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## Grinder Burnout

**Angle grinder burnout can be avoided with these simple steps.**

***If you smell the angle grinder overheating do not stop the grinder or it will burn out!***

***Lift the angle grinder off the floor and allowed it to spin at full speed for a few seconds to cool it down.***



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Angle grinder motors are very powerful and they generate a lot of heat during normal use. To keep them cool they have a strong fan inside the angle grinder that sucks air in from the trigger switch area and blows it out the front of the grinder. This air passes across the brushes and the windings to prevent overheating and grinder burnout during normal concrete floor grinding.

- **This advice applies mainly to nine inch (180mm) angle grinders**

Nine inch angle grinders are mostly used for heavy duty concrete floor grinding and are often used beyond their normal limits when the work is slow and difficult.

If your angle grinder smells like it is too hot, immediately lift the grinder off the floor or move it to an area on the floor that you have already ground where it can spin freely again which will allow the fan to pass cool air through the grinder and cool it down. This will only take about 10- 20 seconds.

Angle grinders are usually fine to use to their capacity which naturally slows them down a bit, but try not to slow them too much for too long.

**Slowing the grinder dramatically increases heat - here is why:**

When an angle grinder is used to remove sticky materials the friction from the diamond grinding wheel on the floor can cause the grinder to work so hard that it slows down to half its speed.

The extra load pulls more current through the windings and causes them to heat up while at the same time it slows down the fan that is meant to keep them cool.

This causes a dramatic rise in heat through the windings and stopping the grinder at this time will remove all cooling and result in grinder burnout.

### **Grinders can take a lot of punishment**

Experience has shown that grinders can get very hot many times without problems if they are cooled again quickly in the manner described above.

### **But why work on the edge of disaster?**

If the grinder is slowing down strongly on sticky material just

take smaller bites into the coating.

No other grinder using the same power source will do it faster so it is just going to take longer and that type of grinding situation is not very common, it only happens to some contractors very occasionally.

### **PCD Scraper Discs can also help**

If sticky coatings is a more frequent occurrence there may be a better way to tackle it which is by using a PCD scraper disc fitted to the angle grinder instead of the diamond grinding cupwheel.



The coating or glue is scraped away with polycrystalline diamond teeth on these special cupwheels. They can be very fast and will tackle coatings of 500 to 10,000 microns thick (0.5mm to 10mm) or (1/32 inch to 1/2 inch).

### **Maintenance of your angle grinder**

Some periodic maintenance is require although you will be surprised at just how long it can keep working without any.

The difficult part is explaining how long it will take to wear.

A guess would be maintenance once per year when it is used three or four times a week for 2 hrs each time.

#### **Brushes**

First is the brushes which wear very slowly, even in a concrete dust environment and you can check them by first disconnecting the power and then removing the small panel at each side of the grinder near the trigger-switch handle and take out the carbon brushes that are connected to a spring. Check your grinder manual for more information.

#### **Front bearing**

This seems to wear at about the same time as the brushes so if you replace one, also do the other.

To check bearing wear, disconnect the power, turn the grinder over and try to wobble the diamond disc on the shaft. There is no wobble on a new grinder.

If you can feel a definite wobble take it to a power tool shop and have the bearing replaced. If you let it go for too long the gears will wear and it may not be economical to repair the grinder.

Many contractors figure that if it has done that much work without any trouble it may be better to just replace the whole grinder - they are very low cost compared to the amazing amount of work they do.

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