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Plan General de Actividades Preventivas de la Seguridad Social 2015



Manual for Health and Safety in the Handling of Tools



FREMAP

*Mutua Colaboradora con la
Seguridad Social nº 61*

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This Manual has been published as part of the FREMAP Prevention Department's dissemination activities. Its purpose is to make workers who handle TOOLS aware of the most frequent risks to which they are exposed and the prevention measures they can adopt to prevent them.

We hope that this publication contributes to improve levels of health and safety in this activity.





INTRODUCTION

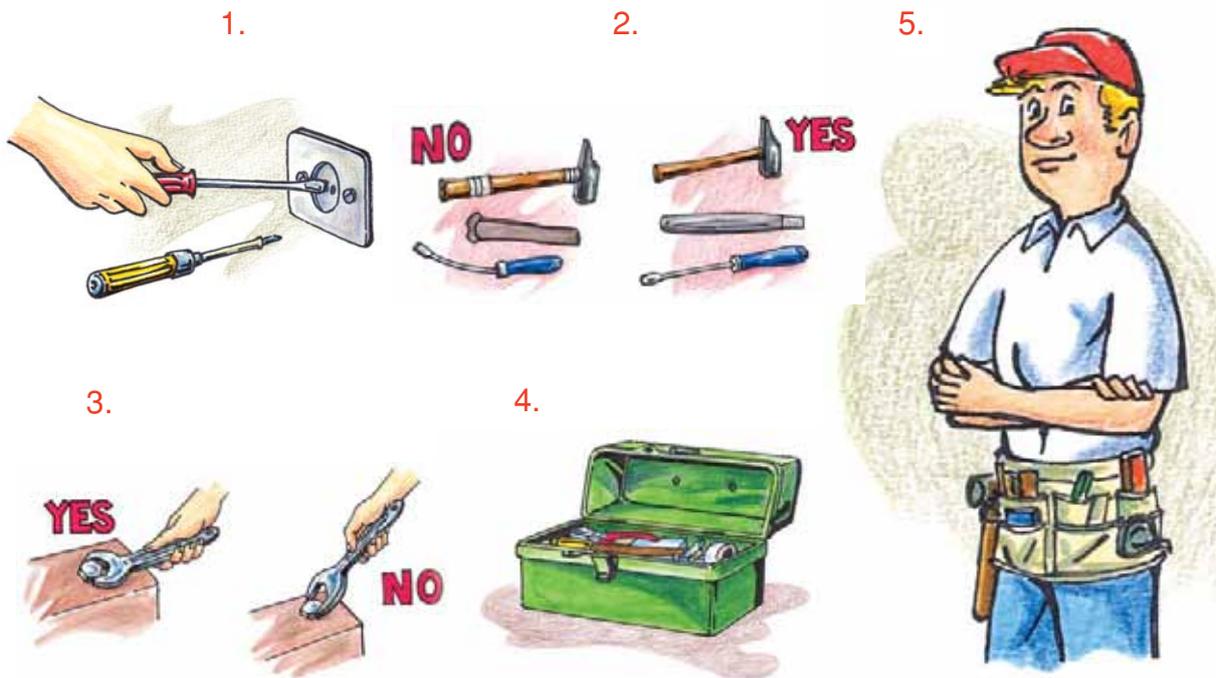




Introduction

The use of tools is a risk factor associated with 12% of the accidents which occur during the working day. However, the majority of these accidents would not have happened if the five basic guidelines given below had been followed:

1. Select the appropriate tool for the work to be carried out.
2. Keep the tools in good condition.
3. Use the tools correctly.
4. Keep the tools in a safe place after use:
 - Keep your tools in boxes weighing less than 25 kg.
 - Do not store the boxes in places above shoulder height.
5. Transport them appropriately.





RISKS AND GENERAL PREVENTION MEASURES

CHOICE OF THE TOOL





Risks

- Cuts and blows.
- Projection of fragments or particles.
- Fatigue and muscle injuries.
- Repetitive micro-traumatisms.



Prevention Measures

- Before choosing a tool:
 - » Consider the conditions of the work you are going to carry out.
 - » Pay special attention to the shape, weight and dimensions, and that they correspond to the planned use for the tool.
- Bear in mind that a poor choice can be the direct cause of an accident, increase fatigue and even cause muscular and skeletal injuries.
- Selection criteria according to the grip and the type of work:
 - Operations where force is required:
 - » The handle of single grip tools (hammers, screwdrivers, etc.) must allow the fingers to wrap around them. As a reference criterion, the diameter of the handle must be between 30 and 50 mm.
 - » In double grip tools (such as pliers, for example) gripped with one hand, the distance between handles must be between 50 mm (closed position) and 90 mm (open position).





Prevention Measures

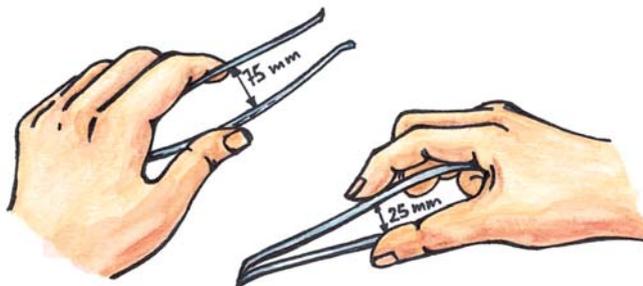
- » The length of the handle must be greater than the maximum width of the hand (between 100 and 150 mm), thus avoiding the ends pressing on the nerves and blood vessels in the palm of the hand.
- » For operations which require permanent pressure to be maintained, use double grip tools which have a device for holding or locking the pincers.
- » For operations which require repetitive pressure, use double grip tools which have a spring to facilitate opening of the handle.
- » The handle of the tool must not have sharp edges and its surface must have the highest friction coefficient possible.



Prevention Measures

– Precision work:

- » In single grip tools, the diameter of the handle must be between 6 and 13 mm.
- » In double grip tools (tweezers) the distance between handles must be maintained between 25 mm (closed position) and 75 mm (open position).





Prevention Measures

– Hand-arm alignment:

» Select tools with an angle which allow you to work with your wrist straight:

- if the direction of the force is horizontal:

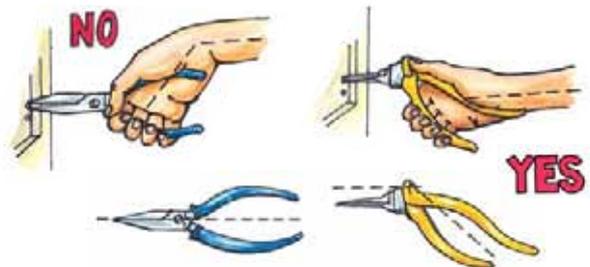
. Choose tools with a pistol-type grip to work at elbow height.

. Choose tools with a straight grip to work below the waist.

- if the direction of the force is vertical:

. Choose tools with a pistol-type grip to work below the waist.

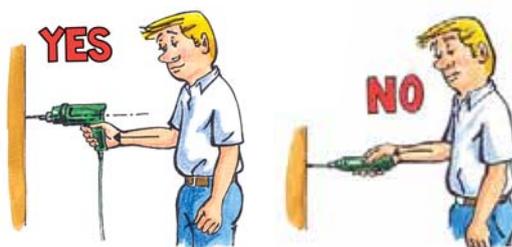
. Choose tools with a straight grip to work at elbow height.



Prevention Measures

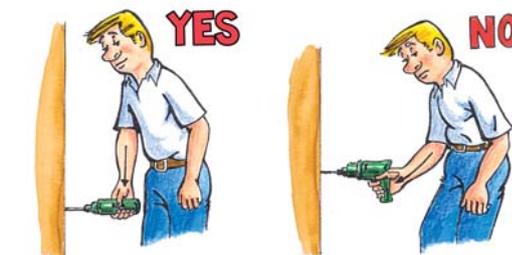
Postures to adopt when handling tools

Vertical surface at elbow height



Choose tools with a pistol-type grip to work at elbow height.

Vertical surface below the waist

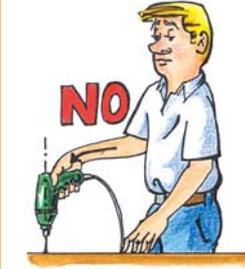


Choose tools with a straight grip to work below the waist.





Prevention Measures

Postures to adopt when handling tools		
Straight grip	Pistol-type grip	POSTURE COMFORT
		Always choose the tool which allows you to work with your wrist as straight as possible.
Horizontal surface at elbow height		
YES 	NO 	Choose tools with a straight grip to work at elbow height.
Horizontal surface below the waist		
NO 	YES 	Choose tools with a pistol-type grip to work below the waist.



RISKS AND GENERAL PREVENTION MEASURES

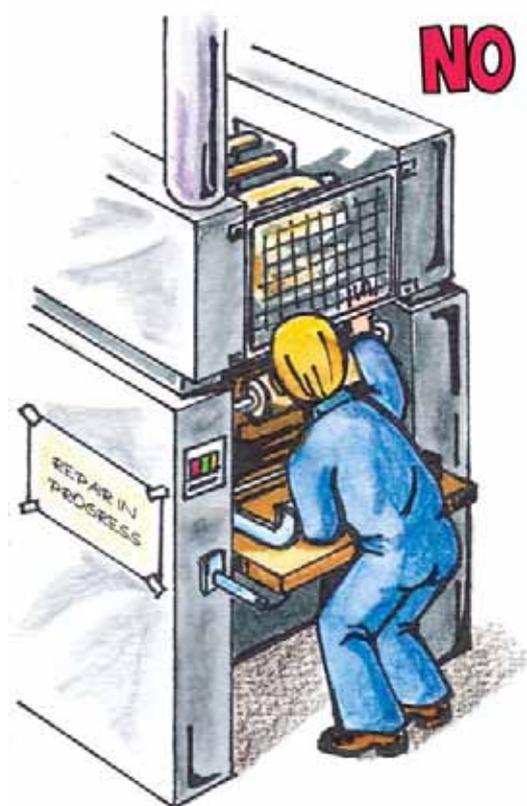
WORKING POSITION





Risks

- Fatigue and muscular injuries.
- Excessive effort.



