

## Safety recommendations for the proper use of abrasives

### General principles

The improper use of abrasive tools is most dangerous.

- Always follow the instructions given by the manufacturer of the abrasive and the power tool.
- Make sure that the abrasive is suitable for the intended use.
- Check the abrasive for defects before using.
- Follow the instructions for appropriate handling and storing of the abrasive.

Be aware of possible hazards when using abrasives and follow the recommended safety procedures:

- Body contact with the abrasive at operating speed
- Injury resulting from breakage of the abrasive
- Debris, sparks, fumes and dust caused by the abrasive
- Noise
- Vibration

Only use abrasives which conform to the highest safety standards. The following EN standards define essential safety requirements for abrasive products :

- EN 12413 for bonded abrasives
- EN 13236 for diamond and CBN abrasives
- EN 13743 für certain coated abrasives (fiber discs, flap discs , flap wheels and mounted flap wheels)

Never use a power tool which is not in good working condition or which contains defective parts.

Employer should carry out a risk assessment of all grinding processes to identify all risks and take appropriate precautions. They should assure the proper training of the employees for the assigned duties.

## Precautions against likely hazards

### Body contact with the abrasive

- Take great care and attention when using abrasives. Tie back long hair and do not wear loose clothing, ties and jewelry.
- Prevent accidental start up of the power tool when mounting or dismounting the abrasive. Disconnect the power tool from the power supply.
- Never remove the safety guards from the power tool and make sure that they are in proper state and safely fitted before switching on the power tool.
- Always use gloves and appropriate clothing when working with hand-held power tools. Gloves should be in accordance with EN 388 category 2.
- After switching the power tool off ensure that it has come to a complete stand-still before leaving it unattended.

### Injury caused by breakage of the abrasive

- Since abrasive can be easily damaged pay close attention when using them. Check all abrasives for damages before using them.
- Abrasives should be stored avoiding harmful influence of humidity, freezing and wide variations of temperature as well as mechanical damages.
- Coated abrasives should be stored at 18-22° C and 45-65% relative humidity.
- Abrasive belts should be stored at rods or hooks with a minimum diameter of 50mm.
- Never use abrasives after the expiry of the indicated shelf life. Where no shelf life is indicated apply the following data: Reinoid– and Shellac bonded products 3 years, rubber bonded abrasives 5 years, vitrified abrasive 10 years.
- Always use abrasives appropriate for the job. Never use an abrasive which can not clearly identified.
- When mounting an abrasive pay attention to the indications given on the label or the abrasive itself, e.g. rotating direction or mounting position.
- Never apply force when mounting an abrasive and never modify the tool.
- Never exceed the permitted maximum operation speed.
- Where supplied with the abrasive use blotters.
- Make sure that correct flanges are used and that they are without mechanical damage, clean and free from burrs.

- Do not tighten the clamping 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 the safety guards from the power tool and make sure that they are in proper state and safely fitted before switching on the power tool.
- Pay attention to warnings and safety information given on the abrasive or its packaging:



Not permitted for hand-held machines

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Only permitted for use on totally enclosed machines



Not permitted for wet grinding



Read instructions



Not permitted for face grinding



Wear eye protection



Do not use if damaged



Wear ear protection

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Only permitted for wet cutting



Wear respirator



Only permitted with a back-up pad



Wear gloves

- 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.
- 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 complying with EN149 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 work-piece, goggles or full-face shields with a minimum protection level of EN166 Grade B are recommended.
- Ensure that the correct abrasive product is selected. An unsuitable product can produce excessive debris and dust.

## Disposal of abrasives

- Dispose used or defective abrasives 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 work piece or process after use.
- Abrasive products to be disposed should be destroyed to prevent re-use.

### **Any questions? Please contact:**

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