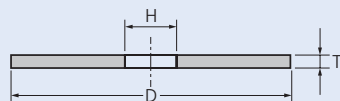
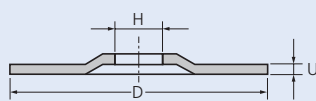


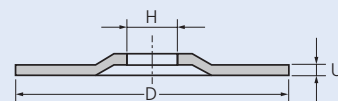
Product types and dimensions



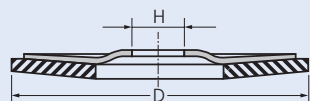
Cut-off wheel, flat type EHT (type 1/41)



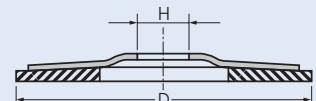
Cut-off wheel, depressed-centre type EH (type 27/42)



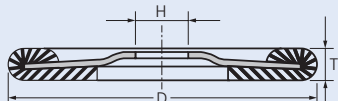
Combination wheel DUODISC®, depressed-centre type E (type 27)



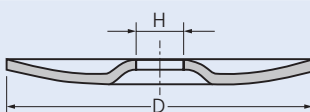
Flap disc, conical type PFC (type 29)



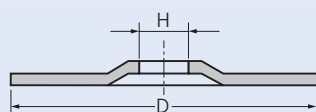
Flap disc, flat type PFF (type 27)



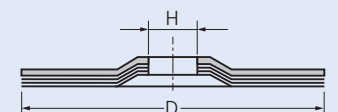
Flap disc, radial type PFR (CURVE)



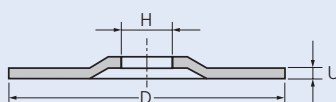
CC-GRIND®-SOLID



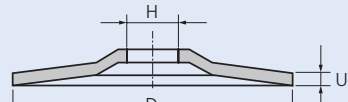
CC-GRIND®-FLEX



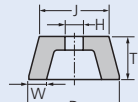
CC-GRIND®-STRONG



Grinding wheel E (type 27)



Grinding wheel ETF (type 28)



Conical cup wheel ETT (type 11)

Cutting and grinding safety



Abrasive wheel manufacturers, power tool manufacturers and users contribute equally to ensuring safety during cutting and grinding operations.

PFERD manufactures all its products according to the current safety standards. During cutting and grinding, the user is responsible for correct use of the power tool as well as correct handling and use of the abrasives.

The information required for the safe use of grinding wheels, cut-off wheels, cup wheels, flap wheels, POLIFAN® flap discs and CC-GRIND® grinding discs from PFERD is summarized here. In addition to this, user information relating to the power tool used, as well as the applicable provisions on health and safety at work, should always be observed.

Explanation of the labeling of abrasive products

- Always observe the instructions on the abrasive, the grinder and all accompanying user information. Abrasives made by PFERD conform to the highest quality and safety requirements and are marked according to the following key European and international safety standards:
 - ANSI B7.1 or B7.7
 - OSHA regulations
 - EN 12413, EN 13236, or EN 13743
- Use a grinder that is suitable for the respective application. A product that can not be clearly identified should never be used.
- Observe any use restrictions, warnings and safety instructions on the abrasive and on the accompanying labels or packaging:



= Not permitted for hand-held grinding!



= Not permitted for face grinding!



= Not permitted for wet grinding!



= Do not use if damaged!



= Follow the safety instructions!



= Wear eye protection!



= Wear hearing protection!



= Wear gloves!



= Wear a dust mask!



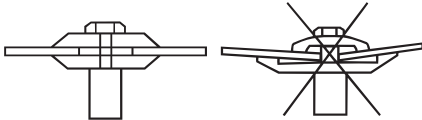
= Observe the minimum contact angle!

Storage of abrasive wheels

- Abrasive wheels should be stored in such a way as to prevent any adverse effects caused by moisture, frost or large temperature variations and so as to avoid mechanical damage. Do not use resinoid-bonded abrasive wheels or abrasive products using coated abrasives that have been exposed to severe humidity, damp, or high temperatures.

Mounting of abrasive wheels

- Only use grinders that are intended for use with the relevant product.
- Never use a grinder that is not in good condition.
- Use only abrasive wheels whose outer diameter and centre-hole diameter and/or thread match the specifications of the grinder.
- Never use damaged abrasive wheels. Abrasive wheels must be visually inspected and checked for any possible damage before each use.
- Keep mounting components clean and in good mechanical condition.
- Replace them if they become damaged or worn. If the manufacturer of the grinder provides tools for fixation of the abrasive tools (e.g. a key), then these are to be used.