Prevention Measures

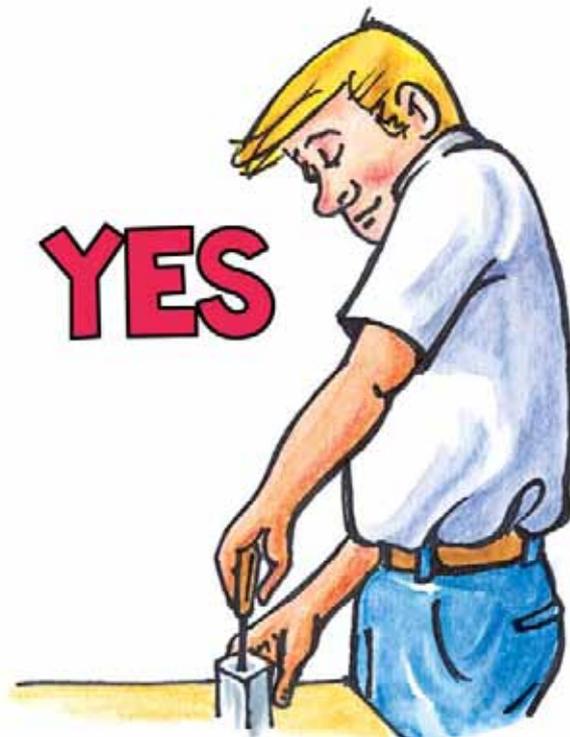
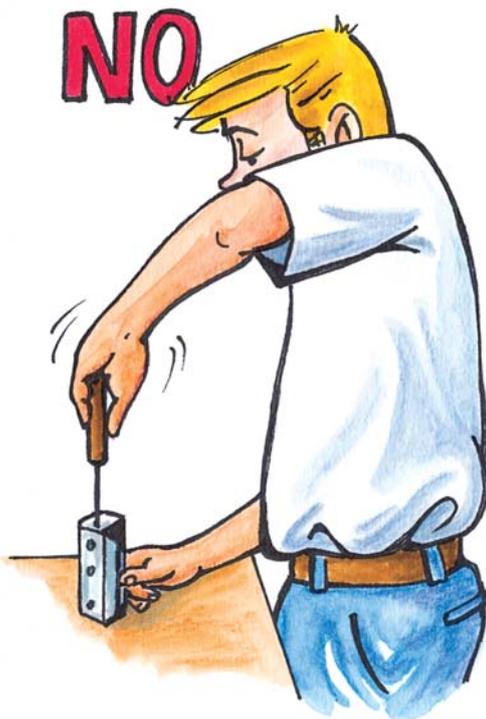
- Do not adopt forced postures, given that they require a greater effort than in normal conditions.
- Use long-handled tools to carry out work involving force.
- Use short-handled tools, even if they are not the most appropriate for work involving force, if the long-handled tools do not allow correct alignment between the hand and the arm.





Prevention Measures

- Whenever possible, adapt the position of the point of operation, relocating the part or modifying the height of the work so that:
 - It is not necessary to raise the shoulder.
 - The elbows are close to the body and in the lowest position possible.
 - To do this, bear in mind:
 - » For parts which can be moved, use workbenches at waist height.
 - » If it is not possible to move the part, try to use a platform which allows you to reach the desired height.





RISKS AND GENERAL PREVENTION MEASURES

**ELECTRICAL RISK
AND WORKS CLASSIFIED
BY EXPLOSIVE ATMOSPHERES**





Criteria for use:

General:

Screwing, Tightening, Gripping, Cutting.

Dangerous operations:

- Using tools in the presence of voltage.
- Using tools in areas with a risk of fire or explosion.
- Using electrical tools where there are conductors.



Criteria for Selection:

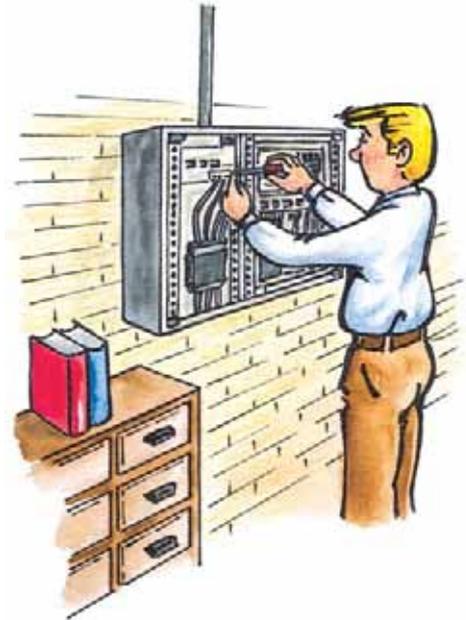
- For work in the presence of voltage:
 - » The tools must be marked, visibly and indelibly, with the maximum service voltage.
 - » The insulating covering must cover almost all the tools except for the operating area.
- For work in areas with a risk of fire or explosion:
 - » The tools must have manufacturing guarantees for spark prevention and control of static electricity.
- If electrical tools are going to be used where there are conductors:
 - » They must be tools whose maximum supply voltage is the safety voltage or,
 - » They must be tools with double insulation or,
 - » They must be class I tools whose power comes from circuit separating transformers.





Risks

- Electrocutation by shock through contact with elements connected to the power supply (direct electrical contact), or with masses accidentally connected to the power supply (indirect electrical contact).
- Burns and wounds.
- Electrocutation by direct and indirect electric shock.



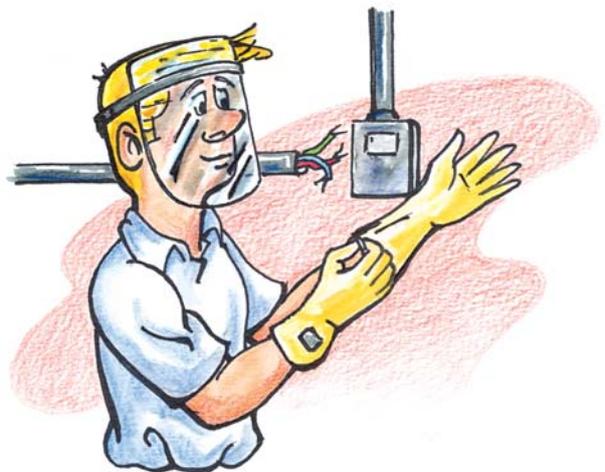
Prevention Measures

- Use, inspect and maintain hand tools, insulating, spark prevention and electrical tools according to the instructions and recommendations of the manufacturer.
- Use only insulating tools whose level of installation guarantees protection against chance electric shocks.
- In areas with a risk of fire or explosion, use only spark prevention tools which are certified and in good condition.

Individual Protection Equipment (IPE):

In addition to the IPE indicated in the electrical tool manufacturer's manual, in work with a risk of electricity the following must be used:

- Face protector to protect against projected particles.
- Safety gloves (insulating).





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

HAMMERS





Criteria for Use:

General:

Hammering, nailing, straightening and riveting.

Claw hammers:

Nailing and pulling out nails.

Dangerous operations:

- Using a steel hammer on tempered steel, or thermo-chemically treated surfaces.
- Using the handle for levering.
- Using claw hammers as a general lever.
- Tightening or loosening nuts by hammering chisels or screwdrivers.



Criteria for Selection of Equipment:

Do not use hammers which have:

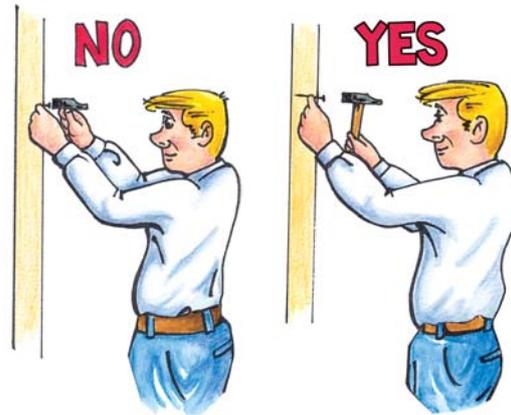
- A loose head.
- Improvised fastenings between the head and the handle using nails, string, wire, cable, etc.
- A splintered, cracked or poorly aligned handle.
- A head which is in poor condition or chipped.





Risks

- Blows in general.
- Head of the hammer flying off.
- Projection of particles.
- Bouncing of the hammer or the part being struck.
- The noise generated when plates or containers are struck...



Hold the hammer by the base of the handle and the nail by its head, not by the point



Prevention Measures

- Select the size of the hammer according to the operation to be carried out; a hammer which is too light is as unsafe as one which is too heavy.
- Hold the handle by the end. The size of the handle must allow the fingers to hold the handle firmly against the palm of the hand.
- When hitting nails, hold them near the head and not near the point.
- Try to hold the hammer so that its face is parallel to the surface receiving the impact. This avoids damaging the edges of the face and causing it to splinter.
- In places with a risk of explosive atmospheres, use hammers with a bronze or polyester head.



