

2.4.17 Slotter, shaper

Legislative Decree 81/08 App. V and VI, Presidential Decree 459/96 App. I,



HAZARD

Machine tool used for machining such as mortising inside holes or on the outer surface of metal parts. The machine is made up of a frame with the tool in the top part which slides vertically with reciprocating movement.

The table, to which the workpiece is clamped, has an intermittent feed mechanism.

2.4.17.1 HAZARDS



Crushing and shearing between the tool and the workpiece

Access to the tool work area must be prevented using a movable interlocked guard (see [“Movable guards” in 2.2.3.2](#)) with guard-locking (see [“Movable interlocked guards with guard-locking” in 2.2.3.2](#)) if the machine inertia is such as to constitute a hazard for the operator that opens it.

On older machines a partial interlocked guard can be fitted (see [“Movable guards” in 2.2.3.2](#)) to prevent accidental contact with the tool. This guard should be used only after a careful risk assessment and the operator must be qualified.

The guard must offer good visibility and be kept clean and transparent at all times.

Projection of material

The guard must be capable of containing the ejection of chips or tool fragments inside the work area.

If the guards on the machine do not fully protect the area from which chips or tool fragments or cutting fluid could be ejected towards the operator, the operator must wear safety glasses (see [5.4 “Eye and face protection”](#)).

**Contact with motion transmission equipment**

Motion transmission equipment must be fully enclosed with fixed guards (see “Fixed guards” in 2.2.3.2) or movable interlocked guards (see “Movable guards” in 2.2.3.2) if frequent access is required to the protected area (i.e. more than once a shift).

2.4.17.2 CONTROL EQUIPMENT**Starting**

The only way to start the machine is to use specific control devices (see 2.2.6.1 “Starting”) that are easy to recognise and are protected against the risk of being accidentally activated (e.g. dual-action lever, pushbutton with guard ring, etc.).

Unexpected restart

Spontaneous restarts (see 2.3 “Machine electrical systems”) of the machine after power is restored must be prevented using a specific device.

Stopping

The machine must have a control device (see 2.2.6.3 “Stopping”) to stop it safely.

Emergency stop

All machines must have at least one emergency stop device (see 2.2.6.4 “Emergency stop”) placed within easy reach of the operator.

If necessary, there should be more than one emergency stop based on the size of the machine and the number of different possible workstations.

2.4.17.3 ERGONOMICS

Positioning

The slotter must be installed so that there is free access to the work area even when setting, loading and unloading devices, etc. are being used (for example, lifting devices).

Platform

The operator should stand on a wooden or plastic platform with a grating through which chips can fall and which is strong enough to walk on. Ergonomic aspects should be considered when choosing the platform height.

2.4.17.4 OCCUPATIONAL HEALTH AND SAFETY

Emissions

If the machine is used continuously and with cutting fluids, it must be fitted with an appropriate local exhaust ventilation system (see 3.6 “Local exhaust ventilation systems”).

Noise

Find out the noise levels to which staff are exposed when using the machine and follow the employer's instructions.

2.4.17.5 PERSONAL PROTECTIVE EQUIPMENT

The machining work must be assessed carefully so that the use of PPE can be defined:



Safety glasses (see 5.4 “Eye and face protection”) can be omitted if the guards fully protect the work area, preventing any material or cutting fluid being scattered towards the operator.



Gloves (see 5.6.4 “Gloves giving protection from mechanical risks”) protecting against mechanical risks and which are waterproof when cutting fluid is used. Gloves can be an entanglement hazard when the tool is moving if the guards do not fully enclose the work area. In this case, gloves should be worn only when the tool is not moving, to change and prepare the workpiece.



Safety shoes (see 5.7 “Foot protection”) with protective toe cap (S1).

2.4.17.6 OPERATING INSTRUCTIONS

The machine must come with a manual, in Italian, explaining correct use and maintenance, including a programme of periodic inspections.

2.4.17.7 OCCUPATIONAL HEALTH AND SAFETY ACTIONS

Before use

- Read the Operating Instructions and be trained on using the machine safely.
- Check that the guards ([see 2.2.3 "Guards"](#)) and safety devices ([see 2.2.5 "Safety devices"](#)) are present and positioned correctly.
- Check that the guard interlock systems work ([see 2.2.5.1 "Interlock systems"](#)).
- Check that the emergency stop button works ([see 2.2.6.4 "Emergency stop"](#)).
- Check that the workpiece is fitted and clamped correctly.
- Choose the most appropriate supports for the shape of the workpiece to fasten it.
- Check that the tool is solidly fastened.
- Make sure that keys, tools and other items are removed from the workpiece-holder plate.
- Make sure that the right amount and pressure of cutting fluid needed for machining is used (to avoid overheating and fumes).
- Activate the exhaust system if the work conditions require one to be installed.
- Wear clothes that cannot become entangled with the hazardous moving parts on the machine.
- Wear the personal protective equipment (PPE) shown in this data sheet.

During use

- Keep the guards on the machine positioned correctly.
- Do not override or tamper with the safety devices. If they have to be deactivated for a specific job, other safety measures must be adopted immediately, such as very slow machining speed and hold-to-run controls.
- Workpiece changeovers should take place only when the machine is stopped.
- Do not carry out any maintenance or cleaning, or remove chips, when the machine is moving.
- Never leave the machine unsupervised while it is in operation (only move away from the machine when the machining is complete or the machine is stopped).
- Arrange the workpieces to be machined and those that have been machined appropriately to avoid any falls.
- Report any malfunctions or faults promptly to the supervisor.
- Avoid getting cutting fluid on your hands or clothes (do not wear dirty overalls or canvas shoes, do not clean your hands on your overalls, do not keep dirty cloths in your pocket); wash your hands often (after finishing work and before eating, going to the bathroom and putting on gloves).
- Contain any cutting-fluid spills with special materials or substances provided by the employer.

After use

- Switch off the machine.
- Put measuring equipment and instruments back in their containers.
- Leave the area around the machine (especially the workstation) clean (free of chips, swarf and cutting fluid) and tidy.
- Reactivate any deactivated guards.