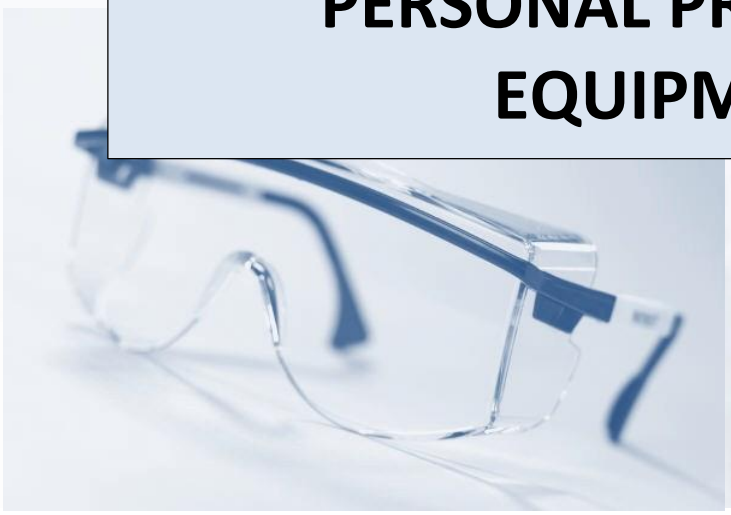
Imperial College London

CODE OF PRACTICE

SELECTION AND USE OF PERSONAL PROTECTIVE EQUIPMENT



DATE	REVISION	PAGE
04/2016	New code of practice	All

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INTRODUCTION

Personal protective equipment is and should be the last resort in the hierarchy of control. It is the final choice when every other means of controlling a hazard has been used, yet there remains some residual risk, or if there is any chance that a control measure may fail, in which case the PPE becomes part of an emergency or back-up procedure.

Wearing any item of PPE is mandatory for all persons affected when any risk assessment, be it task, process, or area based, shows it to be necessary. This is because an incident in such areas may involve *anyone* who is present no matter how experienced and competent they may be.

The correct selection and training, proper storage and maintenance, checks and repairs to ensure it continues to function effectively, are all essential.
This is particularly true for complex PPE, else the user will have a false sense of assurance and be at risk of injury or exposure.

The purpose of this Code of Practice (CoP) is to help ensure that line managers and users:

- Understand that even where engineering controls and safe systems of work have been applied, some hazards might remain, including injuries or infection from physical, chemical or biological agents:
  - The lungs, e.g. from breathing contaminated air.
  - The head and feet, e.g. from falling materials.
  - The eyes, e.g. from flying particles or splashes of corrosive liquids.
  - The skin, e.g. from contact with corrosive materials.
  - The body, e.g. from extremes of heat or cold, or any part of it from infection through exposure to biological agents via inhalation, ingestion, skin contact or penetration.
- Are knowledgeable in their choice and competent in their use of PPE.
- That they ensure the PPE is worn and used correctly whenever it is deemed necessary.

SCOPE

1. Compliance with the College Personal Protective Equipment Policy is mandatory, and this Code of Practice (CoP) is a supporting document that may be used to assist in achieving the objectives outlined within the policy.
2. The CoP applies to:
   - All employees.
   - Honorary employees, visitors and visiting workers.
   - Trainees and those engaged in work experience at the College.
   - The general principles apply to all members of the College, staff and students, whether or not they are considered employees.
3. The CoP does not cover
   - Portable devices for signalling risks and nuisances (i.e. personal gas meters or radiation dosimeters).
   - Breathing Apparatus.

- Ordinary working clothes such as uniforms which do not specifically protect the health of the wearer.
- Cycle helmets and crash helmets for use on public roads.

4. These items are omitted because the CoP cannot fully apply to them or because they have their own specific regulatory, College Policy or College course requirements.

5. In addition the CoP does not cover

- Protective equipment used for those engaged in competitive sport, i.e. where sport is not "work". However, the CoP would apply to any PPE worn by an employee of the Sports Centre while instructing others (i.e. in the course of their duties at the College).

SPECIFIC LEGISLATION AND NATIONAL AND EUROPEAN STANDARDS

6. The College Policy and Code of Practice sets out how the College implements the Personal Protective Equipment at Work Regulations 1992, and assists in meeting certain requirements in the Control of Substances Hazardous to Health 2002 (as amended) legislation; some aspects of the College's Policy are more stringent than the Regulatory requirement because of the nature of the College activities.

7. In order to ensure that the selected PPE is of the correct standard (of quality and for the degree of protection required), it must be CE marked, and display the relevant British Standard/European Normal (BSEN) or ISO. Detailed information and lists of current standards can be obtained from the BSI website or from the Safety Department.