Individual Protection Equipment:

- Protective goggles to protect against projected particles.
- Safety gloves to protect against mechanical risks.
- Hearing protection to reduce noise.



RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

CHISELS



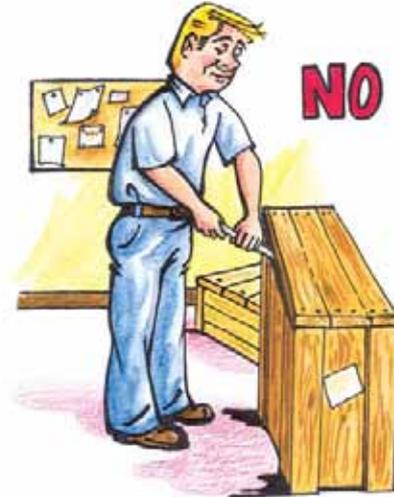


Criteria for Use:

- Working, cutting or marking all kinds of materials with hammer blows.

Dangerous operations:

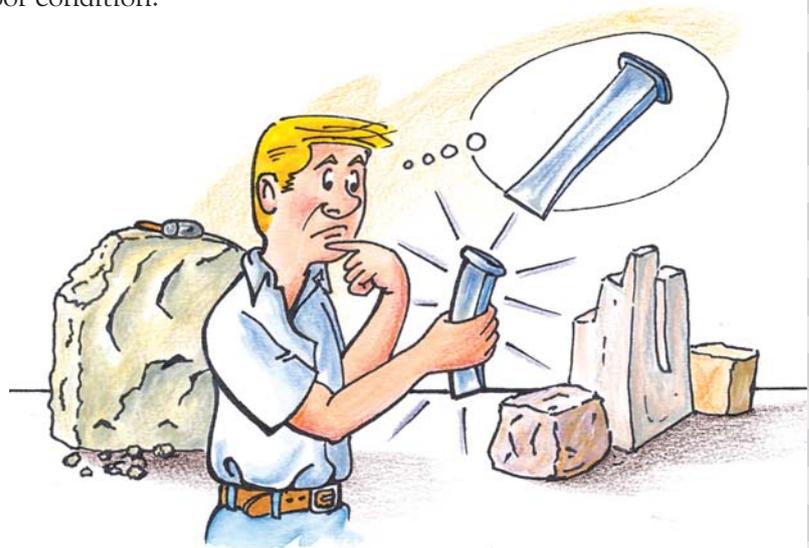
- Using them as a lever or screwdriver.
- Chiselling towards the body.



Criteria for Selection of Equipment:

Do not use chisels which have:

- Heads which are chipped and in poor condition.
- Dented or curved edges.
- No cutting edge.
- A warped or bent body.



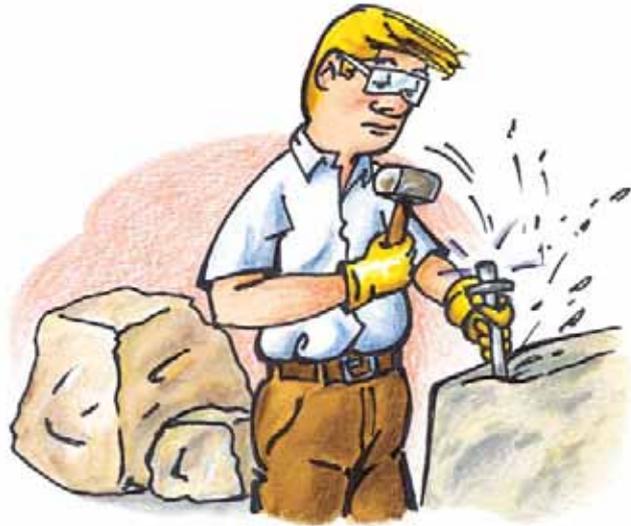
Risks

- Blows and cuts in general.
- Projection of particles.
- Exposure to noise.



Prevention Measures

- Select the model of chisel according to the operation to be carried out and use a hammer which is appropriate for its size.
- Hold it with the thumb and index and middle fingers near the top. Provided the characteristics of the work allow it, the chisel must be held with the palm of the hand upwards.
- Keep the head of the chisel flat, with no chips, and free of oil and grease.
- Use a hand protector attached to the chisel to prevent blows to the hand holding it.
- Work away from the body.
- Install screens or partitions to prevent particles being projected onto other operatives who may be near the workstation.
- The cutting edge of the chisel must be kept sharp. When sharpening the chisel, try to keep the original angle of the cutting edge.
- Do not carry chisels in your pocket.
- Fasten any small parts to be worked on with a screw press or vice.



Individual Protection Equipment:

- Protective goggles.
- Safety gloves.
- Hearing protection.



Fasten the part to be worked



RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

SCREWDRIVERS



Criteria for Use:

- Loosening or tightening screws.

Dangerous operations:

- Using them as a chisel, punch, wedge or lever.
- Holding the part to be worked on with the hand.
- Carrying screwdrivers in your pocket.
- Overloading them by using another tool.



Criteria for Selection of Equipment:

Do not use screwdrivers which have a:

- Split, loose or chipped handle.
- Twisted shaft or shaft with dents and cuts.
- Dented point or deficient edge.



Risks

- Cuts, incisions and blows.



Use the bench vice to hold small parts



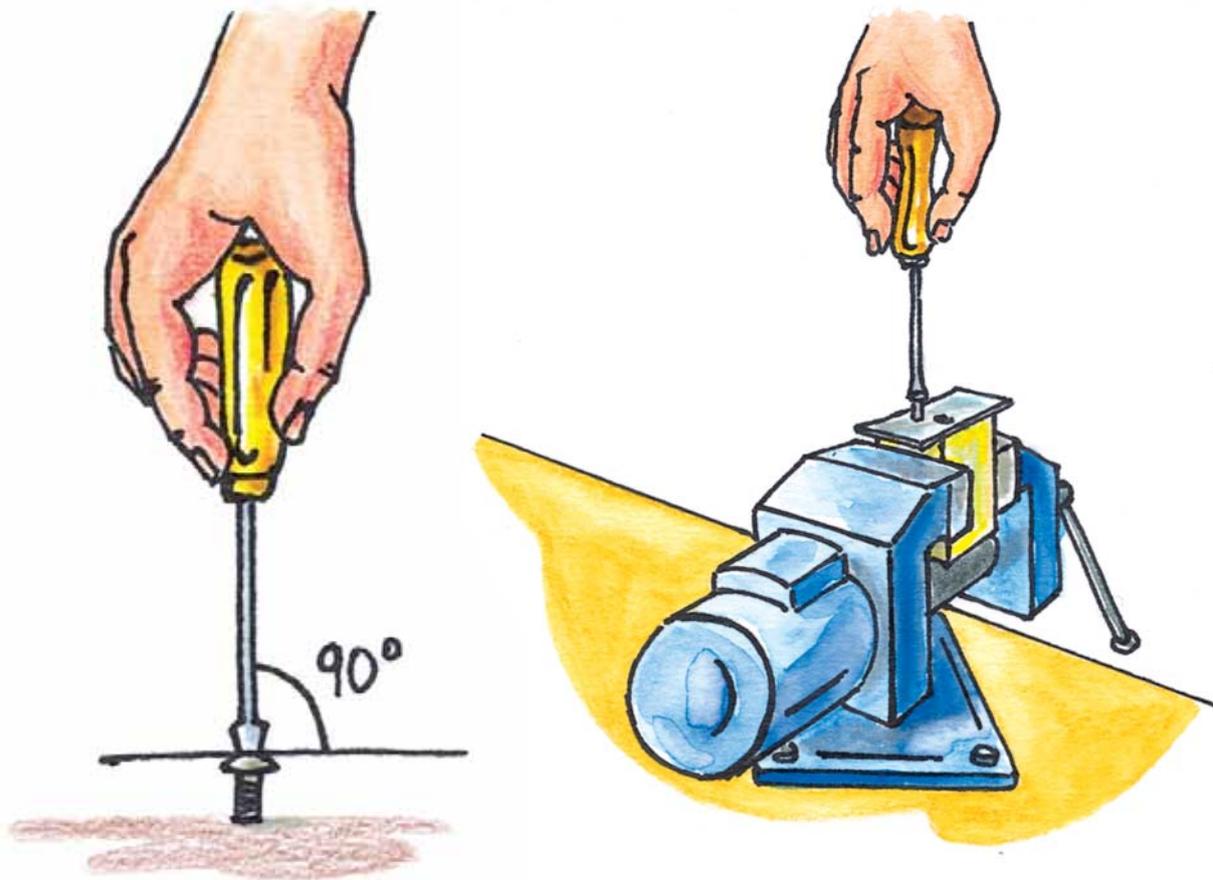


Prevention Measures

- Use bench vices to hold small parts.
- Select a model of screwdriver appropriate (thickness, width and shape) to the characteristics of the screw.
- Keep the shaft of the screwdriver perpendicular to the screw.
- Do not carry them in your pocket. Use a tool belt.

Individual Protection Equipment:

- Protective gloves to protect against mechanical risks.





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

PLIERS AND PINCERS





Criteria for Use:

- Gripping, bending, holding and cutting of small parts.

Dangerous operations:

- Using them as spanners to tighten or loosen nuts, bolts or screws.
- Using them as a hammer.
- Using the handles as a lever.
- Using them to hold parts in drilling operations.
- Hitting them with a hammer to cut.



