MINIMUM SAFETY CONDITIONS TO BE MET BY WORKPLACES

_GENERAL SAFETY CONDITIONS AT THE WORKPLACE

Royal Decree 486/1997 of 14 April 1997, implementing the law on the prevention of occupational hazards 31/1995, establishes the minimum health and safety provisions in the workplace.

This establishes the most technical aspects of preventive measures, through minimum standards that guarantee the adequate protection of workers.

In this module, we will review the most important aspects related to the office work environment, which affects the majority of UB staff for a greater or lesser part of the working day.

STRUCTURAL SAFETY

- Workstation buildings and premises shall be of such strength and solidity as is necessary for their intended use. All structural or service elements, including working platforms and fixed ladders, shall also have a system of reinforcement, fastening or support to ensure their stability.
- Workstation structures must not be overloaded beyond their load-bearing capacity.

WORKSPACES

- Between 2.5 and 3 metres in height from floor to ceiling.
- 2 square metres of free surface area per worker.
- 10 cubic metres occupied per worker.

WINDOWS

- Windows that open with their sashes pivoted on an axis should not encroach on passageways.
- The necessary cleanliness of windows must be taken into account, and preventive measures must be taken in the design of both the building and the workstations.

DOORS

- Transparent doors shall be marked at eye level with a dot or band, preferably red and reflective if necessary.
- Sliding doors must be fitted with a safety system to prevent the door from sliding out of the tracks and falling.

RAMPS AND FIXED LADDERS

- The flooring of ramps and stairs shall be non-slip, or have anti-slip tiles or strips.
- Stairs shall be at least one metre wide, and steps shall be between 23 and 36 cm wide.

_FLOORS, SLOPES, AND HANDRAILS

The annual accident statistics show that around 10% of accidents resulting in sick leave during the working day were caused by falls on the same level. These falls, especially those caused by slipping, are most often due to the type of floor construction, the coefficient of friction or the dirt on the floor.

FLOORS

- They shall be fixed, stable and non-slip, free of irregularities and dangerous slopes.
- Resistant to bear weight.
- Resistant to wear and tear.
- Resistant to chemicals (also for cleaning).
- Resistant to environmental factors (water, humidity, direct sunlight, etc.).
- Slightly electrically conductive, with low thermal conductivity and with the capacity to absorb noise and vibrations.
- Care should be taken with polished floors, as they are already slippery, but even more so if they have just been scrubbed, and even more so if they have just been waxed.
- If a floor is slippery, its resistance can be improved by chemically treating it to achieve a rough finish, by coating it with resins, or by fixing tiles or strips of non-slip material to the floor.

SLOPES

- The open sides of ramps and stairs over 60 cm in height shall be protected to prevent falls from different levels. Handrails or similar shall be provided on open sides, and handrails, at least 90 cm high, shall be provided on closed sides.

HANDRAILS

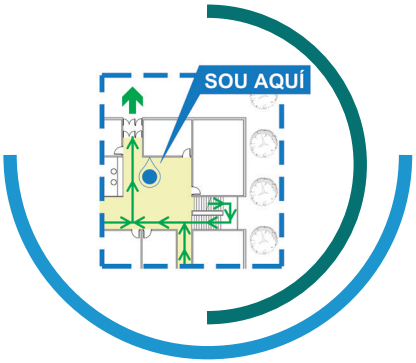
- They must be made of rigid materials and have a minimum height of 90-100 cm.
- If necessary, they must be fitted with intermediate protection to prevent people from passing underneath or objects from falling on them.

STEPLADDERS

- To reach filing cabinets, boxes or other objects that are placed high up, you should have a step-ladder or stable stool, such as those commonly used in libraries.
- You should never use chairs or other items that do not guarantee stability.
- When you are on the ladder or stool, be careful not to lean your body sideways. If you see that you cannot reach the desired place, lower and reposition the ladder or stool in the right vertical position.
- Never have more than one person on the ladder or stool.

EVACUATION ROUTES AND EXITS

- Evacuation routes and exits, as well as the circulation routes leading to them, must always be free of obstacles. No objects or materials of any kind may be stored, even temporarily.
- Only fire extinguishers and fire hoses may be located on escape routes.
- Emergency exits must open outwards and must never be locked.
- Evacuation routes and exits must be suitably signposted.
- Emergency lighting must be provided so that escape routes and exits can be found if necessary.



