

Gear up With the Right PPE When Angle Grinding

A QUICK REFERENCE GUIDE

This quick guide illustrates the safety hazards to be aware of and protection to consider when operating an angle grinder.



One of the most dangerous tools in any workplace

Angle grinders are common power tools found in just about every metalworking environment. Whether the accessory on that tool is a grinding disc, cutting disc or a wire wheel, it is spinning at speeds ranging from 9,000 to 1,000 RPM just inches from your hands, fingers, body and face.

What Are the BIGGEST HAZARDS

When Using An Angle Grinder?

It is critical to be aware of the hazards when angle grinding so you can determine the protection needed to stay safe.



CONTACT WITH WHEEL

Angle grinders can cut through stone, concrete, metal and other strong materials- so they have no trouble cutting through human flesh and bones. Wear suitable gloves to keep a good grip during use.



WHEEL BREAKAGE

Breakage is an inherent risk with every abrasive wheel. To keep this risk low, check discs, correctly mount and safely use angle grinders.



KICKBACK

Kickback can cause serious and even fatal accidents. This happens when the angle grinder grabs or jams the material when cutting. Kickbacks can cause the user to lose control of the tool, leading it to hit the worker or be dropped, causing foot and leg injuries. Always wear PPE including eye, head, foot and hand protection, as well as protective clothing.



FIRE

When using an angle grinder, you are likely to produce a large number of sparks. You may not be able to stop this, but you do need to make sure you are in a safe environment for using an angle grinder. If there are flammable materials in the work area, they may catch fire from the flying sparks.



CONTACT WITH PROJECTILES

Projectiles can be caused by the wheel bursting but also by the material being cut or ground. To prevent an injury, it's vital you wear the correct PPE to protect against the risk of projectiles, especially eye and face protection.



ELECTRIC SHOCK

Many angle grinders are electric, so you should consider accidents caused by portable electrical equipment. Visually check the tool before use, have periodic portable appliance testing and route cables away from the wheel to avoid contact.



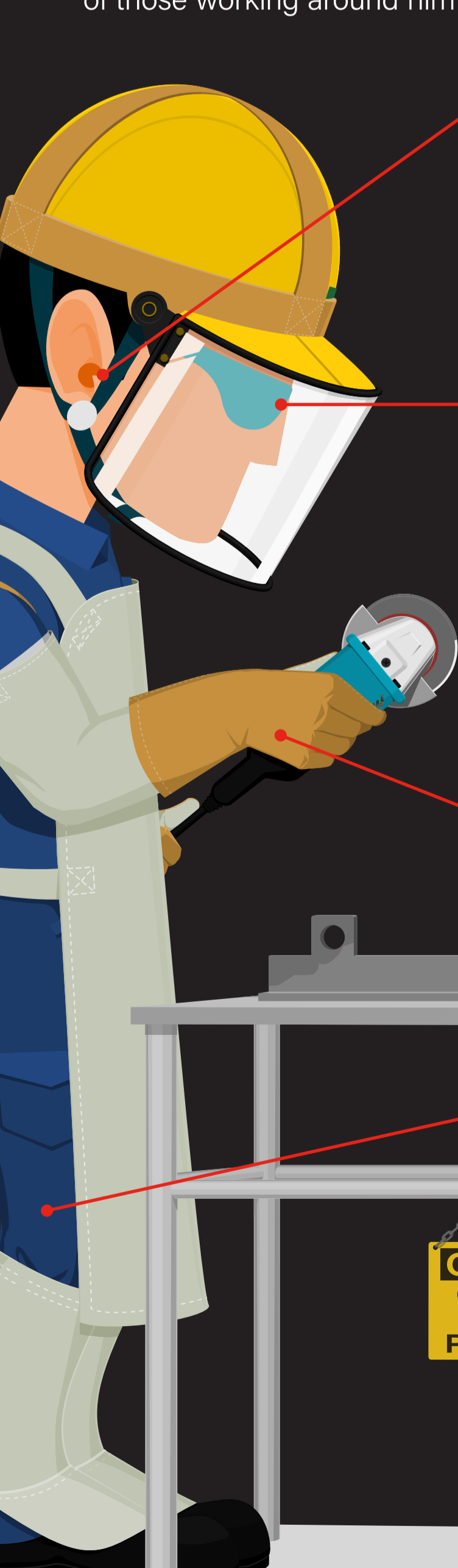
ENTANGLEMENT

Wearing the right clothing is important to help protect you, but wearing the wrong clothing can also cause an angle grinder accident. As with any rotating disc, there is a risk of entanglement.

Loose clothing such as ties or baggy long sleeves are easily drawn in between the wheel and the workpiece and should not be worn. Long hair should be tied back. Rags and waste should also be removed from the work area, away from the wheel, as they may also become entangled.

ESSENTIAL PPE When Grinding

The first step in using an angle grinder safely is to follow basic safety procedures. This includes wearing the appropriate personal protective equipment (PPE), such as hearing protection, safety glasses, a face shield, gloves and flame-resistant clothing. PPE is required by most employers. It is important for the operator's safety as well as the safety of those working around him or her.



HEARING PROTECTION

Hearing protection is part of a hearing conservation program, which is required when noise exposure exceeds the action level [85 decibels on the A scale (dBA)]. Hearing protection should be worn based on the sound level and duration of the task. The noise volume will vary depending on the abrasive accessory that you are using and the type of material the grinder is being used on.

FACE AND EYE PROTECTION

Eye protection, such as safety glasses or goggles, is especially important when grinding. The speed at which angle grinders can propel small particles is much faster and farther than hand tools. Certain power tools may require using a face shield in addition to safety glasses or goggles. For example, a face shield is suggested while using a grinder due to the amount of hot metal particles generated. A face shield is considered a secondary form of eye protection and should always be used in conjunction with a primary form of protection - safety glasses or goggles.

HAND PROTECTION

Gloves are required when the task produces sharp particles or the materials become hot. Gloves should be well-fitted while providing good dexterity and the best possible protection against cut, abrasion and heat. Vibration-resistant properties are also of benefit.

BODY PROTECTION

Sparks are a sign that the grinding wheel is doing its job, however, they present a safety hazard. Cover your skin with a fire retardant (FR) jacket or well-fitting, flame-resistant clothing to protect against burns and cuts from the spark stream or the surfaces of the workpiece. Do not wear loose clothing when operating a hand grinder. Tuck in your shirttail and keep sleeves buttoned. Severe damage can occur if the grinding disk gets tangled in clothing.