Criteria for Selection of Equipment:

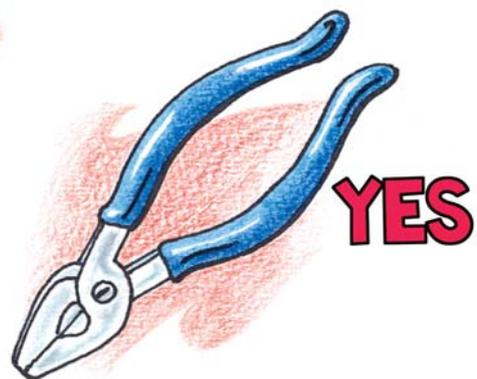
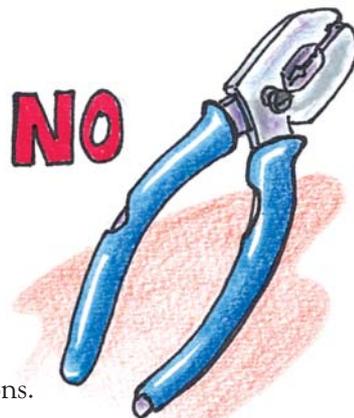
Do not use pliers or pincers which have:

- Worn or dented jaws.
- Screws or pins in poor condition.
- Excessive play in the hinge point.
- Defective handles with sharp edges.
- Worn holding surfaces.



Risks

- Cuts and blows.
- Projections in cutting operations.





Prevention Measures

- Select a model with a format of point which allows the part to be held correctly.
- Do not place the fingers between the handles.
- When cutting certain elements (cables, banding, etc.) which are subject to traction, consider the possibility of them bursting open and causing considerable cuts and injuries to the operative carrying out the operation, and to others nearby.
- When they are used to cut wire, make the cut perpendicular to the axis, with small twists.

Individual Protection Equipment:

- Protective gloves to protect against mechanical risks.
- Safety goggles to protect against projections in cutting operations.





**RISKS AND PREVENTION
MEASURES FOR
HANDHELD TOOLS**

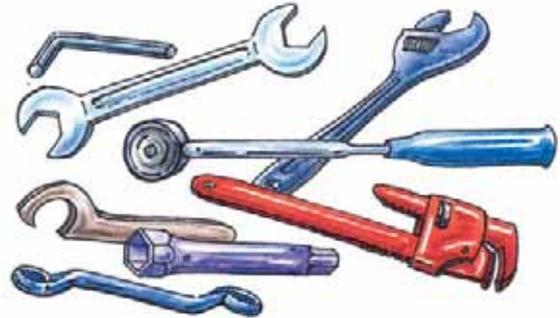
WRENCHES AND SPANNERS





Criteria for Use:

- Twisting nuts, bolts and assembly accessories.
- By type of spanner:
 - » Socket and tube: Recommended for work involving high levels of force in which good grip of the head is required.
 - » Open-ended: They may slip if they do not fit correctly.
 - » Torque wrench: These avoid breakage of the bolt or deterioration of the nut.
 - » Adjustable spanners: These should preferably be used for light work. Because they have a small amount of play, they can slip, and also require correct adjustment of the head to keep a sufficient grip.
 - » Box spanners: Allow a strong grip on the nut and their greater number of notches makes them easier to fit.



Criteria for Use:

Dangerous operations:

- Overloading the capacity of the spanner by lengthening the handle with tubes or similar elements.
- Applying the torque by pushing away from the operative.
- Using them as a lever.
- Using them as a hammer.
- Using blocks to adjust the grip of the head.





Criteria for Selection of Equipment:

Do not use wrenches/spanners which have:

- Worn or dented jaws, twisted or deformed handles.
- In adjustable spanners, those which have excessive play in the moving jaws or adjusting nut.
- Worn, blocked or chipped adjusting screws.



Risks

- Blows to the hand holding the tool with fastened elements.
- Blows and projections of the tool through loss of grip or breakage of the bolt.
- Hand becoming trapped during the nut tightening or loosening operations.



Prevention Measures

- Select a model of spanner which has the correct characteristics and size for the element to be worked on (nut, bolt, etc.).
- Do not repair damaged spanners.
- Consider the possibility of edges which might strike the knuckles when the spanner is turned.
- The spanner head should be placed perpendicular to the axis of the bolt.
- When using adjustable spanners, position the spanner so that the traction force when making the turn is on the fixed jaw. This causes the moving jaw to exert a greater force on the nut.

Individual Protection Equipment:

- Safety goggles.
- Protective gloves.





RISKS AND PREVENTIVE MEASURES FOR HANDHELD TOOLS

FILES





Criteria for Use:

- Wearing and smoothing metals and other hard materials.

Dangerous operations:

- Using the file as a lever.
- Using the file as a punch or chisel.
- Cleaning the file by striking it against a metal object.
- Carrying a file in a pocket.
- Using a file with no handle or a loose handle.
- Holding in your hand small parts to be filed.



Criteria for Selection of Equipment:

Do not use files which have:

- A split or loose handle.
- Edges with cracks or splits.
- Excessively worn teeth.
- Blunted or greased faces.



Risks

- Blows and cuts.
- Projected particles.

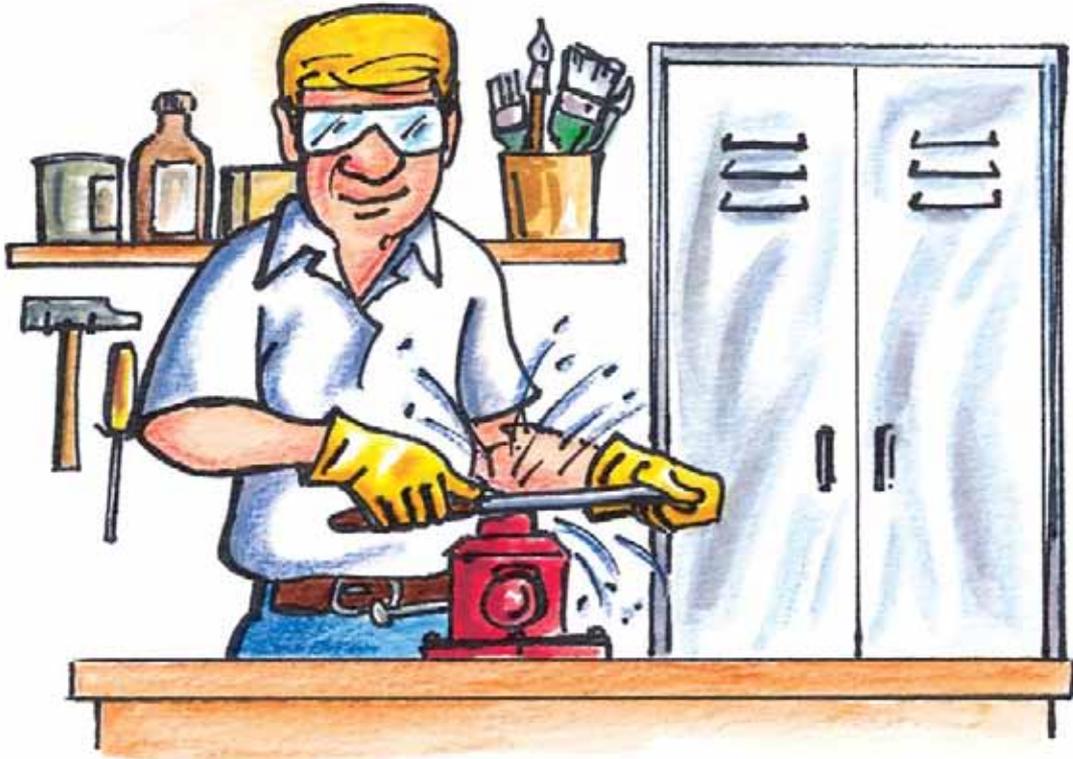


Prevention Measures

- Select the file according to the type of material and the degree of finish to be obtained.
- Hold it by the handle with one hand and use the thumb and index finger of the other to guide the point.
- To clean them, use metal brushes (file polishing brushes).
- If you are going to file small parts, hold them with bench vices or similar.
- Files must be stored protected against moisture and must be kept free of oil and grease.

Individual Protection Equipment:

- Safety goggles to protect against projections in cutting operations.
- Protective gloves to protect against mechanical risks.





RISKS AND PREVENTIVE MEASURES FOR HANDHELD TOOLS

SAWS



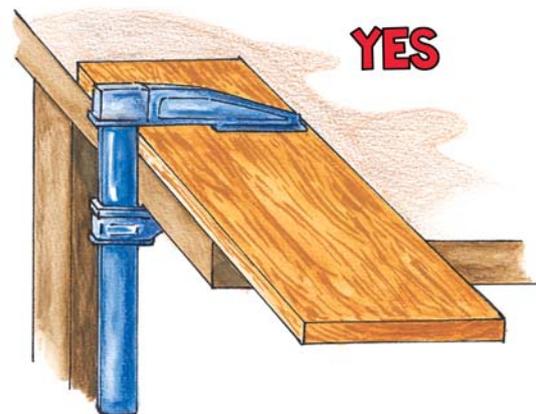


Criteria for Use:

- Cutting solid materials.

Dangerous operations:

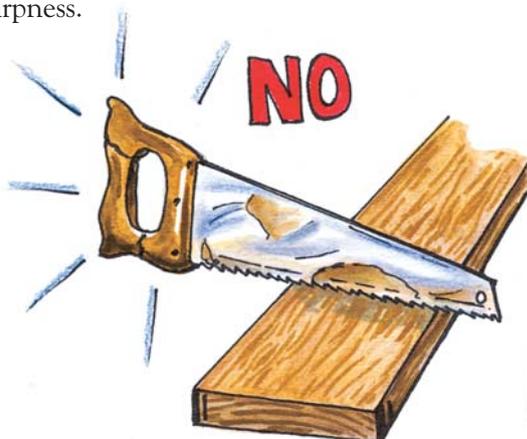
- Sawing with excessive pressure.
- Cutting incorrectly held material.