DEFINITION OF PERSONAL PROTECTIVE EQUIPMENT

8. "Personal protective equipment" means all equipment intended to be worn or held by a person at work and which protects against one or more risks to their health or safety, and any addition or accessory designed to meet that objective.

RESPONSIBILITIES

9. The Principal Investigator (PI), line manager or work supervisor of the PPE user, is the Responsible Person.

10. The Responsible Person must:

- Ensure risk assessments, associated control measures and emergency procedures (both of which may require the use of PPE to help control residual risk), are in place and implemented.
- Provide and replace appropriate PPE as necessary.
- Ensure there are systems in place to train individuals in the correct use, maintenance, and storage of PPE. These systems must also include what to do if PPE fails in use, and any areas where its use is mandatory, permitted, or forbidden.
- Ensure that the chosen PPE is used, and continues to be used appropriately (see Mandatory PPE).

INFOBOX 1

The Responsible Person may *delegate* actions but not responsibilities to a competent person (e.g. Lab Manager or area supervisor).

- Ensure that PPE is worn only in the areas where it is permitted:
  - So the PPE does not contaminate areas where food and drink is consumed.
  - To prevent indirect contamination via door handles, equipment controls etc.
  - To help prevent the user contaminating themselves.
  - To help set the College standard for others to follow.

11. The **User of the PPE** is responsible for: making pre-use checks; reporting to the Responsible Person or delegate any failures or concerns or physical changes (which might reduce the efficacy of the PPE such as growing a beard, significant changes in weight, or pregnancy); the proper care and storage of the PPE; and in some but not all instances, the cleaning, decontamination and maintenance of the PPE. This will be determined by the type of PPE and any local procedures in place. The user is also responsible for wearing the PPE only in the areas where it is permitted.
12. **Departmental and faculty safety personnel** are responsible for checking systems are in place to supply/maintain/train in the use of PPE, or advising on what is necessary to do so.
13. For Respiratory Protective Equipment (RPE) of all types, the College Safety Department is responsible for providing advice on selection and for face fit testing *except* where it is to be used in the College CBS or a Home Office designated laboratory. In these areas Occupational Health are responsible for face fit testing. See also Appendix on RPE.
14. There are specific policies and guidance relating to occupational health and working in the CBS, which are detailed on the College OH web site.

RISK ASSESSMENT, EMERGENCY PROCEDURES AND ACCIDENTS

15. PPE is the last resort. It is only to be used once a risk assessment has been conducted, the **hierarchy of controls** fully applied and yet there remains residual risk which cannot be controlled by any other means. **See Example 1**.

Example 1 — applying the hierarchy of controls:

If readily inhaled hazardous substances were routinely weighed on a balance or measured on the bench in the open laboratory, it would not be acceptable for the person involved in the measuring to wear respiratory protective equipment (RPE) as everyone entering the area might be exposed. Instead, a safe substance or form of the chemical should be substituted, or it could be purchased pre-weighed, or it could be measured inside appropriate local exhaust ventilation.

But it would be acceptable for Support Services staff involved in repairing contaminated ductwork to use RPE, as there is no alternative control measure to prevent exposure. However, this is only providing they are using properly selected and correctly fitting RPE and are fully trained in the correct use and understand its limitations.

16. A full explanation of the principles of risk assessment are not within the scope of this Code of Practice, but any assessment must include the hazard(s), process, environment and the person, and give careful consideration to what might happen if a control measure failed. **See Example 2.**

Example 2 - planning the use of PPE for a foreseeable emergency

If there was an uncontained spillage of a hazardous agent either e.g. in a laboratory or a plant room, the default must not be to use respiratory protective equipment to clear it up.

Instead, there should be a plan for such a foreseeable occurrence, which might include retreating immediately to a place of safety and the isolation of the area; and then after a careful review of the substance, quantity, volatility and air flow, possibly either leaving it to evaporate, or utilising a person who is trained and experienced in the use of the correct PPE for the substance to enter the room to make the area safe.

17. Extra consideration must be given to PPE where there are multiple hazards, or where there are different routes of exposure. PPE must not compromise other items of PPE or introduce additional risks to its wearer. **See Example 3.**

Example 3 - incorrect selection of RPE and introducing a new risk to the user

It would be inappropriate to use a half-mask respirator for preventing inhalation to a solvent which would also be absorbed through the skin and eyes. Instead a full-face respirator should be considered (as usual, after all the other hierarchy of controls have been applied), whilst noting that some full-face respirators cannot be used by people who wear spectacles, which might introduce an additional risk to the wearer as the respirator will not fit properly.

18. Some, but not all, of the College's centrally provided risk assessment forms ask questions on PPE. Where a form is silent, this does not preclude the question from being asked and details recorded on the form if the risk is a significant one (i.e. additional PPE above the standard for the area).