ELECTRICAL INSTALLATION

- Any repairs to the electrical installation may only be carried out by qualified personnel.
- The electrical installation in the workroom must be designed for the intended use of the work area:
  - There shall be an adequate number of sockets, so that multiple connectors are not used, and these sockets shall be suitably distributed so that the use of extension leads is not necessary.
  - If it is essential to use multi-connectors or extension cables at a workstation, it must be ensured that they are in perfect condition and cannot under any circumstances cause electrical contact with people or sparks that could cause a fire.

_ORDER, CLEANLINESS AND MAINTENANCE

BE AWARE THAT DISORDER EQUALS RISK. BOTH YOUR WORKSPACE AND THE ENVIRONMENT MUST REACH AN ACCEPTABLE LEVEL OF TIDINESS AND CLEANLINESS:

■ Ensure that there are no sharp or pointed objects in your workspace, nor any sharp edges or protrusions that could cause injury.

■ Passageways, exits, corridors and circulation routes of workstations, and especially exits and circulation routes for evacuation in case of emergency, must be free of obstacles so that they can be used without difficulty at all times.

_FIRE PROTECTION CONDITIONS

■ Fire extinguishers, fire blankets and any other means of fire protection shall be clearly visible and accessible:

- They must be hung at a maximum height of 1.70 metres.
- They should be visible, or, if this is not possible, they should preferably be marked with a standardised photo-luminescent sign.
- Do not place, even temporarily, any object in its immediate vicinity that makes access totally or partially impossible.

■ Fire extinguishers should be provided in the work premises. Usually, there will be multi-purpose powder extinguishers, suitable for solid fires (wood, paper), solvents and gases; but it is also advisable to have a CO_2 extinguisher, which is more suitable for fires that occur in the presence of electrical voltage, for example, when a computer is switched on.

■ You should pay attention to the condition of the extinguishers, and ensure that they are serviced annually and re-flashed every five years. To do this, you only need to pay attention to the date of revision, which is indicated on a sticker placed on each and every one of the extinguishers available.

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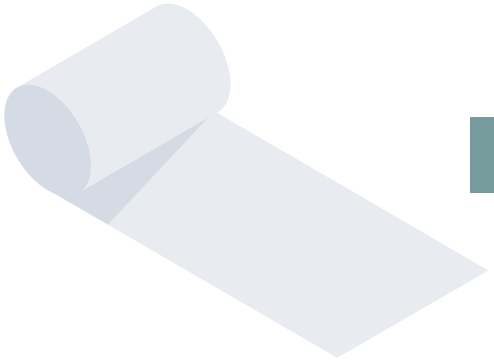
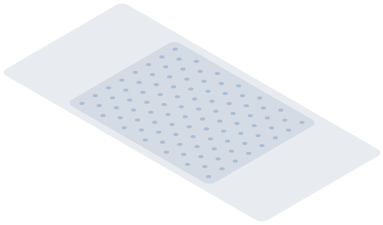


BANDAGS

ADHESIVE BANDAGES



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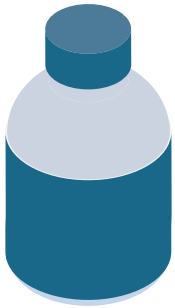


AUTHORISED DISINFECTANTS AND ANTISEPTICS

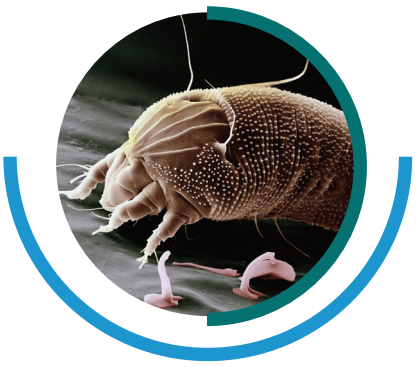
COTTON

_INDOOR AIR QUALITY IN THE WORKING ENVIRONMENT: EXPOSURE TO CHEMICAL, PHYSICAL AND BIOLOGICAL POLLUTANTS

The indoor air quality of a building is a function of a number of variables including outdoor air quality, the design of the ventilation/air conditioning system, the maintenance and servicing conditions of this system, the compartmentalisation of the building and the presence of indoor pollutant sources. Within this last aspect we can name the different activities carried out in the workplace, the furniture, the construction materials, the covering of surfaces and the air treatments.