Criteria for Selection of Equipment:

Do not use saws which have:

- Weak or split handle.
- Lack of sharpness or uneven sharpness.
- Twisted blade.
- Poor state of conservation.



Risks

- Blows and cuts.



Prevention Measures

- Choose a saw which is appropriate for the type of material and cut to be made.
- The material to be cut must be sufficiently held. Where appropriate, use clamps, bench vices, etc.
- Adjust the speed of cutting to prevent overheating of the blade.

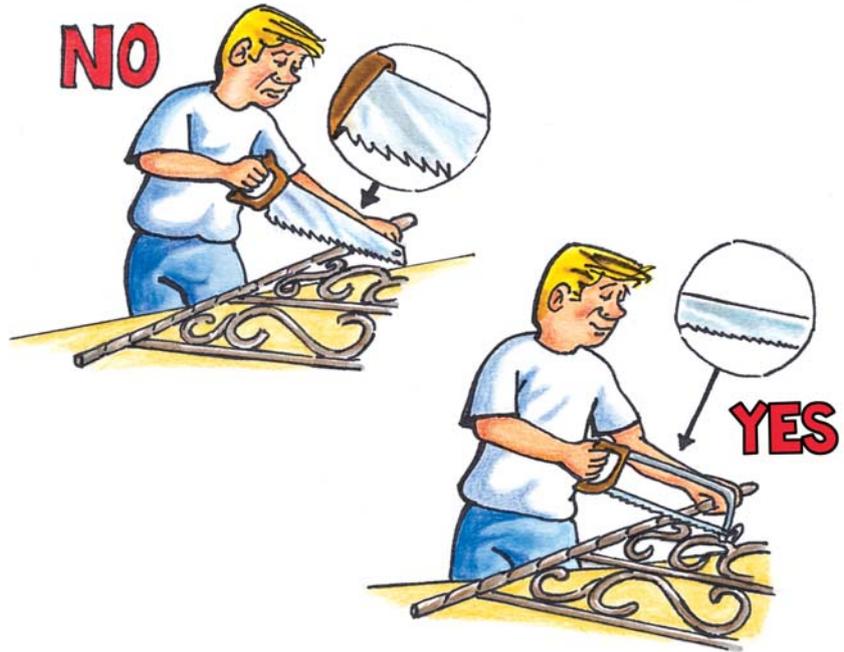
By way of reference, consider:

- » For cutting metals of medium hardness, the saw must be used with a speed of 40 to 50 strokes a minute. For metals of greater hardness, reduce the cutting speed.
- » For wood, make long and soft strokes.

- When a blade is changed for a cut which has already been started, the new blade generally gets stuck. Hence, in these cases, the cut must be started again.
- Before cutting wood, check that there are no metal elements, nail heads, staples, etc.
- Before making cuts in hard material, it is recommended that small nicks be made to avoid uncontrolled movements of the saw.
- Only apply pressure on the forward stroke; lift the saw slightly for the return stroke.
- Store saws in a dry place (on shelves or hanging from the handle).

Individual Protection Equipment:

- Safety goggles to protect against projections in cutting operations.
- Protective gloves to protect against mechanical risks.



Remove metal elements before starting to saw





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

WOOD CHISEL





Criteria for Use:

- Working wooden surfaces.

Dangerous operations:

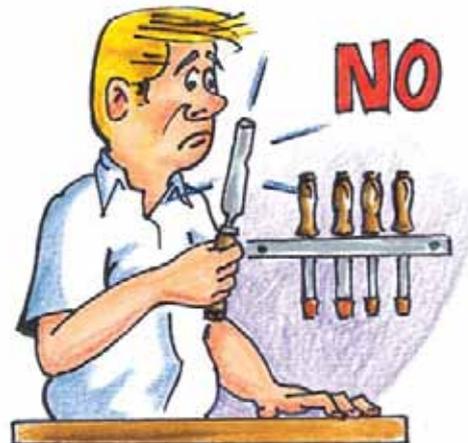
- Working towards the body.
- Using them as a lever.
- Holding the stone in the hand when sharpening them.
- Working on parts which are not fastened.



Criteria for Selection of Equipment:

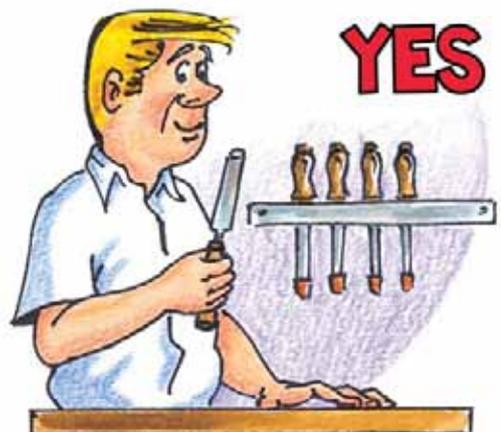
Do not use a wood chisel which has::

- A defective edge.
- A loose, broken or split handle.



Risks

- Cuts and blows.
- Projected particles.





Prevention Measures

- Work away from the body, with the hand holding the tool behind the cutting edge.
- Parts must be held in position to prevent unexpected movements.
- Do not carry them in pockets.
- The cutting part of the chisel must always be sharp. For manual sharpening, the stone must be held in place on a work bench (do not sharpen while holding the stone with the hand).
- When not being used, they should be kept on shelves or in slots designed for them. Do not leave them loose in drawers or amongst other tools.

Individual Protection Equipment:

- Safety goggles to protect against projections in cutting operations.





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

(METAL) SCISSORS





Criteria for Use:

- Cutting wire and metal sheets.

Dangerous operations:

- Cutting towards the body.
- Using scissors not designed for cutting metal.
- Cutting curved shapes with straight cutting blades.
- Carrying them in pockets.
- Using them as a lever, hammer or screw-driver.
- Trying to increase the cutting pressure with blows, using both hands at the same time, etc.



Criteria for Selection of Equipment:

Do not use scissors which have:

- Blades which are worn, dented or not sharp.
- Excessive play in the area of the joining screw.
- Loose joining screws.



Risks

- Cuts and blows.
- Projection of fragments.



Prevention Measures

- Work away from the body. The cut must be made so that the point of the scissors is not pointing towards the body.
- The handle must be of a sufficient size for it to be handled with one hand. The other hand will be used to separate the edges of the cut material, making the cutting easier and avoiding contact of the sharp edges with the hand holding the scissors.
- When cutting large sheets, the free hand should be used to push down the sharp edges close to the hand holding the scissors.
- When not being used, the scissors should be kept in their protective case.
- Scissors must be kept sharp.

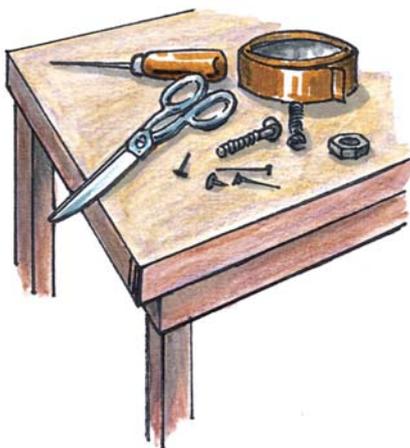


Individual Protection Equipment:

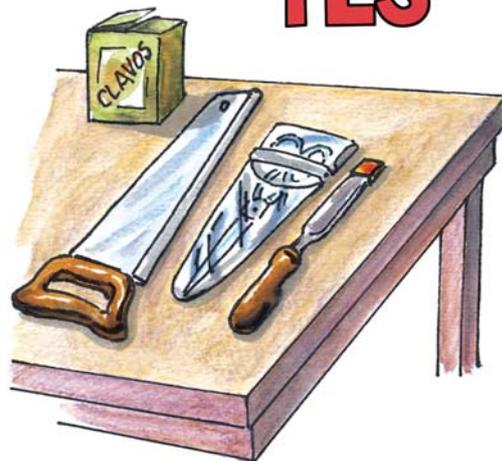
- Safety goggles.
- Protective gloves.



NO



YES





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

KNIVES





Criteria for Use:

(This does not include knives used in the handling of foods).

- Cutting material.

Dangerous operations:

- Making cuts towards the body.
- Carrying them in pockets.
- Using them as a lever, hammer or screwdriver.
- Trying to increase the cutting pressure by applying blows.
- Leaving them in unexpected places.



Criteria for Selection of Equipment:

Do not use knives which have:

- Blades which are worn, dented or not sharp.
- Handles in poor condition.

YES



Risks

- Cuts and blows.
- Projection of fragments.

