

FIVE FREE QUICK TIPS FOR DIAMOND DRILLS

Are you dressed for success? Did you know that dressing your drill is not sharpening it? Read on!

Thanks for visiting this page.

Flat Glass Solutions are pleased to offer you some free tips on getting the most from your diamond drill bits.



Rotation Speed

Now we could get all technical here, but the 'rule of thumb' is to have the circumference of the diamond core drill bit travelling about 3 metres per second. So for a 10mm diameter hole, this needs to be about 6000rpm. While this speed is not a must, it does have an effect on the feed speed. Rotational speed also has an effect on the condition of the tool and is in turn affected by the other tips discussed below.



Feed Speed

Feed speed is also known as drill pressure. If the drilling pressure is too much then this will cause an aggressive heat build up in both the drill bit and the material. This increase in friction will cause the tool to become burnished and may cause breakages in the glass. Regulating the correct feed speed is in direct relation to rotation speed and tool condition. Slower is generally better, but in today's production environment, getting the most out of the machine in the quickest time is often the norm.



Cooling

One of the most important aspects of any drilling. The three C's apply to cooling diamond bits when drilling glass. **Copious** amounts of water, **clean** and uncontaminated supply of water, and **critical** delivery to the area needed (drill tip). Cooling the drilling tool will prolong the life of the bit, reduce the potential glass breaks, clean away abrasive particles, and keep the drilling edge clean.



Vibration

This is the adversary of drilling. Vibration can be caused in the drilling too, or if the material being drilled is not properly secured. The tool should be tight in it's holder, which in turn should be properly and soundly mounted. The material should also be securely held in good anti-vibration supports. Remember damaged tools can also cause vibration...



Dressing

The better a diamond tool is dressed, the better it will 'cut'. Dressing is not the same as sharpening. Dressing the tool exposes fresh diamonds by removing the compound. If the diamond is glazed over, which may have been caused from the wrong rotational or feed speeds and not enough coolant, then it will begin to tear rather than grind. Tearing causes friction. Friction will reduce the tool life.

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Summary

The key to maximising the life (and therefore the production output) of diamond drill bits is to always ensure that the tool is well dressed. This means having the cutting diamonds well exposed and ready for action. Otherwise it is a continuous 'merry go-round' of problems, each causing and contributing to the next.

When your drill bit is new it has the best prospects to do the job. It should be dressed for optimum performance, meaning the four other things we have considered now need to be right - rotational and feed speed, good cooling and zero vibration.

If it isn't dressed for success then achieving high performance will be difficult. If the tool compound has glazed over, it will tear and cause friction. Friction can be multiplied by not considering speeds and especially if coolant is applied incorrectly or inadequately. Damaged tools in turn can increase the risk of vibration. Now we have premature wear on the drill. Finally the glass is damaged resulting in poor production outputs. So failure to consider the best performance of the tool by dressing it properly now has a knock on effect on all other component parts of the drilling action.

So in reverse order, the five free quick tips for getting the best glass products from your drill are to make sure that:

- Your tool is properly dressed
- The glass is securely held in place
- Plenty of clean, fresh coolant is properly delivered
- Drilling pressure is correct
- Rotational speed is fast enough for the drill size

Get dressed and happy drilling.

Flat Glass Solutions Limited

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