19. Where a risk assessment has identified the need for PPE then **its use becomes mandatory.**

COMMUNICATING THE FINDINGS OF THE RISK ASSESSMENT

20. Where a risk assessment has identified the need for PPE then it is up to the Responsible Person to discuss and agree the needs with those requiring it, and together select the most appropriate PPE.

21. In many parts of the College, standard PPE is issued, including laboratory coats, overalls, and eyewear selected to provide protection from a range of hazards such as projectiles, chemical or biological eye splash, and UV radiation. Where compliance with using the PPE is poor, it may be improved by discussing with the user why the PPE is needed, by offering the user a choice of PPE, and by greater input and enforcement from the Responsible Person.

STUDENTS

The College has to assess the risks to the health and safety of its employees *and* persons not in its employment (including students) which "arise out of or in connection with its undertaking". This is so it can identify the measures it needs to keep the individual safe, as well as to comply with the relevant statutes.

Consequently, departments must assess the risks to students arising from their teaching and research activities including determining any PPE requirements. In general, the departments or grants provide specifically for laboratory coats, safety spectacles and consumables such as gloves. Where PPE is a requirement for a course offered by the College, in most instances, this is provided by the College. For any other PPE (such as laser safety spectacles, respirators, safety shoes etc.), individual departments will determine the source of the funding, e.g. from departmental funds or grants.

VISITORS AND CONTRACTORS

22. Visitors should be kept out of areas that require the wearing of PPE unless their presence is required by the College. In such cases the host department must provide PPE, tell the visitor why it is required and if necessary ensure they use it correctly.
23. Contractors working on College premises must provide their own PPE, except in CBS where respirators are provided.
24. It is a good idea for departments to keep a range of overalls, lab coats and safety spectacles for short-term loans to visitors and contractors, who may not always have the relevant or appropriate PPE. The main objective is that everyone - staff, student or bona fide visitor - who may be exposed to risks requiring the provision of PPE must be adequately protected.

MANDATORY SIGNS ON DOORS AND PPE AREAS

25. Where PPE is mandatory, then the appropriate mandatory sign must be displayed in a size which makes it obvious to those entering the area. Electronic versions of the signs are available from suppliers of safety items, with some being available from the Safety Department.

SELECTING PPE

26. When selecting PPE there are a number of considerations to account for:

    - Who is exposed and to what?
    - How does the harm arise (e.g. what is the route(s) of exposure?)
    - How long are they exposed for?
    - How much are they exposed to?

In addition, the PPE must

- Fully control the residual risk.
- Be fit for purpose.
- Be appropriate for and fit the user.
- Not introduce additional risks to the user (such as ergonomic problems or entrapment within machinery, or obscuring the wearer's vision etc.).
- Not compromise any other PPE being worn or used at the same time.
- Must be CE marked and meet the relevant BSEN/ISO standard.
- Comfortable and easily accessible.

27. However carefully one selects PPE, it may not be apparent until it has been used for some time that it is not suited to the user (see "First Use"). If the wrong PPE is selected, the consequences could be severe, so unless absolutely certain, please consult one of the many sources of advice available—your Department Safety Officer, Faculty and Campus Safety Managers, Occupational Health and the College Safety Department are there to help; HSE is a good source of general advice and PPE manufacturers will also be able to provide specifications on efficiency factors and limitations of their products.
28. Footwear in particular is notoriously difficult to fit. Discomfort and unfashionable styling can be a barrier to compliance, so the potential wearer must be included in the selection process, with as wide a range of choice as possible and the option to return shoes to the supplier for a different size and style. Once the specification of the footwear has been determined, the wearer should also be offered the option of purchasing their own and reclaiming the cost from the College.

MANDATORY PPE

29. PPE is mandatory wherever a need has been identified either by the College OH Physician because of a medical requirement or by a risk assessment ratified and approved by the Responsible Person (or their Delegate).
30. In addition, the use of PPE is mandatory in certain parts of the College. For example, in laboratories where hazardous agents are used, laboratory coats are required. Some departments have stringent eyewear requirements throughout and overalls, safety shoes and appropriate safety eyewear are mandatory in workshops. This is because the area risk assessment has identified a hazard requiring PPE to be worn at all times due to the residual risk in the area.
31. In the CBS, specific lab coats or overalls are provided by the CBS (the required mob caps, overshoes are also provided, however these are not just PPE). Where respiratory protective equipment is a requirement they will also provide 3M 9320 respirators. Some users may need to wear other types of mask, for example if advised by the College OH Physician, these must be provided by the relevant Department.
32. Risk assessments must give proper consideration to **all** the persons **and** hazards *in the area* not just those which a person works with directly. This is because an incident in a laboratory or workshop could involve anyone present in the area, no matter how experienced and competent they may be.
33. Compliance is always improved when the use of PPE is monitored by the Responsible Person or is a prerequisite for the continued use of the area.
34. Where PPE is mandatory for an entire or discrete area, the relevant signage must be used (see also "Communicating the Findings of the Risk Assessment").