NO



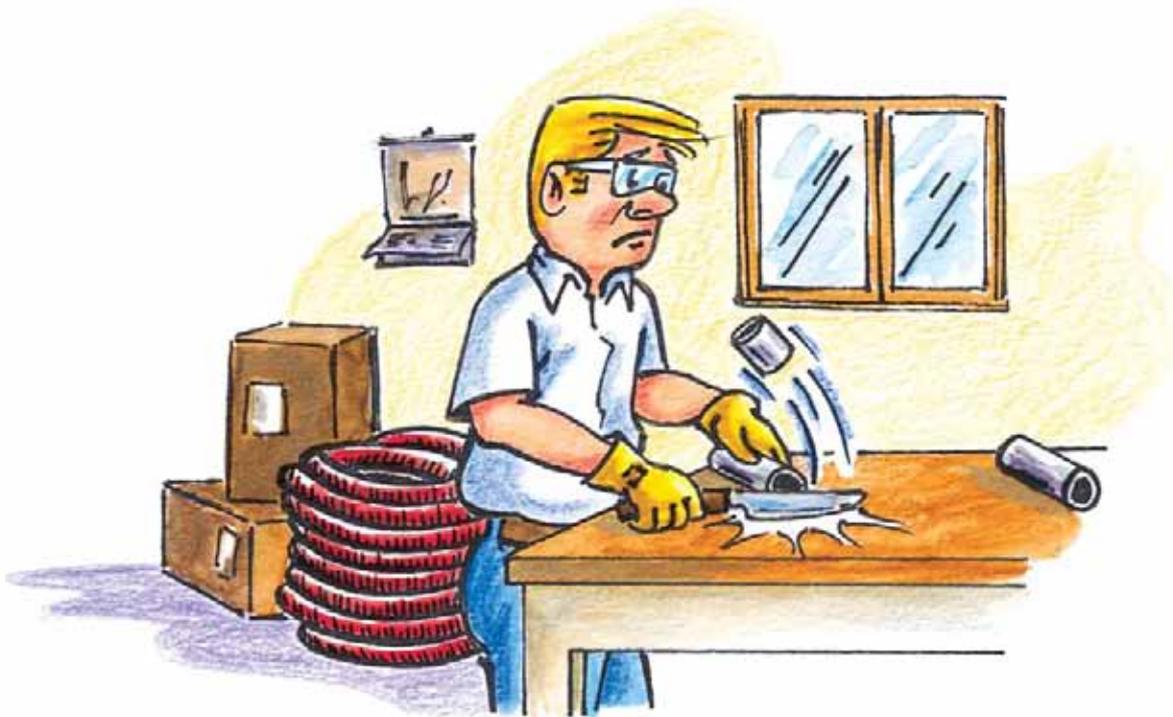


Prevention Measures

- Work away from the body. The cut must be made so that the cutting edge of the knife is not towards the body.
- Keep knives sharp and remove those which have a damaged handle.
- The handle must be of a sufficient size for it to be held with one hand. The other hand should be used to hold the element to be cut, and kept away from the cutting area.
- When not being used, knives should be kept in their protective cases.

Individual Protection Equipment:

- Safety goggles to protect against projections in cutting operations.
- Protective gloves to protect against mechanical risks.





RISKS AND PREVENTION MEASURES FOR HANDHELD TOOLS

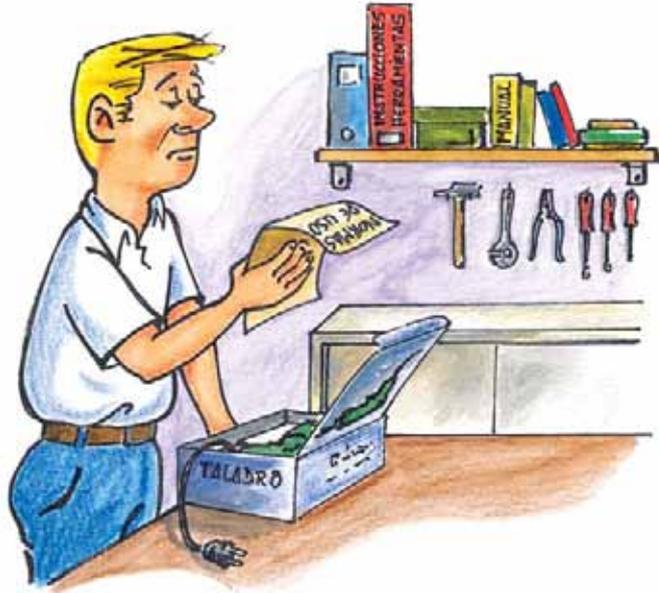
POWER TOOLS





General Guidelines for Use:

- Read the instructions on safe handling provided by the manufacturer with the equipment, and keep them in an accessible place.
- Check that the tool is in good condition and that its consumables (bits, discs, etc.) are correctly tightened and appropriate for the task to be carried out.
- Do not use tools which have cables or moving parts accessible.
- Do not use tools which are wet or damp, and do not use them when your hands or feet are wet.
- Avoid wearing loose clothing and, if you have long hair, make sure it is tied up. Do not wear bracelets, rings or elements which might get caught on the tool.
- Do not modify the tool and in particular do not use tools which do not have a connection plug.
- If you are working in damp or very conductive areas, you must use special tools with a power supply of fewer than 24 volts or a circuit separating transformer, located outside the conducting area.
- Keep the mains cable out of thoroughfares.
- Always hold the tool with both hands.
- When you are not using the tool, disconnect it to prevent it from being started up involuntarily.



- Unplug the tool when you have to carry out any kind of adjustment and keep the plug in view and near you.
- The tool should not be carried or stored hanging from its power cable.
- Do not unplug the tool by pulling on the cable: pull the plug connected to the mains.



General Guidelines for Use:

- Avoid the equipment coming into contact with water. In damp atmospheres, use non-conducting elements (rubber boots and gloves, wool fabric, etc.).
- If the mains cable is affected during work, do not touch the cable: unplug it using the plug. Indicate that the tool needs repair and inform the appropriate person.
- Do not overload sockets.
- Do not block the trigger to make the tool operate permanently.
- Remove adjustment tools before connecting the tool.
- Before beginning work, take account of the Individual Protection Equipment to be used.
- In areas classified as having a risk of fire or explosion, and near inflammable products, you must consult the protection measures to be applied.
- When there is a possibility of flying particles, bear in mind, in addition to your own protection, that you may also injure other people in your working environment. Incandescent particles may also be a cause of fire.
- When you use tools with dust collection systems, follow the manufacturer's instructions.





**RISKS AND GENERAL
PREVENTION
MEASURES FOR
POWER TOOLS**

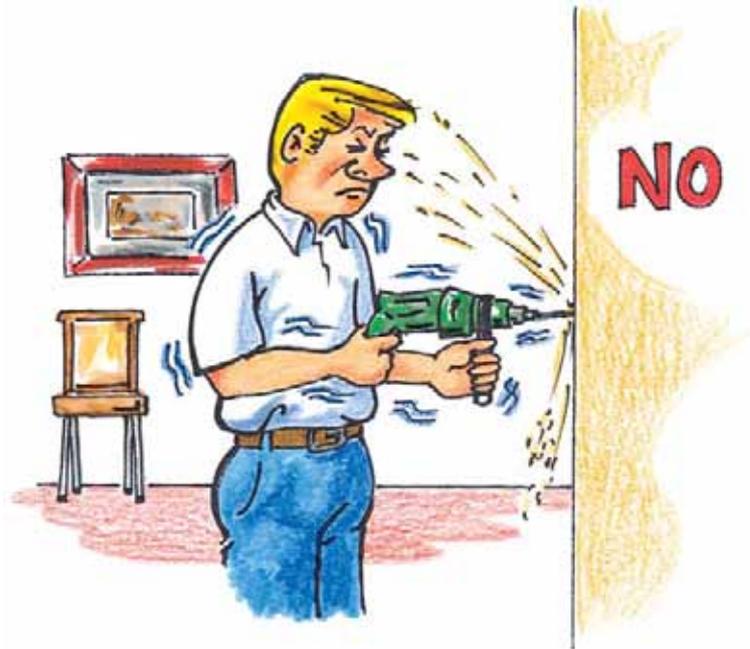
DRILL / HAMMER DRILL





Risks

- Cuts and incisions through contact with the bit.
- Blows through loss of control of the tool.
- Electrical contacts.
- Projection of particles.
- Body parts trapped in moving parts.
- Hand-arm vibrations.
- Exposure to dust.
- Exposure to noise.



Prevention Measures

- Before beginning work, locate conduits and pipes.
- Make the part to be worked on safe.
- If the tool blocks or gets stuck, hold the tool firmly and release the switch.
- If it is used for tightening or loosening screws, do so at low revolutions.



Before beginning work, locate conduits and pipes





Prevention Measures

Recommended Individual Protection Equipment:

- Mask in case dust is generated. (FFPx)
- Anti-vibration gloves depending on the type of tool and the exposure time. Consult your prevention department.
- Hearing protection to reduce noise.
- Safety goggles to protect against flying particles.





**RISKS AND GENERAL
PREVENTION
MEASURES FOR
POWER TOOLS**

GRINDING MACHINE



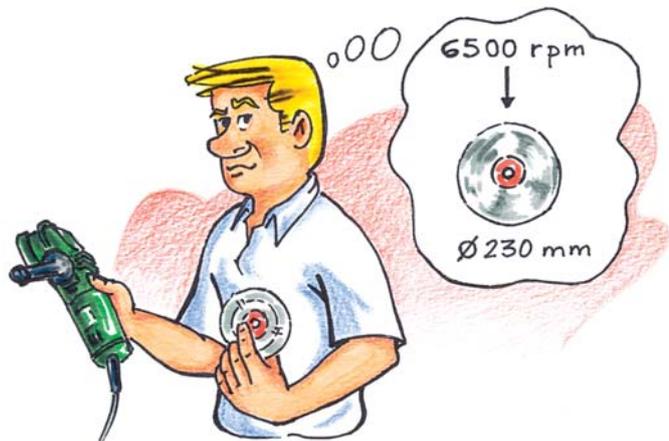
Risks

- Cuts/abrasions from contact with the disc/grinder.
- Projection of particles/disc.
- Blows from loss of control or blocking of the tool.
- Electrical contacts.
- Body parts trapped by moving parts.
- Vibrations and noise.
- Exposure to dust.