The most frequent risk situations for occupants of workplaces are exposure to toxic or irritant substances and the induction of infections or allergies.

On the other hand, the most widespread complaints derive from uncomfortable temperature and humidity conditions and unpleasant odours.



POTENTIAL RISK FACTORS

- Chemical contaminants.
- Biological contaminants.
- Physical contaminants.
- Lack of ventilation.

CHEMICAL CONTAMINANTS

- The number of possible pollutants is large, and their origins can be varied. The most significant are, among others, carbon dioxide (CO_2), carbon monoxide (CO), aldehydes, nitrogen oxides, metals and organic vapours.

- The building occupants themselves are often one of the most important sources of pollution, as humans naturally produce carbon dioxide (CO_2), water vapour, particulate matter and biological aerosols, and are also responsible for the presence of other pollutants, including tobacco smoke.

- The construction and decoration materials of the building or workplace, as well as furniture and other elements, can also be the cause of low concentrations of formaldehyde, organic vapours and dust in the air. Dust in indoor air consists of both organic and inorganic particles, many of which can be classified as fibres (asbestos, glass, textiles).

- The total dust will depend on ventilation, cleanliness, activity in the area and the degree of presence of tobacco smoke.

- On the other hand, materials used for office work, in the facilities or for maintenance and cleaning, can contribute pollutants to the environment. Examples include corrective agents ("Tippex" type), ozone and/or toner dust from photocopiers, biocides (rodenticides, insecticides, etc.), cleaning products and deodorants or air fresheners.

- Also, when these environmental pollutants come from outside, such as car exhaust fumes or sulphur dioxide, they should not be forgotten.

BIOLOGICAL CONTAMINANTS

Infectious agents:

- Most infectious agents in indoor spaces are generated by the occupants themselves, and pass into the environment through speech, coughing or sneezing.
- On the other hand, dirt accumulation and water leaks or stagnations are reservoirs where infectious agents find good conditions to live and develop, and from which they can pass into the environment.
- Ventilation system ducts, humidifiers, cooling towers, air-conditioning units, etc. are examples of reservoirs and disseminators of biological agents.
- The main infectious agents are bacteria, fungi and viruses, which cause diseases such as influenza, tuberculosis, pneumonia, and colds. The most frequent routes of infection are contact with infected persons and airborne transmission of the agents.

Antigens:

- An antigen or allergen is any substance which, when it enters an organism with an immune system, is capable of eliciting a specific immune response.
- Plant pollen, dust mites, skin attachments from pets and birds (hair, feathers, parasites), bird faeces, etc., may themselves be allergens, or contain allergenic substances.
- Adverse health effects of these substances are hypersensitive pneumonitis giving flu-like symptoms, allergic rhinitis and asthma.

PHYSICAL CONTAMINANTS

- The main physical pollutants considered are noise, thermal environment and lighting, which are dealt with in depth in the section on the working environment.

LACK OF VENTILATION

- Insufficient and/or poor ventilation is one of the main causes of the deterioration of indoor air quality in workplaces. Building ventilation is based on the supply and distribution of fresh or recirculated air within the room, distinguishing between forced ventilation and natural ventilation.

- If the occupants' needs in terms of ventilation and thermal comfort are to be met, air-conditioning must be used. This is "prepared" air consisting of a mixture in different proportions of outside air and recirculated air that has been filtered, heated or cooled, humidified or dehumidified, depending on the needs of the building and the type of outside air.

- Each of the air-conditioned air "preparation" processes is susceptible to becoming a source of contamination, due to a lack of cleanliness and maintenance, which can affect the health of personnel.

- Ventilate workplaces by opening windows whenever possible.

YOU MUST ENSURE EFFECTIVE MAINTENANCE AND CLEANING OF THOSE PARTS OF THE FACILITY THAT CAN BECOME SOURCES OF CONTAMINATION:

- Filtration systems.
- Air conditioning units.
- Materials of construction and insulation of piping systems.

PREVENTIVE MEASURES FOR GOOD AIR QUALITY

- Carefully select the materials and products you work with, choosing those that are the least harmful.

- Reduce and select multiple cleaning products and use them correctly, both in terms of their concentration and the time of their application.

- Ensure that maintenance is carried out in such a way as to prevent the formation of sources of contamination, paying particular attention to the periodic cleaning or replacement of air filtration units.