly;
  - Replace the equipment carefully to avoid any deformation;
  - Keep the RPE out of direct sunlight;
  - Store the RPE in a cool and dry place, protected from sunlight, excessive heat or cold, harmful chemicals and mechanical damage.
- Follow the recommendations of the manufacturer in repairing the RPE or replacing its components.
- Sanitized RPE, like self-contained breathing apparatus should be examined and suited thoroughly by the manufacturer or other competent person at suitable intervals. Employers should ensure that such examination and testing are regularly carried out according to the recommended schedule.

Common Examples of Misuses

- Using a surgical mask or a dust mask for protection against toxic dust. These masks are not designed for filtering toxic dust and that the required protection cannot be provided.
- Using a particulate respirator (e.g., N95 respirator) for protection against gases or vapors, or contaminates. Particulate respirators cannot filter gases or vapors and therefore offer no protection against those hazards.
- Wearing a respirator with only one strap mounted on the head.
- Both eyes should be protected, because a proper face seal could not be achieved by using only one strap, which substantially reduces the protection.
- Falling to press the noseclip on the nosebridge.
- Pressing the noseclip on the nosebridge serves to tighten the seal. Failing to do so leads to air leakage which substantially reduces the protection.
- Putting a towel beneath the facepiece. This increases the air leakage between the face and the facepiece by breaking the seal, thus reducing the protection.
- Using an unsuitable respirator/filter.
- Desirable respirator/filter must not be used, because normal function of the respirator/filter is not guaranteed after the expiry date.
- Using a disposable respirator/filter repeatedly for any time.
- The respirator/filter may have been heavily contaminated already and lost its function.
- Washing filters for reuse.
- Used filters must not be washed, because their efficiency may be seriously reduced by washing.
- Leaking a respirator facepiece under direct sunlight when it is not being used. This will speed up the aging of the rubber components of the facepiece.

Enquiries

For inquiries about this leaflet or advice on occupational health and hygiene matters, please contact the Labour Department’s Occupational Safety and Health Branch through:

- Telephone: 2852 4041
- Fax: 2861 3469
- Email: enqury@ldvo.gov.hk

Information on the services offered by the Labour Department and on major labour legislation can also be found on our website at http://www.labour.gov.hk.

Complaints

If you have any complaints about unsafe workplace or practices, please call the Labour Department’s occupational safety and health complaints hotline on 2542 2172. All complaints will be treated in the strictest confidence.
Respiratory Protection Series

3. Proper Wearing and Maintenance of Respiratory Protective Equipment (RPE)

Respiratory Protective Equipment (RPE) should be properly worn and maintained so that the expected protection is provided to the user. Employers should provide employees who have to use RPE at work with adequate information, instruction, training and supervision to ensure that the RPE is properly worn. Therefore, they should take suitable measures to ensure proper maintenance of the RPE.

Points to Note in Wearing RPE

(A) Follow the Instructions for Users
- Carefully read and follow the instructions for users of the RPE.
- Instructions for users provide important information about how to use the RPE correctly and alert the user to the limitations of the equipment and timing for changing the respirator/Filter.

(B) Inspect the RPE
- Every time before using the RPE, carefully check the equipment according to the instructions for users to ensure that it is in good condition.
- In general, the following should be checked:
  - any cracks and tears in, or dirt on the facepiece and plastic parts;
  - any distortion or damage of the valve (if available);
  - whether the head straps are intact and have good adhesion; and
  - whether the RPE and its filter have expired.

Defective RPE SHOULD NOT be used unless the defects have been fully rectified.

(C) Wear the RPE and Check the Seal
- Follow the procedures recommended by the manufacturer in wearing the RPE.
- Make sure that a tight seal between the face and the facepiece is attained when wearing tightly-fitting RPE.
- After wearing the RPE, seal check shall be performed to ensure the integrity of the seal.

Basic steps of wearing a disposable particulate respirator:

1. Properly position the facepiece on the face;
2. Mount the upper strap on the head;
3. Mount the lower strap on the head;
4. Use the tips of the index and middle fingers of both hands to press the nose clip to tighten the seal.

- To ensure that a proper seal is attained, the user should also perform a "seal check" every time the RPE is donned. Seal check can be done by either the positive or negative pressure check, or by procedures recommended by the manufacturer.
- If the check indicates an improper seal, the user should take actions to remedy the problem. The user should not or should be allowed to enter any contaminated area before the problem has been rectified.
- It should be noted that seal checks ARE NOT substitutes for qualitative or quantitative fit tests.

Positive pressure check
- For reusable RPE, cover the exhalation valve with one hand and then exhale gently for at least 10 seconds. For disposable respirators, cover the front of the facepiece with both hands and exhale deeply.
- If a slight positive pressure is built up inside the facepiece and no outward leakage of air at the edges of the facepiece is detected, a proper seal is attained.

Negative pressure check
- For reusable RPE, cover the inlet opening(s) of the RPE (filter(s) with the hands), then inhale gently so that the facepiece collapses slightly and hold the breath for at least 10 seconds. For disposable respirators, cover the front of the facepiece with both hands and inhale deeply.
- If the facepiece collapses slightly and no inward leakage of air at the edges of the facepiece is detected, a proper seal is attained.