SHARED PPE

35. In some instances it is acceptable to share PPE, in these cases careful consideration should be given to hygiene issues. In general, this is only where a task occurs occasionally, and where all the users of the PPE are properly trained in the use of the PPE, and in particular in any decontamination and or associated cleaning and storage procedures. This is particularly important for PPE which will be close to the breathing zone, such as visors, goggles, and respirators, particularly those respirators intended for use in emergencies, or which have been used in an emergency and require decontamination.

36. Some items are shared routinely, including cryogenic gloves, visors used for work with liquid nitrogen, and visors used for UV protection. Checks are still required for each use.

37. **Spare lab coats** become available when members of the laboratory move on, or staff leave the College, and are commonly shared or handed down or issued to short-term visitors, often without being laundered first and sometimes without emptying the pockets! This can create an unpleasant first impression of the laboratory, and should be avoided. It is best practice either to arrange for all old lab coats to be laundered and stored until further need, or disposed of.

CLEANING AND LAUNDERING PPE

38. Visors and respirators are examples of PPE which should be cleaned after every use. Care must be taken not to use aggressive chemicals or washing temperatures which could damage the PPE. After cleaning it should be allowed to dry in a clean place and then stored for later use.

39. Lab coats and overalls in routine use should be cleaned regularly, and there may be specific regimes in some areas such as Containment Level 3 laboratories.

40. For lab coats and overalls which may be contaminated with infectious biological materials, it is essential that these are not removed from the laboratory without following the local rules (safe system of work). These might include the use of an appropriately calibrated and validated autoclave within the laboratory, or soaking in an approved disinfectant, or bagging up in a soluble bag prior to sending to the laundry.

41. Some departments have an internal laundering system, but in most instances the College uses a range of external laundry suppliers.

42. Lab coats and overalls must at least have a department identifier - some departments do not issue personal lab coats and overalls, instead keeping a pool of all the common sizes, which seems a sensible approach providing there is someone to operate the system and there is sufficient storage space.

STORING PPE

43. All PPE must be stored in an area which keeps it as clean as possible, free from contaminants and potentially damaging dust, chemicals or extremes of temperature. PPE by its nature is either worn or held by the user, and if not kept clean, can become a source of exposure itself. A number of examples follow.

44. **Laboratory coats** must be stored so that the inside of the coat and therefore the next wearer's clothing remains uncontaminated. Several lab coats hung on top of one another or the use of the back of a lab chair is therefore undesirable. This is particularly relevant in laboratories where hazardous substances are used. If sufficient hooks are unavailable, and there is not enough wall space where new hooks could be established, then it may be possible to use individual stacking racks and trays. Ideally this aspect should be planned into any new build or refurbishment.

45. **Safety spectacles** for visitors are often kept in transparent boxes outside the laboratory and replaced on exit. The condition of these should be examined during department safety inspections and any which are damaged disposed of and replaced with new. This is extremely important in workplaces where there is a risk of projectiles, as even scratched safety spectacles become weakened and may shatter on impact as a result.

46. **Laser goggles** in rooms where there are lasers of several different wavelengths can present a problem to the room users, as each laser will require a different specifications of laser eye protection, with the potential for an error. In such instances, the room should be properly curtained off to segregate the lasers. In any case, laser goggles should be stored in their original cases, where they cannot get scratched. The condition of laser goggles should be inspected prior to every use and their condition and storage arrangements included in departmental safety inspections. It is helpful to clearly record the wavelengths eyewear can be used for on the boxes they are kept in.

47. **Visors** can become contaminated either during use (for instance a user may sneeze into it), or because it is not properly stored so that dusts and residues can accrue and then easily get into a user's breathing zone. All visors should have their own hook on the wall, and ideally be washed after each use.

48. **Respiratory protective equipment** can become contaminated in a similar way, but the pre-use checks, storage and cleaning arrangements need to be far more stringent, as it is possible that the user's health may depend on it working as designed.

49. **Disposable PPE** should be disposed of after initial use particularly if there is any suspicion that they are contaminated (single use gloves, disposable lab coats and overalls, disposable respirators etc).

INSPECTING PPE

50. PPE requires inspection at several levels if it is to continue to function as intended. It is important to ensure that PPE continues to function properly. A false sense of assurance in this instance may damage one's health permanently. The following levels are advised as a minimum, and in addition any statutory requirements (as with Fall Arrest equipment) must also be met.

    a. Pre-use checks by the user

    b. After use checks during cleaning and storing (time in use and condition to be logged in the case of Fall Arrest equipment)

    c. Checks of common PPE by the person managing the area, e.g. lab manager or PI.

    d. Checks on common and specific PPE and its storage arrangements by the department Safety personnel (see "Storing PPE").

    e. Statutory inspections (e.g. under LOLER for any fall arrest gear, lifting and anchor points etc.), carried out by the College's Competent Person.

