

The selection and use of personal protective equipment

Personal protective equipment at work

Personal protective equipment (PPE) must be used when the hazards of work cannot be removed or reduced adequately by any other means with reasonable costs.

PPE protects the user efficiently if suitable and well-maintained PPE is used correctly throughout the period of exposure. PPE cannot remove the hazards of work.

The employer is responsible for the decision to use PPE and its procurement as well as the organization of the use and maintenance of PPE and the related training.

Technical measures to limit and remove the hazards of work are always prioritized.

Duties related to PPE at the workplace

It's worth taking the time to select PPE carefully, as a well-chosen protector can prevent accidents and exposure to risk factors, as well as save money through reduced healthcare costs.

PPE provides protection only if it is selected and used correctly, it is suitable for its user and there is sufficient motivation to use PPE. Using PPE correctly requires training. PPE must also be in good condition, which requires training in the maintenance and replacement of PPE. The employer is responsible for ensuring that these conditions are met (Occupational Safety and Health Act 738/2002 and Government Decree 427/2021).

If PPE is required at the workplace, a division of duties and resources are required as specified in the list on the next page.

The standard SFS-EN 529 outlines instructions for preparing a respiratory protective devices program for workplaces.

Needs related to resources and division of duties

1. Selection of adequate and appropriate PPE

- a. work group for selection: supervisor, employee, occupational safety and health personnel, buyer of PPE
- b. training the members of the group and maintaining the skills

2. Specifying the needs related to PPE

3. Planning the use of PPE and the related duration and instances

4. Purchase instructions

- a. only selected, appropriate PPE must be purchased
- b. the buyer is involved in the selection in order to ensure that they have the information of all aspects related to the selection
- c. the price is not the most important aspect of purchasing PPE

5. PPE user training

- a. hazards of work
- b. safe working practices and risk management methods, responsibility
- c. PPE and its maintenance and replacement
- d. fitting PPE

6. Clear instructions on how to use PPE

- a. in which tasks or locations should each type of PPE be used
- b. written & oral instructions, signs
- c. any possible sanctions for failure to use PPE

7. PPE maintenance and storage

- a. appropriate space and PPE
- b. training and appointment of persons in charge of maintaining PPE
- c. clean space for storing and putting on clean PPE
- d. restocking PPE

8. Usage of PPE in practice

9. Ensuring the efficiency of PPE use

- a. individual fitting of PPE before use, compatibility of more than one type of PPE
- b. PPE is used and maintained efficiently, supervision
- c. occupational health services and occupational safety personnel: exposure level monitoring
- d. fit testing for respirator users
- e. occupational health services: health requirements for using PPE, monitoring the causes of sickness absences
- f. collecting and using feedback about PPE
- g. considering aspects related to PPE when submitting reports on incidents, near misses and safety observations

10. Regular evaluation of PPE usage and management system.

The selection of PPE is based on a risk assessment

When PPE is selected, the risks related to work and the required level of protection at the workplace must be determined. The hazards of work for individuals or groups must be identified and their likelihood and potential effect must be assessed. The potential effect and likelihood of a hazard determine its significance. The most significant risks of the workplace must be reduced. This assessment process is called risk assessment.

An assessment must be made at the workplace regularly. Tasks where the risks are greater require more in-depth assessment at more frequent intervals. Suspected work-related diseases or their symptoms automatically require a new risk assessment in order to prevent similar cases. The workplace's risk assessment and the occupational health care service provider's workplace survey are designed to support each other.

According to the Occupational Safety and Health Act, if the workplace, with the support of the occupational health care service provider, is unable to adequately assess the risks, the services of experts must be used. Extensive co-operation is necessary.

Instructions for risk assessment can be found, for example, on the Finnish Institute of Occupational Health (www.ttl.fi/en) and the Centre for Occupational Safety (www.ttk.fi/en) websites. Workplaces where chemicals pose a hazard must carry out a chemical risk assessment.

