



INSTRUCTIONS

WET DIAMOND CORE DRILLING GUIDE

Diamond core drilling reinforced concrete is both an art and discipline, requiring patience, structural appreciation, a mechanical aptitude and considerable fitness.

The basics for successful core drilling are having a rigidly set up drill rig, diamond core bits with adequate clearances on the outside diameter and inside diameters, constant water flow and the right speed range and power for the bit.

Core drilling techniques

The performance of any diamond core bit depends heavily on the use of proper drilling techniques. Although drilling conditions and materials may vary, following specific guidelines ensure faster drilling speed and longer bit life.

1. Secure the core drill to the work surface so that there is no movement in the drill that would allow the bit to bind in the hole.
2. Level the drill rig by use of the base levelling screws or vacuum pump and use a small level attached to the column permanently or by a magnetic strip on the level. This procedure will ensure a perpendicular hole.
3. Use a sufficient supply of water to ensure that the segments are kept cool and the hole is constantly being flushed of abrasive cuttings.
4. Slowly lower the bit into cut so that there is no skidding or lateral movement of the drill bit.
5. Exert steady downward pressure on the bit while drilling. Do not force the bit into the material.
6. Do not stop the flow of water or the rotation of the bit as long as the bit is in the hole.
7. If the drilling rate decreases, check the core bit. The slower penetration generally means that segments are glazing and need to be redressed. It is important that the diamond segments keep their sharpness.
8. When you encounter steel rebar, relax pressure about 1/3 and allow the bit to cut at its own rate. Do not push the bit.
9. When drilling high PSI concrete or concrete with very hard aggregate (i.e. river gravel, flint etc) the bit will sometimes glaze over. To open or redress the core, do one of the following:
Reduce water flow by 1/2 and pour masonry sand into the hole until the core starts to increase speed, then gradually increase the water flow until back to original state.
Drill the core into a soft concrete block, soft vitrified grinding wheel or cinder block. Repeat the procedure until the diamond is open again.
10. When drilling is finished, turn the water down very low and back the core bit out of the hole with the motor running.



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