CHANGE IN PHYSICAL ATTRIBUTES AFFECTING THE FIT OF PPE

51. Personal protective equipment generally has a range of built-in adjustability, such as buckles, tapes and elastic properties; however, for PPE that is worn, such as a lab coat, and more particularly that worn around the breathing zone, it is essential that it continues to fit the wearer correctly (see Respiratory Equipment, Face Fit testing).

MAINTAINING PPE

52. PPE must be maintained and tested wherever this is appropriate. The manufacturer or supplier's maintenance schedule (including recommended replacement periods and shelf lives) must be followed.

    The Responsible Person or their delegate must:

    - Train Users of PPE to carry out simple maintenance for relevant PPE.
    - Arrange for intricate repairs to be undertaken by specialists (generally the manufacturer or supplier)
    - Ensure replacement parts match the original—this is particularly important for respirator filters
    - Record the dates when parts are changed when relevant (such as respirator filters).

TAILORED PPE – FOOT AND EYEWEAR

53. Some staff will require bespoke forms of PPE. For example, a person who works for long periods in an eye protection area, e.g. workshop, and needs prescription eyewear to read, will have to be provided with prescription safety spectacles that meet both the eye protection and eyesight requirements. On the other hand where the work duration is short the provision of safety spectacles that are worn over the person's normal prescription eyewear is acceptable. Similarly, a person who regularly carries out tasks requiring foot protection who has, say, a particularly large feet or a distorted foot may require the provision of specially made safety footwear. There may be other tailoring requirements, and the same general principles apply.

TRAINING

54. The trainer must be competent to carry out the training. For more complex PPE this is essential, and it may be necessary to contact the supplier or manufacturer and arrange for them to conduct the training. For certain types of PPE, it may be necessary to undergo refresher training.

PPE which is simple and easy to use and maintain (e.g. safety spectacles), will require very little instruction, but more complex PPE will require the user to understand at least some of the principles, limitations and causes of failure – laser eye protection and full face respirators are good examples.

Topics might include:

- What the PPE is intended for, and what are its limitations (the original risk assessment may be helpful).
- How the PPE may fail in use and what to do if does.
- A demonstration of how to wear and adjust it.
- The need for pre-use checks, how to inspect and what to look for.
- How and where to decontaminate, clean, store, maintain, dispose.
- How to report faults with the PPE.
- When might a replacement be required.
- What sort of changes of physical attributes need to be reported and why.
- The need for face-fit testing (if RPE).
- How and where to log use (e.g. for fall arrest gear).
- Where and when PPE can and cannot be worn.

In any event, all training must be recorded and the department must retain the training record. For RPE this is particularly important and **records must be available for a period of 40 years**. For basic PPE this can be included in the lab induction training.

In addition, for complex PPE, a training record must include a mutual agreement of competency, which both the trainer and the trainee sign.

FIRST USE OF PPE

55. During selection and first use of lab coats and overalls to be worn when working with or close to machinery, the risk of entrapment must be considered.

56. When using a particular type of PPE for the first time, a dry run is essential. If you do not feel comfortable with it, then explore further adjustment. If this still does not work, then a different form of the PPE may be available. For PPE that is to be used for any period of time, there may be ergonomic problems, which do not become apparent until it has been used for some time. Such issues should be raised if they occur.

57. With more expensive PPE or PPE which comes in a range of sizes, it may be possible to obtain a demonstration version from the supplier to aid selection.

PPE AS A SOURCE OF CONTAMINATION

58. PPE which is designed to protect the wearer from hazardous or radioactive substances, such as lab coats and overalls, gloves, shoe covers, mob caps, etc. is likely to become a source of contamination or infection itself.

Therefore users **MUST NOT**:

- Wear or take PPE in “clean areas” for example where food and drink may be consumed
- Wear PPE where it could contaminate furniture and furnishings, doors or door furniture, plant and equipment controls, taps, light switches, computer keyboards etc.
- Store re-useable PPE in areas where it will contaminate other items (other PPE, seats etc.).
- Dispose of contaminated PPE in “clean” waste routes
- Remove PPE from the workplace (e.g. take PPE home to decontaminate)

Users of PPE **MUST**

- Wash their hands after removing gloves and before leaving the laboratory, workshop or other work area (or even if they have not worn gloves);
- Dispose of disposable PPE through the proper waste routes

– Set an example to others by removing PPE and not taking it into "clean" areas

DISPOSAL OF PPE—UNWANTED, DAMAGED OR CONTAMINATED

59. If PPE is no longer required by an individual, it must be decontaminated and cleaned and handed onto new users. If such cleaning is not possible, or if it is no longer required in the department, then consideration should be given to disposal. Even if it is never used, PPE constructed of certain materials (plastics, silicone, rubber, or perhaps carbon respirator filters), will degrade over time and lose effectiveness, and possibly give a false sense of assurance to a user.

