

**GENERAL PRINCIPLES OF SAFETY  
PRECAUTIONS AGAINST LIKELY HAZARDS**



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<b>GENERAL PRINCIPLES OF SAFETY</b>
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**Abrasive products improperly used can be very dangerous.**

- Always follow the instructions provided by the abrasive product and machine supplier.
- Ensure that the abrasive product is suitable for its intended use. Examine all abrasive products for damage or defects before mounting.
- Follow the correct procedures for handling and storage of abrasive products.

**Be aware of the hazards likely during the use of abrasive products and observe the recommended precautions to be taken:**

- Bodily contact with the abrasive product at operating speed.
- Injury resulting from product breakage during use.
- Grinding debris, sparks, fumes and dust generated by the grinding process.
- Noise.
- Vibration.
- Use only abrasive products conforming to the highest standards of safety.
- Never use a machine that is not in good working order or one with defective parts.
- Employers should carry out a risk assessment on all individual abrasive processes to determine the appropriate protective measures necessary. They should ensure that their employees are suitably trained to carry out their duties.

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**Noise**

- Ear protection is recommended for all applications where the workpiece or machine is hand-held, irrespective of the noise level.
- Ensure that the correct abrasive product is selected. An unsuitable product can produce excessive noise.

**Vibration**

- Processes where the workpiece or machine is hand-held can cause vibration injury.
- Action needs to be taken if tingling, pins and needles or numbness is experienced after 10 minutes continuous use of the abrasive product.
- The effects of vibration are more pronounced in cold conditions so keep the hands warm and exercise hands and fingers regularly. Use modern equipment with low vibration levels.
- Maintain all equipment in good condition and stop the machine and have it checked if excessive vibration occurs.
- Use good quality abrasive products and keep them in good condition during their life.
- Maintain mounting flanges and back-up pads in good condition and replace if worn or distorted.
- Do not grip the workpiece or machine too tightly and do not exert excessive pressure on the abrasive product.
- Avoid continuous use of the abrasive product.
- Use the correct product. An unsuitable product can produce excessive vibration.
- Don't ignore the physical symptoms of vibration - seek medical advice.



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### **DISPOSAL OF ABRASIVES**

- Used or defective abrasives should be disposed in accordance with local or national regulations.
- Further information can be obtained from Voluntary Product Information provided by the supplier.
- Be aware that the abrasive product may be contaminated with material from the workpiece or process after use.
- Disposed abrasive products should be damaged to prevent them from being taken from waste skips and reused.

### **Bodily contact with the abrasive product**

- Always take great care and attention when using abrasive products. Tie back long hair and do not wear loose clothing, ties and jewellery.
- Prevent accidental start-up of the machine before mounting or changing an abrasive product. Isolate machines from their power source where necessary.
- Never remove guards from machines where fitted and ensure they are in good condition and properly adjusted before starting the machine.
- Always use gloves and suitable clothing where the workpiece or machine is hand-held.
- After switching off the machine, ensure the product has come to rest before leaving the machine unattended.

### **Injury caused by product breakage**

- Always handle abrasives with great care, they are easily damaged. Examine all products for defects or damage before use.
- Store abrasives in dry, frost-free conditions avoiding wide variations in temperature. Ensure they are properly protected and supported to prevent damage and distortion.
- Coated abrasives should be stored at 18-22° C, 45-65% relative humidity.
- Abrasive belts should be hung on a rod or peg not less than 50mm diameter.
- Never use an abrasive product beyond its expiry date where marked. Observe the recommended shelf life for the following specific products; Resinoid and Shellac products 3 years, Rubber products 5 years, Vitrified products 10 years.
- Ensure that the correct abrasive product is selected. Never use a product if it cannot be properly identified.
- Follow the instructions provided by the abrasive product or machine supplier when mounting abrasive products. Observe any mounting indications marked on the product such as direction of run or mounting position.
- Never force the abrasive product onto the mounting fixture or modify it to fit.
- Never exceed the maximum operating speed where specified.
- Check that the correct mounting devices are used and that they are undistorted, clean and free from burrs.
- Use mounting blotters where supplied.
- Do not tighten the mounting device excessively.
- After mounting or re-mounting an abrasive product, conduct a trial run at operating speed with the guard in place for at least 30 seconds, standing clear of the machine before use.
- Never remove guards from machines where fitted and ensure they are in good condition and properly adjusted.
- Ensure that the workpiece is secure and properly supported. Ensure that work rests are properly adjusted and secure.
- Never start the machine with the workpiece in contact with the abrasive product.
- Never apply excessive force or shock to the abrasive product or let it overheat.
- Do not grind on the part of the product that is not designed for the operation. Avoid grinding with the edge of abrasive belts, use the centre of the belt if possible.
- Avoid clogging and uneven wear to ensure that the abrasive product is working efficiently. Dress frequently where appropriate.

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- Let the abrasive product stop naturally, not by applying pressure to its surface
- Turn off and spin out excess coolant before stopping the machine.
- Do not leave abrasive belts under tension when not in use.

#### Grinding debris - sparks, dust and fumes

- Exposure to grinding debris can cause lung damage and other physical injuries.
  - All dry grinding processes should be provided with adequate extraction facilities.
  - Do not use abrasive products near flammable materials.
  - The use of respirators is recommended for dry grinding processes even if extraction systems are provided.
  - Guards where provided should be adjusted to deflect sparks and debris away from the operator. Take additional measures to protect people working nearby.
  - Eye protection is recommended for all machine applications for abrasives. For hand-held machines or workpiece, goggles or full-face shields are recommended.
  - Ensure that the correct abrasive product is selected. An unsuitable product can produce excessive debris and dust.
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Read the instructions



Wear eye protection



Wear hearing protection



Wear gloves



Wear a respirator