The following aspects must be considered when selecting and purchasing PPE:

- PPE must bear a CE marking and have a manual enclosed.
- The manual must be studied closely to support the purchase decision.
- Price must not be the deciding factor.

- PPE must provide protection, but excessive protection can cause unnecessary stress (breathing resistance, weight, heat strain) and make it harder to observe one's environment (hearing, vision).
- PPE must be suitable for the work environment. Particular attention must be paid to cold and hot environments.
- Not all PPE models fit everyone and the employees must be provided with the chance to try on a few different models from which the most appropriate PPE with adequate protection is selected.
- Physical workload may affect the selection of PPE. Sweating causes problems in the use of various types of PPE.
- People who perform physically strenuous tasks breathe more than normally, exposing them to airborne impurities more.
- The compatibility of different types of PPE and clothing used simultaneously, such as headgear, must be checked before purchasing.
- Failure to do so may cause one or more pieces of PPE to fail to protect the user.
- It must be ensured that PPE can be maintained in accordance with the instructions and the requirements of the operating conditions.
- When new, more efficient PPE is purchased to replace old PPE, the old PPE must be removed from the list of items to be purchased and, possibly, from the inventory.

Inadequate protection and poor compatibility of PPE expose employees to the hazards of work.

Excessive protection often leads to increased physical strain of work, lowering the usage rate of PPE.

Fitting PPE on employees

How PPE fits an employee and works with other pieces of protective and other PPE must be ensured individually. This process must be made in the case of new employees or whenever PPE is replaced with new PPE. The person in charge of this process at the workplace must be appointed (such as the supervisor, an occupational health nurse or the manager of PPE inventory). This person will guide the employee to select appropriate PPE. This person must be trained for this task and be provided with a checklist for the process. Pictures of correctly and incorrectly worn PPE can be useful (see Control approach sheets designed as posters).

Safety observations and active collection of information about the workplace's PPE

Proactive risk assessment is not always able to ensure appropriate protection for all circumstances. For this reason, the workplace must have a system that is used to record information about the workplace's events for supervisors and the occupational safety organization.

The events to be recorded also include:

- Observations of PPE not providing adequate protection.
- Difficulty or impossibility of using PPE in a task where it is required.
- Risk factors caused by PPE.
- Poor compatibility of PPE.
- Leaking respirators: for example, eye protectors become foggy as a result of using a respirator.

- Inappropriate PPE for the environmental conditions.
- Even minor accidents if the accident would have had larger consequences under different circumstances. For example, a welder may not make a report to the safety observation system of minor burns or singed clothing. In the event of an accident, inadequate protection may cause serious injury or death.

If the selection of PPE is made incorrectly, it may lead to failure to use PPE, accidents, problems caused by excessive strain, occupational diseases or other work-related diseases.

Use of PPE and the related training

When PPE is selected, the use of PPE must be planned and adequate training related to PPE must be provided. Users must have explained to them what PPE provides protection against and the most common ways PPE is used incorrectly. PPE is selected for certain conditions. Users must understand in which ways the conditions may become worse than the level for which PPE is designed. In the training, it must be emphasized that PPE is put on in a place where there are no risk factors and that it can be taken off only in a safe area.

In addition to the training on how to use PPE, the training must explain the risks against which PPE provides protection.

Users must also know where new pieces of PPE can be acquired, for how long they can be used, when they need to be replaced or maintained and how used pieces of PPE are disposed of. Changes in procurement are particularly difficult, i.e. how the employee can find a suitable product if a product has been replaced with another.

Practical application of the Occupational Safety and Health Act requires that the employer must monitor the use of PPE and collect information on the efficiency of using PPE.

The usage rate of PPE must be monitored, but there are also specific methods for different types of PPE that allow for monitoring their efficiency. More information on these methods can be found in the Control approaches for different types of PPE.

The employee is responsible for using and maintaining PPE according to the instructions provided by the employer and reporting any shortcomings detected in PPE.