PPE which becomes contaminated in use and cannot be effectively decontaminated, or damaged beyond repair, must be disposed of through the appropriate hazardous waste route, dependent on what it is contaminated with. Examples include gloves contaminated with infective material, toxic chemicals or radioactive substances, all of which require separate waste routes; single use RPE, used respirator filters, ear plugs, scratched eyewear etc.

Clean but damaged, unwanted PPE which might *appear* to still be useable must not be discarded into the general waste route where there might be a chance of it being seen and retrieved and used by another person. If from a laboratory environment, it should be disposed through the hazardous waste route; otherwise, it should be rendered useless, and then discarded in the general waste.

HARMONISED SAFETY STANDARDS FOR PPE: BS EN ISO

60. All PPE supplied and used in the College must meet the relevant safety standard—the British Standard European Normal (BS EN) or equivalent EN ISO. It must also display the CE mark.

61. PPE brought into the College from other countries outside the UK or EU (such as shoes and prescription eyewear), may under certain circumstances be acceptable, but it must display the equivalent International Standards Organisation (ISO) standard and still be current (and in good condition etc.). Please check with the Safety Department.

62. The standards are occasionally reviewed, resulting in a date change. For example EN ISO 20471:2013 (which might also appear on a label as BS EN 20471), replaces BS EN 471:2003, which was equivalent to EN471:2003 (which is now out of date).

63. As more standards were harmonised, the prefix letters changed e.g. from BS to BS EN, or EN to ISO —or some combination of these three prefixes. Some PPE purchased before harmonisation, may no longer meet its requirements. If in doubt, replace old PPE.

WHEN DID YOU PURCHASE YOUR PPE?

64. PPE which was acquired prior to harmonisation may or may not still be "legal".

65. Older (especially inherited) items of PPE should be checked to ensure it still meets the current standard. To do this find the standard imprinted on it, then search the for the standard on line to see if it still current.

66. Note: whilst this CoP attempts to provide the reader with current information on a range of PPE, it cannot be fully up to date all the time, and neither can it cover the enormous range of PPE available.

USING THE APPENDICES TO HELP SELECT PPE

The COP contains a number of tables and appendices to give you an idea of what may be needed to control any residual risks in your area (bearing in mind that PPE is the last resort).

- **Table 1—Overview** — body parts, hazards and suggested PPE and which appendix to use
- **Appendices by body part** (e.g. foot)
  - Table of hazards that might affect it and type of PPE that may be needed.
  - Further information to help enable selection.
  - Table with type of PPE with the list of relevant protective properties and BSEN/ISO standard.
- **Work Area specific tables**— Laboratories, Catering, Workshop, Grounds and Maintenance environments, with common hazards and recommended PPE.

If you cannot see your particular hazard listed in your "work area", then it may be present in another of the tables. If in doubt, contact your local safety personnel (see Selection of PPE).

Please note that reasonable adjustments can be made to requirements in order to enable disabled staff, staff with physical/ sensory impairments, and/or staff with other long term health conditions, (which may affect their ability to carry out everyday activities) to engage in activities from which they might otherwise be excluded, as long as their safety is not adversely affected.

INFOBOX 2

Why is CE marking important?

Because the manufacturer of CE-marked goods has to have verified that the product complies with all applicable EC requirements, such as safety, health, and environmental protection, and, if stipulated in any Directive, has had them examined by a notified conformity assessment body. In other words, no matter where in the EU you purchase your items, if the CE mark is present, you know they will have been made to the same standard.

