

Loss Prevention Standards

Angle Grinders

Introduction

Angle grinders are one of the most common hand tools and they can be encountered in just about any trade, from welders to maintenance engineers in motor vehicle repair garages, and on farms. They are used for all manner of jobs from grinding off metal and the cleaning of welds, to cutting. Most of the time they do the job without any problem, but they can cause serious injury and their use requires care and consideration.

Insurance claims indicate that angle grinders have been the cause of many accidents involving serious injury to the user. It seems that the most common cause of accidents is the use of an angle grinder to cut metal.

If an angle grinder is to be used then consideration should be given to a wide range of issues, including:

- Is the employee trained in the use of angle grinders?
- Is the correct size of grinder being used?
- Is the correct disc being used?
- Different discs are needed for cutting and grinding. Not all discs are suitable for “free hand” cutting
- Is the work piece suitably supported before work commences?
- Is the correct guard properly fitted?

Guards fitted to angle grinders should never be removed when the tool is in use. Unguarded discs present an increased risk of accident to the user and oversize discs run faster and present an increased risk of the disc bursting.

Equipment Selection and Maintenance

Due to the wide range of angle grinders available, advice should be sought from the supplier about the most suitable tool for the task. As a minimum, it should be to the appropriate British Standard and carry the CE mark.

All angle grinders should be subject to regular inspection and maintenance including routine portable appliance testing. Equipment rated at 240 volts should be inspected as follows (frequency for 110 volts in brackets):

- User Safety Check – Daily (Weekly)
- Formal Visual Inspection – Weekly (Monthly)
- Inspection and Test – Monthly (Three Monthly)

The guidance for inspection frequency in workplaces such as construction sites or manufacturing environments is set out in <https://www.hse.gov.uk/pubns/books/hsg107.htm>



Employee Training

Angle grinders are simple pieces of equipment whose use may appear obvious to employees. However, there are right and wrong ways to use them and all employees should receive training in their safe and correct use. Such training should cover the following:

- Pre-use inspections to ensure equipment is in good order, electrically safe and fitted with appropriate guards
- How to determine whether the disc is in good order or needs replacing
- How to identify discs and select the correct one for the task to be undertaken
- How to fit a disc correctly
- How to determine the correct method of use of an angle grinder
- Selection of the appropriate personal protective equipment for the task
- The importance of ensuring that a suitable, safe stance is adopted when using an angle grinder
- The specific precautions to be observed when using an angle grinder for cutting jobs

Personal Protective Equipment (PPE)

Appropriate personal protective equipment should always be provided for employees who use portable angle grinders, such as:

- Eye protection – ideally goggles (but see below)
- Safety footwear with steel toecaps
- Gloves
- Suitable overalls

Where the work is taking place above head height, a full-face visor should be used.

Use of Heat

Angle grinding operations will often result in the generation of significant heat and sparks, and especially if carried out in direct contact or in close proximity to flammable or combustible substances or atmospheres, there is a risk of fire or explosion, with the potential to cause serious injury or damage to property. It is therefore important to have suitable and sufficient Hot Work procedures in place to reduce the associated risks to an acceptable level. More information on Hot Work is available in the Aviva Risk Management Solutions Knowledge Store; Loss Prevention Standard https://broker.aviva.co.uk/documents/view/aviva_hot_work_operations_lps.pdf

Possible Health Risks

It is possible that the use of angle grinders might give rise to risks to health. However, it is not possible in this Loss Prevention Standard to cover such risks in detail, but they could include:

- Vibration – when there is extended use of angle grinders over several hours
- Exposure to nuisance dusts
- Exposure to silica – if the angle grinder is used to cut concrete products

Additional information on such risks can be found on the Health and Safety Executive (HSE) website.

Key Action Steps

- Ensure the angle grinders provided are suitable for the tasks
- Arrange for regular maintenance and inspection
- Carry out risk assessments of all tasks involving the use of angle grinders
- Ensure only trained employees change discs
- Ensure that employees are trained in the correct use of angle grinders
- Determine the personal protective equipment required and issue to all employees who use angle grinders

Additional Information

- [Maintaining portable electrical equipment in low-risk environments INDG236](#)
- [Safety in the use of abrasive wheels HSG17](#)
- [The Management of Health and Safety at Work Regulations 1999](#)
- [The Provision and Use of Work Equipment Regulations 1998](#)
- [The Electricity at Work Regulations 1989](#)
- [The Personal Protective Equipment at Work Regulations 1992](#)
- [The Control of Noise at Work Regulations 2005](#)
- [Health and Safety Executive](#)

10/19 – Version 1.2

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Further risk management information can be obtained from [Aviva Risk Management Solutions](#)

Please Note

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Appendix 1 – Checklist

Location	
Date	
Completed by (name and signature)	

	Title	Y/N	Comments
	Is the Angle Grinder the correct piece of equipment for the task?		
	Is the correct disc fitted for the task?		
	Is the correct guard fitted for the job (eg. cutting or grinding)?		
	Is the guard burst proof?		
	Is the employee trained in the correct use of angle grinders?		
	Is Local Exhaust Ventilation or bench extraction needed?		
	Are there risk assessments in place for the different types of use of the Angle Grinder?		
	Are all the inspections on the grinder up to date? PAT testing and formal monthly checks and daily checks before use?		
	Does the employee have all relevant PPE?		
	Has the vibration risk been assessed?		
	Additional Comments		