Even short-term failure to use efficient PPE reduces the protective effect significantly.

Compulsory use of PPE

The employee has a statutory obligation to use PPE designated to them if the employer has decided on the use of PPE at the workplace on the basis of a risk assessment.

If the risks related to occupational safety are great, the employer may adopt the compulsory use of PPE, which includes sanctions for failing to use PPE. The employer is responsible for the occupational safety of employees, so there have to be drastic measures for reducing the likelihood of serious accidents or diseases. A decision on the compulsory use of PPE and the related sanctions must be processed in the workplace's occupational safety and health co-operation activities in order to establish a mutual understanding of the decision.

The instructions for using PPE must be clear in order to enforce compulsory use of PPE. The tasks, situations or locations and the exact types of PPE must be specified. The employer must ensure that the selected PPE can be used at work in a way that provides protection. The use of PPE must be monitored in order to enforce compulsory use of PPE properly. Clear information about compulsory use of PPE and the related sanctions must be provided.

The legislator has also specified compulsory use of certain types of PPE. These include, for example, helmets, protective footwear, safety goggles, high-visibility clothing and falling protectors in construction work, certain types of respirators and dust-tight protective suit in asbestos removal work, etc. See www.tyosuojelu.fi/en/home

Maintenance and storage of PPE

The employer is responsible for arranging the maintenance and storage of PPE and the disposal of old PPE. PPE must be maintained and stored according to the manuals. Cleaning PPE often requires a designated cleaning and drying area and special cleaning PPE.

The required PPE or spare parts must always be in inventory. PPE past its shelf-life must be removed from inventory. The suitability of the current selection of PPE for current need must be assessed regularly with the participation of those responsible for selecting PPE. Any obsolete PPE models must be removed from the list of PPE to be purchased.

In order to make working with PPE as seamless as possible, PPE should be made available in a location that is easily accessible. It is possible to have more than one storage area, but this makes re-stocking the inventory harder. PPE must be stored in a clean environment.

Improving the PPE usage rate

A problem characteristic to PPE is its low usage rate. In such cases, the workplace's safety culture must be improved and the usability and availability of PPE must be ensured.

The usage rate can be improved by collecting feedback on the usage of PPE at the workplace and considering this feedback when selecting new PPE.

Employees should be involved in the selection process as the users of PPE have the best knowledge of the working conditions.

Attention must be paid to the maintenance and availability of the protective equipment as only the equipment that is in good condition is pleasant to use.

Campaigns at the workplace might be a good way of improving the usage rate of PPE. Carrying out the campaign in a systematic fashion from start to finish is the only way to succeed when applying this method. Communication plays a key role: what is done and, most importantly, what has been achieved at the end of the campaign.

Supervisors must set an example by using PPE and require others to use PPE as well.

New employees must be trained in how to use PPE.

Occupational health care service provider's tasks related to PPE

Occupational health care activities include occupational health examinations and workplace surveys. The occupational health care service provider should also be involved in the workplace's risk assessment and the selection of PPE and the related training. As a general rule, however, the employer is responsible for these. Communication related to the risks of the workplace is one of the duties of the occupational health care service provider.

Government decree on the selection and use of PPE at work 427/2021 states that it must be ensured that employees are able to use their PPE. In practice, this is performed in an occupational health examination. The occupational health care service provider should be involved in PPE selection process, especially if the users of PPE suffer from heart or pulmonary diseases, issues with vision or hearing loss or if the employees are old. All of these affect the employees' ability to wear PPE. They might be able to do their job well with minimal strain caused by PPE, but their problems must be identified and they must be given instruction.

The occupational health care service provider must also observe the use of PPE, the possibility of using PPE and its actual protective effect and any possible signs of incorrect use, poor compatibility or lack of maintenance of PPE.