TABLE ONE—OVERVIEW OF BODY PART, HAZARDS AFFECTING IT, AND SUGGESTED PPE

Body part affected	Examples of Hazards	Basic PPE
Appendix 1 Feet 	Rough terrain. Cryogens, chemicals, hot oil, falling objects, molten metals, slippery floors, sharp objects underfoot.	Good quality walking boots. Shoes totally enclosing feet, chemical resistance, steel toe caps, metal sole arch protection, slip-proof soles.
Appendix 2 Hands 	Chemicals, biological materials and pathogens, fire, extremes of temperature, cryogens, molten metals, oil, hot oils, sharps, vibration	Gloves and gauntlets (various); barrier creams
Appendix 3 Body    	Traffic/roads, extremes of temperature, fire, flammable atmospheres, electricity, radiation, chemicals, pathogens, cryogens, hot oil, falling from height, bad weather conditions, maritime conditions; molten metals.	Hi-vis; thermal clothing, laboratory coats, aprons, overalls, fall arrest, wet weather clothing, UV-proof clothing, buoyancy aids, UV protective clothing and creams; anti-static
Appendix 4 Lungs 	breathing contaminated air (eg particles, aerosols, vapours, fumes and gases of chemicals, biological material)	Respiratory protection (masks, respirators, self-contained breathing apparatus etc.)
Appendix 5 Head 	Falling objects, obstructions, extremes of heat or cold, UV	Bump cap, safety helmet
Appendix 6 Eyes  	flying particles, ejected material, cryogens, chemical splashes and fumes, lasers, ionising radiation, UV, welding	Safety spectacles and goggles, visors, face shields, full-face respirators
Appendix 7 Ears and hearing 	Loud or prolonged noise at certain frequencies	Ear plugs, ear defenders

PERSONAL PROTECTIVE EQUIPMENT 2016

Table 2: AREA HAZARDS & TYPES OF PPE - LABORATORIES

Type of PPE	Biological (infection, allergens)	Chemicals	Cold rooms	Cryogenics	Cutting	Manual handling, gas cyliners etc.	Extremes of temperature	Lasers	Machinery	Radiation (UV)	Radiation (ioninsing) See College guidance	Gas Cylinder Handling	Slippery floors
Aprons (leather)				✓									
Aprons (plastic/rubber)	✓	✓											
Eye and face protection (see visors)	✓	✓		✓						✓			
Eye protecion (goggles)	✓	✓	✓	✓						✓			
Eye protecion (prescription)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Eye protecion (safety specs)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Eye protecion (laser specific)								✓					
Finger guard					✓								
Gloves (anti vibration)									✓				
Gloves (none if danger of entrapment)									✓				
Gloves (rigger)						✓							
Gloves (heat/cold proof)			✓	✓			✓						
Gloves (kevlar/chain mail)					✓								
Gloves (thick gauntlets)		✓											
Gloves (single use)	✓	✓	✓							✓			
Head protection (bump caps/helmets)						✓							
Temperature resistant clothing/shoes							✓						
Laboratory coats (chemical and fire resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Laboratory coats (Howie in containment laboratories)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Laboratory coats + eye protection (students)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Laboratory coats + eye protection (visitors)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mob caps (allergens/hygiene)	✓												
Overalls (chemical and fire resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Respiratory protection (allergens)	✓												
Respiratory protection (fumes)		✓										✓	
Respiratory protection (dust)		✓			✓				✓				
Shoe covers	✓												
Shoes (steel toes, sole arch)					✓	✓			✓			✓	
Shoes (slip resistant)													✓
Shoes (that fully cover feet)	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
Thermal clothing (including hat)			✓				✓						
Visors (UV and face protection)	✓	✓	✓	✓	✓					✓			
Warm clothing			✓				✓						

Green = recommended for this environment. Some low hazard laboratories may not need the recommended PPE, however this must be demonstrated in the risk assessment. All PPE is mandatory if shown by the risk assessment to be necessary.

Table 3: AREA HAZARDS & TYPES OF PPE - WORKSHOPS

Type of PPE	Chemicals	Cutting, sawing, drilling, swarf	Ejected materials, nuisance dusts,	Entrapment	Fumes	Falling objects	Manual handling, gas cylinders etc.	Welding	Slippery floors
Aprons (leather)		✓							
Aprons (plastic/rubber)	✓								
Eye and face protection (see visors)	✓	✓	✓			✓		✓	
Eye protecion (goggles)	✓	✓	✓		✓			✓	
Eye protecion (prescription)	✓	✓	✓	✓	✓	✓	✓	✓	
Eye protecion (safety specs)	✓	✓	✓	✓	✓	✓	✓	✓	
Eye protecion (laser specific)									
Finger guard		✓		✓					
Gloves (anti vibration)		✓							
Gloves (none if danger of entrapment)				✓					
Gloves (rigger)		✓					✓		
Gloves (heat/cold proof)								✓	
Gloves (kevlar/chain mail)		✓							
Gloves (thick gauntlets)	✓								
Gloves (single use)	✓								
Head protection (bump caps/helmets)						✓			
Temperature resistant clothing/shoes								✓	
Laboratory coats (chemical and fire resistant)	✓						✓		✓
Laboratory coats (Howie in containment laboratories)							✓		
Laboratory coats + eye protection (students)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Laboratory coats + eye protection (visitors)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mob caps (allergens/hygiene)									
Overalls (chemical and fire resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Respiratory protection (allergens)	✓								
Respiratory protection (fumes)	✓				✓			✓	
Respiratory protection (dust)		✓	✓						
Shoe covers									
Shoes (steel toes, sole arch)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shoes (slip resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shoes (that fully cover feet - visitors)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thermal clothing (including hat)									
UV proof clothing (cream if necessary)								✓	
Visors (eye and face protection)	✓	✓	✓						
Warm clothing									

Green = recommended for this environment. Some low hazard workshops may not need the recommended PPE, however this must be demonstrated in the risk assessment. All PPE is mandatory if shown by the risk assessment to be necessary.

