

SAFETY AND HYGIENE REGULATIONS



Servei de Prevenció de Riscos Laborals
UNIVERSITAT POLITÈCNICA DE CATALUNYA

PORTABLE ELECTRIC DRILLS

CODE

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DESCRIPTION OF A PORTABLE ELECTRIC DRILL

Drill with no hammer action: an electric tool for drilling different materials such as metal, wood and synthetic materials.

Drill with hammer action: an electric tool for drilling concrete, stone, masonry and other similar hard materials, as well as occasional tasks of drilling concrete. It has a ratchet or toothed gear mechanism with an axial effect, which is superimposed over the rotation produced by the drive spindle.



PERSONAL PROTECTION EQUIPMENT (PPE) TO USE

Safety goggles or shield: to protect your eyes from projections of material or fragments of the tool if it breaks.

Hearing protectors: depending on the material of the workpiece, high levels of noise could be reached. In these conditions, you should use a hearing protector.

Safety gloves: only use when you fit or change the drill bit (the drill chuck may heat up if the tool is used for prolonged periods).

Respiratory protection equipment: if you are working on materials that could produce dust that is harmful to health or when many particles are generated, you should use respiratory protection equipment.



Protecció obligatòria de la vista



Protecció obligatòria de l'òïda



Protecció obligatòria de les mans



Protecció obligatòria per a les vies respiratòries

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BEFORE DRILLING

- ✓ Consult the manufacturer's manual to review safety instructions and determine which adjustments are required for the operation that you are going to perform (speed, selectors, etc.).
- ✓ For long tasks, connect the tool to a suitable external extraction device.
- ✓ Check whether there are any electricity cables, gas or water pipes in the walls, ceiling or the floor that is going to be perforated. Check whether there are any inflammable powders or vapours in the workplace, as the tool could generate sparks.
- ✓ Wear well-fitting clothing with tightly fitting sleeves so that they do not get caught in the tool. If you have long hair, tie it back. Do not wear jewellery.
- ✓ Whenever possible, secure the workpiece with clamps before drilling.
- ✓ Attach the additional handle and the depth stop in the right positions.
- ✓ Check that the drill bit is sharp and in good condition. Remove tools for adjusting the drill and chuck keys before connecting the equipment.
- ✓ Connect the machine to an electricity network that is protected with a thermomagnetic circuit breaker.
- ✓ Before you plug in the drill or fit the battery, check that it is in the off position and is close to the workpiece.

WHILE DRILLING

- ✓ Operate the tool without applying it to the workpiece to test it.
- ✓ Work on a firm surface, adopt a stable position and hold and guide the machine with two hands.
- ✓ Always **keep your hands away from the machine's work area**.
- ✓ If the tool gets jammed, a high reaction force is generated. In this case, disconnect the drill from the power supply and free the drill bit. If the drill is switched on when the drill bit is jammed, a very high reaction torque is produced. The drill bit gets jammed when the drill is overloaded or when the drill bit gets twisted in the workpiece.
- ✓ Always keep the electric cable behind the tool.
- ✓ To avoid faults in the operation due to excessive dirt, do not work with materials that produce a lot of dust from a position above or below the head.
- ✓ Do not expose the drill to rain and prevent water from getting inside it.
- ✓ Before you make large diameter holes, first make a smaller hole to serve as a guide.
- ✓ On completion and before putting down the drill, wait for the drill bit to stop moving, and then disconnect the device from the electricity supply.
- ✓ Do not pull on the electric cable to disconnect the plug from the socket.

MAINTENANCE, ORDER AND CLEANING

- ✓ Before you carry out any task on the tool, unplug it from the electricity supply or remove the battery.
- ✓ Keep the apparatus and the cooling grooves clean at all times. Never try to clean the dust and chips that are generated when the tool is in operation.
- ✓ Check the state of the machine, the electricity cable and extension cables, or the battery. If there are any faults, put an **"OUT OF ORDER"** sign on the tool and ensure that it is repaired by specialized staff. Use spare parts and accessories provided by the manufacturer and ensure that repairs are carried out by an authorised technical service.
- ✓ Only charge batteries using chargers recommended by the manufacturer (alternatives may represent a fire risk), and use the chargers designed for the model. Store chargers away from metal objects that could act as a bridge between the contacts (clips, keys, screws, etc.), as they could cause a short circuit and a fire or burns.
- ✓ The liquid inside the battery is corrosive. If the battery is cracked or used incorrectly it may leak or release fumes. Do not expose the battery to sources of heat such as the sun or fire (risk of explosion), to water or to moisture.
- ✓ Keep the drill bits clean and sharp, and store the tool in a dry place.