When a workplace survey is being conducted, the occupational health care service provider has a good opportunity to see how PPE is used, interview employees about the use and maintenance of PPE and check PPE's storage, washing and maintenance areas. It is vital that the occupational health care service provider is familiar with its clients' working conditions, including the need for PPE.

Burns, other accidents, rashes and infections caused by dirty PPE are treated by the occupational health care service provider, who can refer employees to further examinations or treatment, if necessary. The occupational health care service provider must process the information from the workplace and treatment events to proposals for the employer regarding the improvement of occupational safety, such as by introducing new PPE or maintenance processes for PPE.

If work-related diseases or related symptoms are suspected at the workplace, the occupational health care service provider will initiate a directed workplace survey and a risk assessment for the workplace in order to determine the measures that need to be taken in order to prevent others from contracting the disease and make it possible for those who had the disease to return to work.

The occupational health care service provider must also have the ability to verify that its proposed measures are carried out extensively.

Occupational health care confidentiality obligation and its exception

The employer needs information about the employees' health requirements related to using their PPE and other observations related to PPE made by the occupational health care service provider. However, any information entered in medical records is confidential (Act on the Status and Rights of Patients 785/1992). The employee must provide their written consent for the occupational health care service provider to disclose information on the employee's health to the employer. One method applied is to enter the employee's consent in the patient records and check the text together with the patient.

There are exceptions to the confidentiality obligation in the Occupational Health Care Act (1383/2001). Statements about "work that presents a special risk of illness" in the conclusions of medical examinations of an

employee or a group of employees and the required occupational safety and health measures can be provided to the employer or occupational safety and health authority.

A non-exhaustive list of examples of tasks that involve a special risk can be found as appendix 1485/2001 to the Government Decree. The list includes a wide variety of risks PPE is related to: noise, dust and various chemicals. In addition to the tasks listed, tasks that already have several reported cases of disease can also be considered work that presents a special risk of illness.

In order for the employer to receive information about aspects related the health and PPE of employees other than just the factors that present a special risk, a work culture where employees give their consent for the occupational health care service provider to disclose health information required by the occupational safety and health authorities should be established.

Requirements of PPE

PPE used on the basis of a risk assessment of the workplace must fulfil the requirements set for PPE. For this reason, the basic elements of these requirements must be known.

Requirements concerning personal protective equipment applied in Finland are provided by the EU Regulation 2016/425 on personal protective equipment. According to the regulation, PPE means equipment, device or protective clothing designed to be used by a person for protection against one or more risks to that person's health or safety.

There are three categories of PPE in the personal protective equipment regulation:

- Category I PPE provides protection against minimal risks
- Category II PPE does not belong to categories I or III
- Category III PPE provides protection against risks that may cause very serious consequences.

When PPE is used, the user should not have to consider what category PPE belongs to. This is clearly defined in the regulation. However, it is important to understand that the manufacturer is responsible for the conformity of category I PPE. Instead, category II and III PPE must undergo a regulated type examination process, the purpose of which is to ensure that the PPE increases the safety of the users according to their intended use. Notified bodies perform the type examinations of PPE.

Before a type-examination, the products undergo a standardized test. The manufacturer affixes a CE marking on PPE as an indication of conformity with statutory safety and health requirements and prepares a declaration of conformity.

The notified body also verifies the conformity of category III PPE at least once a year. The CE marking of these products includes four digits that indicate the ID code of the notified body. Types of PPE classified as PPE that provides protection against very serious consequences include, for example, fall protectors, hearing protectors, chemical resistant gloves and clothing and respirators.



Category I and II PPE conformity marking.



The conformity markings of category III PPE include the ID code of the notified body involved in the product's quality management process.

If the workplace manufactures its own PPE or alters any PPE that has undergone a type examination, the same requirements apply to these types of PPE as to PPE produced by the manufacturer of PPE.

In any other case, PPE is not considered to be PPE as specified in law and the protective effectiveness remains unknown. In practice, only adjustments specified in the manual should be made and only the spare parts specified in the manual should be used for maintenance purposes.