- Tighten the clamping mechanism finger tight.
- In principle, only clamping flanges having a contact surface with the same outer diameter and which are identically shaped on the contact side are to be used. According to relevant US standard, for wheels of type 27 and 28 equal to or greater than 7" (180 mm) the locking nut shall seat within the depressed portion of the wheel. The flange adjacent to the wheel shall be equal to or greater than one-third of the wheel diameter and the outer part of the flange shall be free and clear from the wheel. For details see ANSI B7.1.
- If required, use blotters between the abrasive wheel and clamping components.
- Prevent the grinder from accidentally turning on, by disconnecting the power supply before mounting or changing the abrasive wheel.
- Never exceed the maximum operating speed of an abrasive wheel. Make sure that the speed of the grinder (rev/min, 1/min, RPM or min-1) does not exceed the maximum permissible speed given on the abrasive wheel, the accompanying label or packaging.
- Do not make any unauthorized changes to abrasive wheels.
- If a diamond cut-off wheel is marked with a specified direction of rotation, this must be complied with.
- Each time that a wheel is mounted, perform a trial run at operating speed with the guard properly installed, for at least 1 minute. During the trial run, hold the grinder in such a way that in the event of any failure of the abrasive wheel you are not struck by any fragments.
- Stationary cut-off wheels must only be used on appropriate stationary cut-off grinding machines. They are not permitted for hand-held or manually guided grinding. The maximum permitted power output must never be exceeded, in case there is a marking on the label.
- Clamping flanges for stationary cut-off wheels must meet today's requirements according to ANSI B7.1. Our PFERD sales department will be happy to advise you.

Use of abrasive wheels

- Ensure that the correct abrasive product is selected. Never use a product if it cannot be properly identified.
- Always be aware of the potential dangers during use of abrasive wheels.
- Always use protective equipment and guards in compliance with the operating instructions for the grinder and make sure they are properly mounted and in good condition, before you switch on the grinder.
- Comply with the ANSI B7.1 regulations on safety guards depending on the mounted wheel:
 - Type 1 wheels must be used with a guard covering at least 180° of the lateral wheel surface and face.

- Type 6 and 11 cup wheels must be used with a guard covering 180° of the wheel's lateral surface towards the operator and the wheel's face towards the driving flange. Additionally, the guard must have a height-adjustable skirt.
- Type 27, 28, and 29 wheels must be used with a guard covering 180° of the wheels lateral surface towards the operator and the wheel's face towards the driving flange. Additionally, the outer edge of the guard has to provide a lip curling inward at the whole 180° coverage in order to protect the user in case of wheel breakage.
- The workpiece must be fixed without tension by appropriate clamping devices or by its own weight.
- The grinder must always be turned on before the abrasive wheel comes into contact with the workpiece.
- Always bring abrasive wheels carefully into contact with the workpiece surface.
- Always guide cut-off wheels in a straight line. No lateral load should be applied to the cut-off wheel and it should not be used for face grinding.
- Only use diamond cut-off wheels on materials listed on the label.
- Grinders may only be put down once they have been turned off and have come to a complete stop.

Hazards due to product breakage, abrasive particles, sparks, dust, fumes, noise, vibration and bodily contact with the abrasive product at operation speed

- Warning! The grinding process may generate dust and fumes. Inhalation of grinding dust can lead to severe lung damage. Sufficient extraction or other appropriate measures must be provided and appropriate personal protective equipment must be worn at all times.
- The use of appropriate personal protective equipment is required for all grinding operations to provide protection against mechanical impacts, abrasive particles, sparks, dust and fumes, noise and vibration. This includes eye protection, ear protection, respiratory protection and hand protection. Long-sleeved, flame-resistant clothing and appropriate safety footwear must be worn. Tie back long hair and do not wear loose clothing, ties or jewelry. These rules apply not only to the operator of the grinder but also to any other persons in the working environment.
- Predominantly, dust and fumes in a grinding process originate from the workpiece material. Review the Safety Data Sheet (SDS) of the workpiece material.
- Do not use abrasive wheels in the vicinity of flammable materials.
- Flammable and explosive substances must be removed from the working environment before starting work. This includes, for example, dust deposits, cardboard, packaging material, textiles, wood and wood chips, as well as flammable liquids and gases.
- In the event of excessive vibrations stop the grinder and investigate these. Take immediate action if, when using an abrasive wheel, you begin to experience tingling, stinging or numbness in the hand or arms.
- Prevent accidental start-up of the grinder before mounting or changing an abrasive product. Isolate grinders from their power source where necessary.
- Never remove guards from grinders where fitted and ensure they are in good condition and properly adjusted before starting the grinder.
- After switching off the grinder, ensure the product has come to rest before leaving the grinder unattended.

Disposal of abrasive wheels

- Worn or defective abrasive wheels must be disposed of according to all local and/or national regulations.
- Note that abrasive wheels may become contaminated by work on certain materials.
- Abrasive wheels for disposal should be destroyed in a clearly visible manner in order to prevent re-use.
- Further information can be obtained from Voluntary Product information provided by the supplier.