Prevention Measures

- The revolutions allowed by the disc must be equal at least to the maximum revolutions of the tool.
- Ensure that the dimensions of the disc coincide with those indicated for the electrical tool.
- The holes for attaching the discs must fit exactly on the grinding machine pin.
- Do not use damaged discs.
- Make sure that people close to the working area stay a sufficient distance away.
- Clean the cooling grille periodically.
- Do not occupy the area towards which the electrical tool will move.
- If the machine blocks:
 - » Release the action button.
 - » Hold the tool firmly.
 - » Do not move your hand towards the disc to try and free it.





Prevention Measures

- In grinding and cutting operations:
 - » Do not remove the protective guard for the disc.
 - » Do not use discs from other larger electrical tools, even though their exterior diameter has been reduced by wear.
 - » In cutting operations, avoid applying too much pressure.
 - » Do not position yourself in line with the cutting trajectory.
 - » Hold or position large parts to prevent the disc from becoming blocked.
 - » Prevent the formation of dusty atmospheres by using tools which have a wet dust collector.
 - » Stop the machine completely before putting it down. Never leave it while it is still operating.
 - » Before applying the disc to the work area, rotate it for a short time with no contact.
- In sanding operations:
 - » Do not use sanding sheets which are larger than the tool support.
- In polishing operations:
 - » Avoid loose parts on the surface to be polished.
- In wire brushing operations:
 - » Remember that wire bristles can become detached.
 - » Do not force the bristles by applying excessive force.
 - » If a protective guard is used, do not let the wire brush come into contact with it.



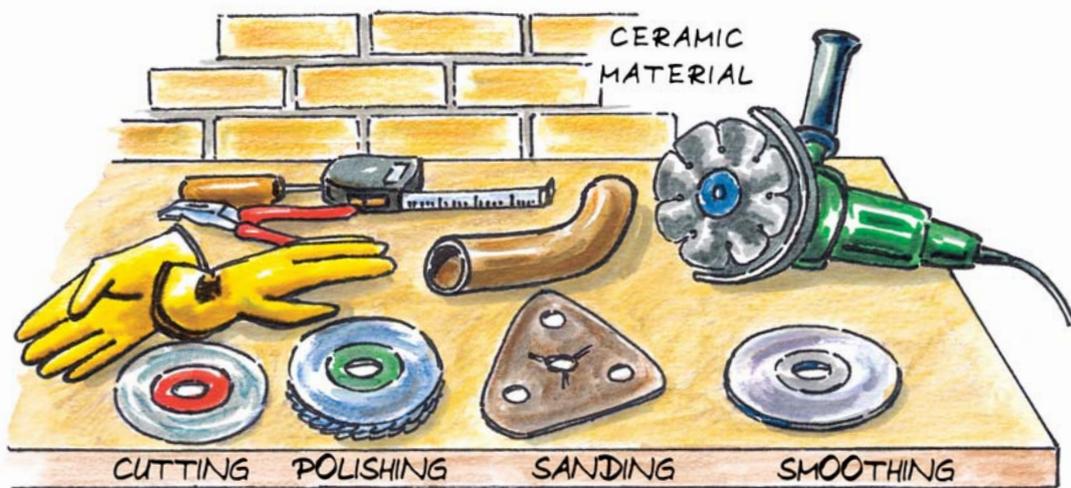
Do not position yourself in the trajectory of the cut





Prevention Measures

- Assembling tools:
 - » Follow the assembly instructions provided by the manufacturer.
 - » Wait for discs to cool down before touching them after work is completed.
 - » Use the assembly tools provided by the manufacturer.
- Select the appropriate type of disc for the operation to be carried out.



Remember that every operation requires a specific type of disc

Individual Protection

Equipment:

- Mask when dust is generated. (FFPx)
- Hearing protection for noise reduction
- Protective goggles to protect against flying particles.
- Safety gloves to protect against mechanical risks.





**RISKS AND GENERAL
PREVENTION
MEASURES FOR
POWER TOOLS**

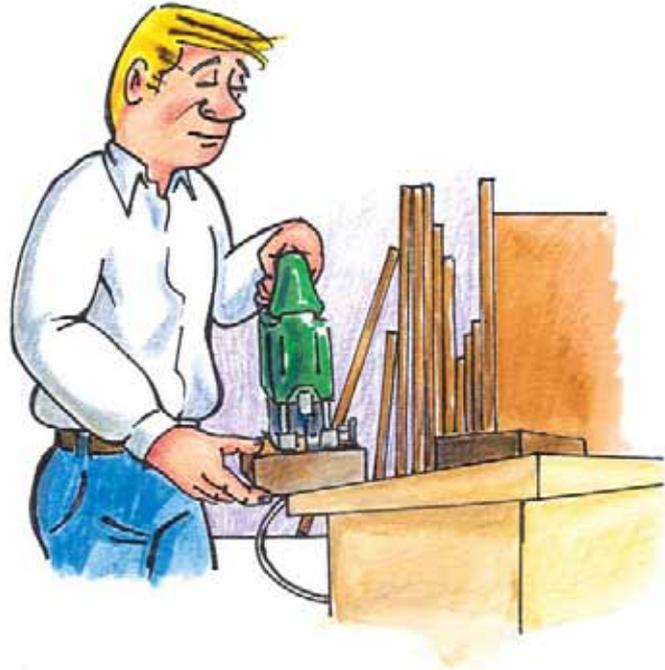
JIG SAW





Risks

- Cuts and incisions through contact with the saw.
- Projection of particles or of the saw.
- Blows from loss of control or blocking of the tool.
- Electrical contacts.
- Exposure to dust.
- Exposure to noise.



Prevention Measures

- Position the saw with gloves to avoid cuts.
- Position the blade in the direction of cutting and in the blade-holder.
- Ensure that the saw blade is correctly fitted.
- Do not use damaged saw blades.
- Use appropriate saws for the material to be cut.



Recommended Individual Protection Equipment:

- Mask in case dust is generated. (FFPx)
- Hearing protection for noise reduction.
- Goggles to protect against flying particles.



**RISKS AND GENERAL
PREVENTION
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POWER TOOLS**

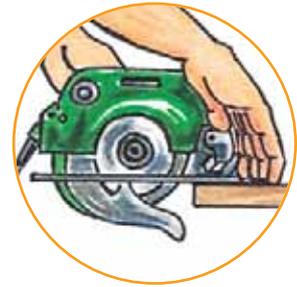
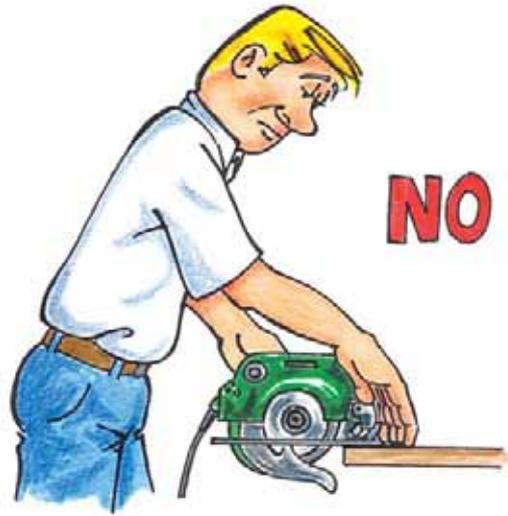
CIRCULAR SAW





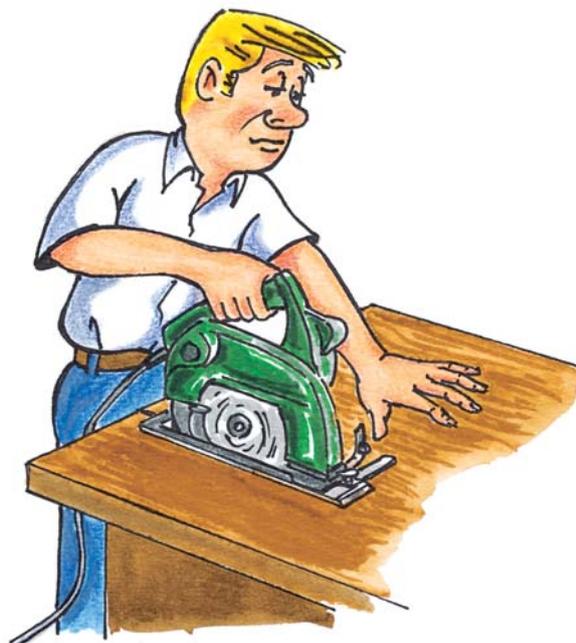
Risks

- Cuts and incisions from contact with the saw.
- Projection of particles or of the disc.
- Blows from loss of control or blocking of the tool.
- Electrical contacts.
- Body parts becoming trapped by the disc.
- Exposure to dust.
- Exposure to noise.