Table 4: AREA HAZARDS & TYPES OF PPE - CATERING AREAS

Type of PPE	Chemicals, including cleaning products	Cold rooms	Cutting, chopping, peeling, deboning	Entrapment	Falling objects	Food and other waste handling	Heat, naked flames	Hot oil	Manual handling	Steam	Gas cylinder handling	Water, hot + cold	Slippery floors
Aprons (leather)			✓				✓	✓	✓			✓	✓
Aprons (plastic/rubber)			✓			✓						✓	✓
Eye and face protection (see visors)													
Eye protecion (goggles)	✓												
Eye protecion (prescription)	✓												
Eye protecion (safety specs)	✓										✓		
Eye protecion (laser specific)	✓												
Finger guard			✓										
Gloves (anti vibration)													
Gloves (none if danger of entrapment)				✓									
Gloves (rigger)									✓		✓		
Gloves (heat/cold proof)		✓					✓		✓	✓			
Gloves (kevlar/chain mail)			✓										
Gloves (marigolds)	✓	✓				✓		✓	✓			✓	✓
Gloves (single use)	✓												
Head protection (bump caps/helmets)					✓				✓				
Hi-vis clothing									✓				
Temperature resistant clothing/shoes		✓					✓		✓				
Laboratory coats (chemical and fire resistant)													
Laboratory coats (Howie in containment laboratories)													
Laboratory coats + eye protection (students)													
Laboratory coats + eye protection (visitors)													
Mob caps (allergens/hygiene)	✓		✓				✓						
Overalls (chemical and fire resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Respiratory protection (allergens)	✓												
Respiratory protection (fumes)	✓												
Respiratory protection (dust)	✓												
Shoe covers													
Shoes (steel toes, sole arch)	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shoes (slip resistant)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shoes (that fully cover feet)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thermal clothing (including hat)													
UV proof clothing (cream if necessary)									✓				
Visors (eye and face protection)	✓												
Warm clothing		✓							✓				
Wet weather clothing									✓				

Green = recommended for this environment. Some low hazard catering areas may not need the recommended PPE, however this must be demonstrated in the risk assessment. All PPE is mandatory if shown by the risk assessment to be necessary.

Table 5: AREA HAZARDS & TYPES OF PPE - GROUNDS, MAINTENANCE & FIELDWORK

Type of PPE	Biological/Chemical	Cold/wet environment	Driving, working near vehicles	Ejected materials, nuisance dust, swarf,	Extremes of temperature	Falling objects, head height collisions	Kneeling, working in limited space	Manual handling	Sunlight	Rough and uneven terrain	Sewage, soil, waste	Vibration from tools	Welding
Boots (see also shoes)	✓	✓		✓				✓		✓			
Eye and face protection (see visors)	✓			✓		✓					✓		
Eye protecion (goggles)	✓			✓		✓							
Eye protecion (prescription)	✓			✓		✓							
Eye protecion (safety specs)	✓			✓		✓							
Eye protecion (sunglasses)									✓				
Gloves (anti vibration)													
Gloves (rigger)								✓					
Gloves (heat/cold proof)		✓			✓								✓
Gloves (kevlar/chain mail)				✓									
Gloves (marigolds)	✓	✓									✓		
Gloves (single use)	✓										✓		
Head protection (bump caps/helmets etc.)		✓				✓			✓				
Temperature resistant clothing/shoes		✓			✓								✓
Hi-vis clothing		✓	✓			✓							
Knee guards							✓	✓		✓			
Laboratory coats + eye protection (visitors)	✓												
Mob caps (allergens/hygiene)	✓												
Overalls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Respiratory protection (allergens)	✓												
Respiratory protection (fumes)	✓												
Respiratory protection (dust)				✓									
Shoe covers	✓					✓							
Shoes (steel toes, sole arch)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shoes (slip resistant)		✓											
Shoes (that fully cover feet)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thermal clothing (including hat)					✓								
UV proof clothing and creams			✓						✓				
Visor (welding)													✓
Visors (eye and face protection)	✓												
Warm clothing		✓	✓										
Wet weather clothing		✓	✓										

Green = recommended for this environment. Some low hazard workshops may not need the recommended PPE, however this must be demonstrated in the risk assessment. All PPE is mandatory if shown by the risk assessment to be necessary.