

# Safe Use of a Metal Guillotine in the Manufacturing Industry

## Information Sheet

This information sheet is for employers, employees, and the self-employed.

It provides an overview of the key safety aspects when operating or managing the use of sheet metal guillotines.

A guillotine is a metalwork machine used for cutting sheet metal, typically by employing a large blade to shear the material in a straight line. This machine is commonly used in industries such as manufacturing, construction, and automotive industry where precise, high-volume cuts are required for metal components. Because of its high cutting force, there is a risk of severe injury such as severed fingers and limbs.



## Potential Hazards

The operation of a metal guillotine can give rise to the following hazards:

- Contact with clamp and blade resulting in crush, deep cuts and amputations to fingers.
- Cuts from the sharp edges and burrs on the sheets before and after cutting.
- Injury due to ejection of material from rear of machine.
- Parts of the body being caught in crush and pinch points.
- Injuries caused when handling metal sheets.
- Electric shock/fire due to poor electrical connections or damaged cables.
- Injuries to persons other than the operator coming into the working area.

# Control Measures – Safe Operation

The following controls are necessary for the safe operation of a metal guillotine:

## Guarding and Set Up

- The guillotine must be operated and maintained as per the manufacturer's instructions.
- Front guard to prevent access to clamp or blade.
- Integrated lighting and marker to observe cutting line.
- Angled discharge chute to allow for collecting sheets without opening guard.
- Interlocking guard/light curtain to the rear.
- Shrouded foot pedal.
- The machine should be CE marked.
- A mushroom type of emergency stop should be in place and within reach of operators standing position.



**Front guarding to protect operators from the cutting blade and clamp & emergency e-stops fitted and clearly visible.**

## Safe Use

- Ensure the guillotine is in good condition. Guards and safety devices should be present and in good working order to prevent contact with the clamp or blade and prevent contact with ejected work pieces to the rear.
- Operator should be familiar with and check all machine operations and controls.
- Faults should be reported immediately, and the guillotine should not be used until it is safe to do so.
- Access in and around the workstation needs to be restricted during lifting and machine operation.



**Light Guard at the rear of the guillotine machine.**



**The shrouded foot pedal when pressed activates the beam and must be held in the depressed position until the machine has completed its cut.**

- A front table should be in place to support steel sheets.
- Gloves should be used when lifting sheet metal.
- Interlocked actuating devices should be provided (usually a foot control). It is an unsafe practice for two people to work at a guillotine unless both operators are provided with interlocked actuating devices.
- The area around the guillotine should be kept clear when in use to avoid trip and slip hazards. Anti slip surfaces or matting should be considered.

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## Electrical Safety

- Electrical cables and connections must be maintained to prevent electric shock or fire.
- The operator must visually check that electrical connections are in good order and cabling is not damaged.

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## Maintenance and Isolation

- Daily checks and regular maintenance should be carried out and records kept.
- The guillotine must be switched off and isolated before carrying out repairs, or alterations.
- Blades should be changed and set by a competent person.
- All planned and breakdown maintenance must be carried out using a Lock Out Tag Out Check (LOTOC) system.
- Maintenance should only be carried out by competent personnel.
- All power must be isolated and energy sources dissipated before maintenance takes place.

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## Health Hazards

- **Noise levels** must be assessed to ensure appropriate controls are in place. Employers must make hearing protection available and provide information if noise levels are 80 dB(A). At 85 dB(A) noise reduction measures must be implemented, mandatory warning signs displayed, and hearing protectors must be available and worn.
- **Chemical exposure** may present a risk from leaking hydraulic oil. Scrap metal cutting can expose operators to toxic fumes or lead dust generated from cutting painted or treated metal sheets, leading to respiratory irritation or heavy metal poisoning.
- **Manual handling** risks associated with heavy or awkward work pieces must be assessed and appropriate controls put in place to minimise injury. Consider mechanical means of handling heavy/awkward metal sheets. A team lift should be used for larger sheets if mechanical means is not practical.

## Personal Protective Equipment (PPE)

- PPE is the last line of defence, but where some hazards cannot be eliminated, appropriate PPE must be provided and worn where necessary.

## Training and Information

- Machine operators must be provided with information, instruction, training and supervision.
- The guillotine must be operated and maintained in accordance with the manufacturer's instructions.
- The operator's manual must be available.

## Legal Requirements

When operating any machinery, the following primary legislation applies:

- Safety, Health and Welfare at Work Act 2005
- Safety, Health and Welfare at Work (General Application) Regulations 2007
- Relevant Codes of Practice, guidelines and other legislation

## Risk Assessment

It is a legal obligation under **Section 19 of the Safety, Health and Welfare at Work Act 2005** for employers to have a written risk assessment for work activities and prepare a safety statement.

A risk assessment involves a careful examination of what could cause harm and allows the necessary precautions to be put in place to prevent injury.

The free **BeSMART** tool on HSA website can assist businesses in developing risk assessments and managing safety. See [www.besmart.ie](http://www.besmart.ie)

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# Further Resources

- [www.hsa.ie](http://www.hsa.ie)
- [www.besmart.ie](http://www.besmart.ie)
- SAFETY, HEALTH AND WELFARE AT WORK ACT 2005
- Risk Assessments Made Easy
- Short Guide to The Safety, Health and Welfare at Work Act, 2005
- A Guide to Risk Assessments and Safety Statements

**Health and Safety Authority**  
**Tel: 0818 289 389**

**[www.hsa.ie](http://www.hsa.ie)**



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