Prevention Measures

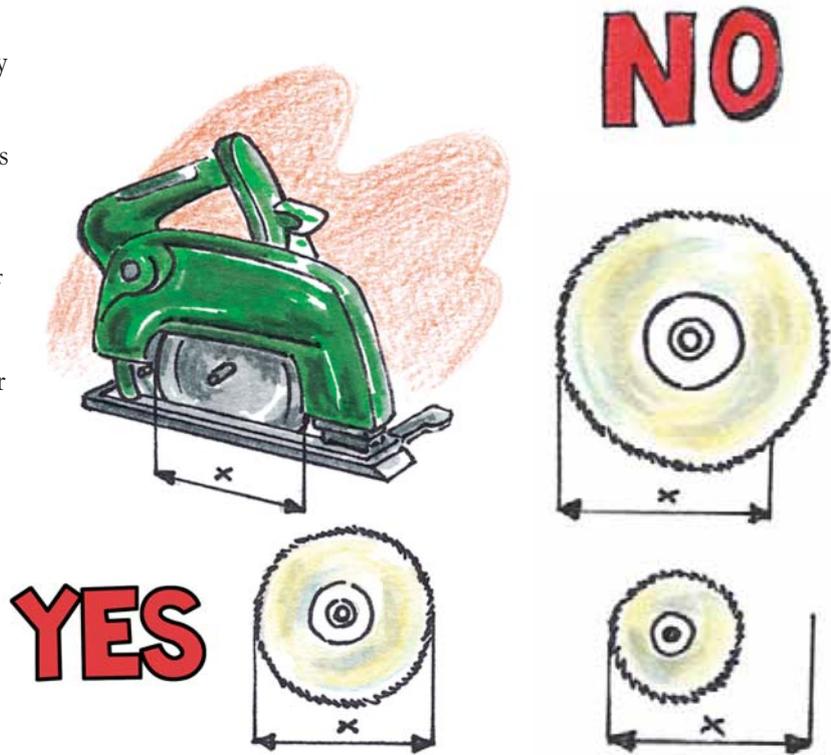
- Do not place hands close to the cutting area.
- Do not place the hand below the cutting area.
- Adapt the depth of the cut to the thickness of the material.
- Do not hold the parts to be cut with hands or any other part of the body. If required, use mechanical support systems.





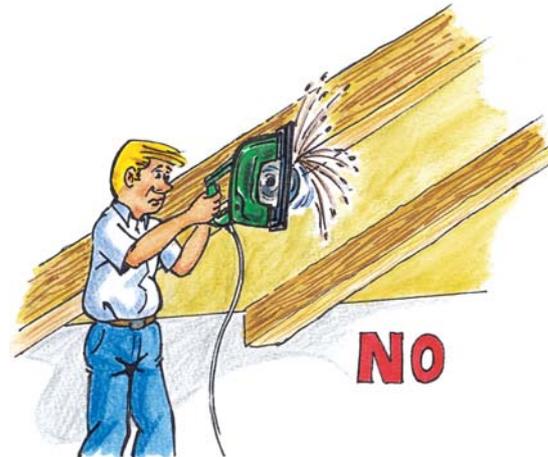
Prevention Measures

- The tool must be held by the grips.
- Use a stop for lengthways cuts.
- Only use saw discs which are appropriate for the size of the saw.
- Use appropriate washers or screws to hold the saw disc.



Use discs appropriate for the size of the saw.

- If the machine gets caught:
 - » Hold the tool firmly.
 - » Do not move your hand towards the disc to try and free it.
 - » Do not position yourself in the area towards which the tool will move.
- Check that the self regulating guard covers the lower part of the blade and that the recovery spring works correctly.
- Do not work with the saw above your head.
- Do not use the electrical tool while it is stationary.



Recommended Individual Protection Equipment:

- Mask in case dust is generated. (FFPx)
- Hearing protection for noise reduction.
- Goggles to protect against flying particles.





**RISKS AND GENERAL
PREVENTION
MEASURES FOR
POWER TOOLS**

MILLING MACHINE





Risks

- Cuts from contact with the cutting tool/bit.
- Flying particles.
- Blows from loss of control or blocking of the tool.
- Electrical contacts.
- Body parts becoming trapped by the tool.
- Exposure to dust.
- Exposure to noise.

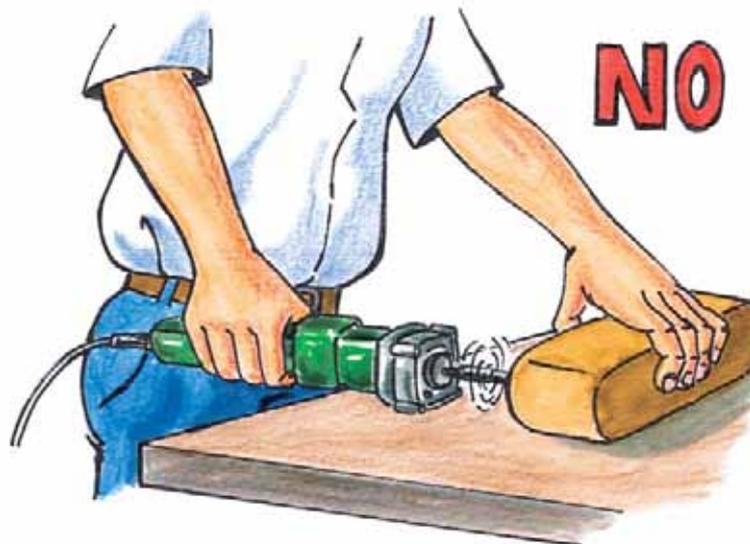


Prevention Measures

- Progress in an even manner.
- Do not stop the drill after it has been disconnected by exerting side pressure on it.
- Use only a disc drill with a sharp edge and in perfect condition.
- Protect the disc drill against blows and knocks.
- Do not drill on metal objects.

Recommended Individual Protection Equipment:

- Mask in case dust is generated. (FFPx)
- Hearing protection for noise reduction.
- Goggles to protect against flying particles.





FIRST AID





Action in Case of Accident

1 PROTECT

2 INFORM

3 ASSIST

RECOGNITION OF
VITAL SIGNS

A CONSCIOUSNESS

B BREATHING

C PULSE

REMEMBER THAT THE ACCIDENT VICTIM
MUST BE TREATED URGENTLY,
NOT MOVED URGENTLY





Cardio-pulmonary resuscitation

MOUTH-TO-MOUTH HEART MASSAGE

The rhythm for mouth to mouth and heart massage is:

30 COMPRESSIONS AND 2 MOUTH-TO-MOUTH BREATHS (100 COMPRESSIONS PER MINUTE)



- Ensure that the airways are clear.



- Keep the head of the accident victim back.



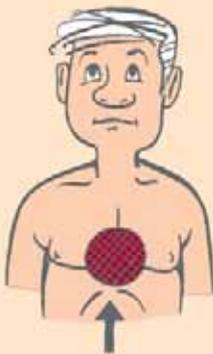
- Keep the victim's jaw raised.



- Place your lips over the mouth of the accident victim and blow in air while holding the nose.



- If the victim's mouth is closed and the teeth clenched, cover the victim's lips with your thumb to prevent air from escaping and blow in air through the nose.



- Point for heart massage.



- Position of the heels of the hands during heart massage.



Haemorrhages/bleeding



- Apply clean gauze or cloth to the point of bleeding.
- If the bleeding does not stop, place more gauze over the previous gauze and apply more pressure.
- Press with the fingers above the bleeding artery.
- Transfer to the medical centre.



Wounds



- Do not handle the wound.
- Wash it with soap and water.



- Do not apply creams.
- Cover with sterile gauze.



Burns



- Apply plenty of water to the burnt area for a minimum of 15 minutes.
- Remove clothing, rings, bracelets, etc., impregnated with hot liquids.



- Do not use creams.
- Cover with sterile gauze.
- Transfer to the medical centre.



Fainting



- Lay the subject down with the head lower than the rest of the body.



Convulsions



- Do not try to stop his or her movements.
- Place the person lying down where he or she can not get hurt.
- Roll the person carefully onto their side to help him or her breathe.



Splashing/spattering



Splashing of chemicals in the eyes

- Wash with plenty of water at room temperature $> 15^{\circ}\text{C}$.
- Do not rub the eyes.
- Transfer to the medical centre.



Foreign bodies in the eye

- Do not handle.
- Do not rub the eye.
- Cover the eye with a clean gauze and transfer to the medical centre.



Toxic products

In All Cases:

- Gather all the information about the toxic product (**safety sheet and label**). If these are not available, or if more information is required, call the Toxicology Information Service: **Tel 91 562 0420**.
- If there are signs of asphyxia, carry out mouth-to-mouth artificial respiration.
- Place the subject in the recovery position (see figure) and cover them with a blanket to prevent them from becoming cold.
- Transfer to a medical centre.

In Case of Ingestion:

- If the victim is conscious, make them vomit, unless the product information advises against this (corrosives, hydrocarbons).



Recovery position



OBLIGATIONS OF WORKERS IN RISK PREVENTION



Obligations of Workers in Risk Prevention



Article 29 of The Law on Prevention of Risks in the Workplace assigns the worker the obligation to **look after their own health and safety at work and that of any other people whose professional activity might be affected.**

In particular, depending on their training and according to the instructions of the business owner, workers must:

- Make **appropriate** use of machines, apparatus, tools, hazardous substances, transport equipment and, in general, any other means with which they carry out their activity.
- Use and **correctly maintain** the protection measures and equipment provided by the business owner, requesting that they be replaced if they are damaged.
- **Correctly use** the safety devices which exist and do not disable them.
- **Inform** their superior **immediately** of any situation which, in their opinion, constitutes a risk for the health and safety of workers.
- Cooperate with the business owner so that the latter can guarantee working conditions which are safe and which do not pose risks for the health and safety of workers.
- Failure to comply with the obligations on risk prevention referred to in the previous sections will be considered a failure to comply with employment conditions for the effects set out in article 58.1 of the Workers Statute.

HEALTH AND SAFETY MANUAL FOR HANDLING OF TOOLS

I have received the Health and Safety Manual which includes the risks and basic prevention measures for work involving the handling of tools and a summary of the obligations of workers contained in Article 29 of the Law on Prevention of Risks in the Workplace.

NID:

Date:

Name and signature of the worker:





Published by:
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at Work and Professional Illnesses No. 61*

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