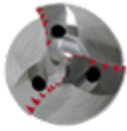




**Cutting edge build up:** Increase the cutting speed. Increase the coolant concentration and or pressure or flow (use water soluble or semi synthetic type fluid).



**Chipping on the drill lip:** Check machine spindle and tool holder. Check the clamping of the part and fixture. Reduce the feed rate.



**Excessive outer drill lip wear:** Reduce the cutting speed. Increase the feed rate. Check the machine spindle and tool holder. Check the clamping of the part and fixture. Increase the coolant concentration and or pressure or flow (use water soluble or semi synthetic type fluid).



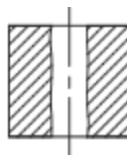
**Chipping the outer corners of drill lip:** Check the machine spindle and tool holder. Check the clamping of the part or fixture. Reduce the feed rate.



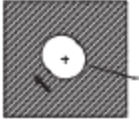
**Excessive wear on periphery land:** Reduce the cutting speed. Check the machine spindle and tool holder. Check the clamping of the part and fixture. Increase the coolant concentration and/or flow pressure (use water soluble or semi synthetic type fluid).



**Heavy bur at breakthrough:** Reduce the feed rate.



**Poor surface finish:** Check the machine spindle and tool holder. Check for chip smear or chip welding on periphery lands. Increase the coolant concentration and/or flow pressure (use water soluble or semi synthetic type fluid).



**Poor hole position/poor hole tolerance:** Check the machine spindle and tool holder. Check for chip smear or chip welding on periphery lands. Reduce feed rate. Start on machined flat surface. Increase the coolant concentration and/or flow pressure (use water soluble or semi synthetic type fluid).