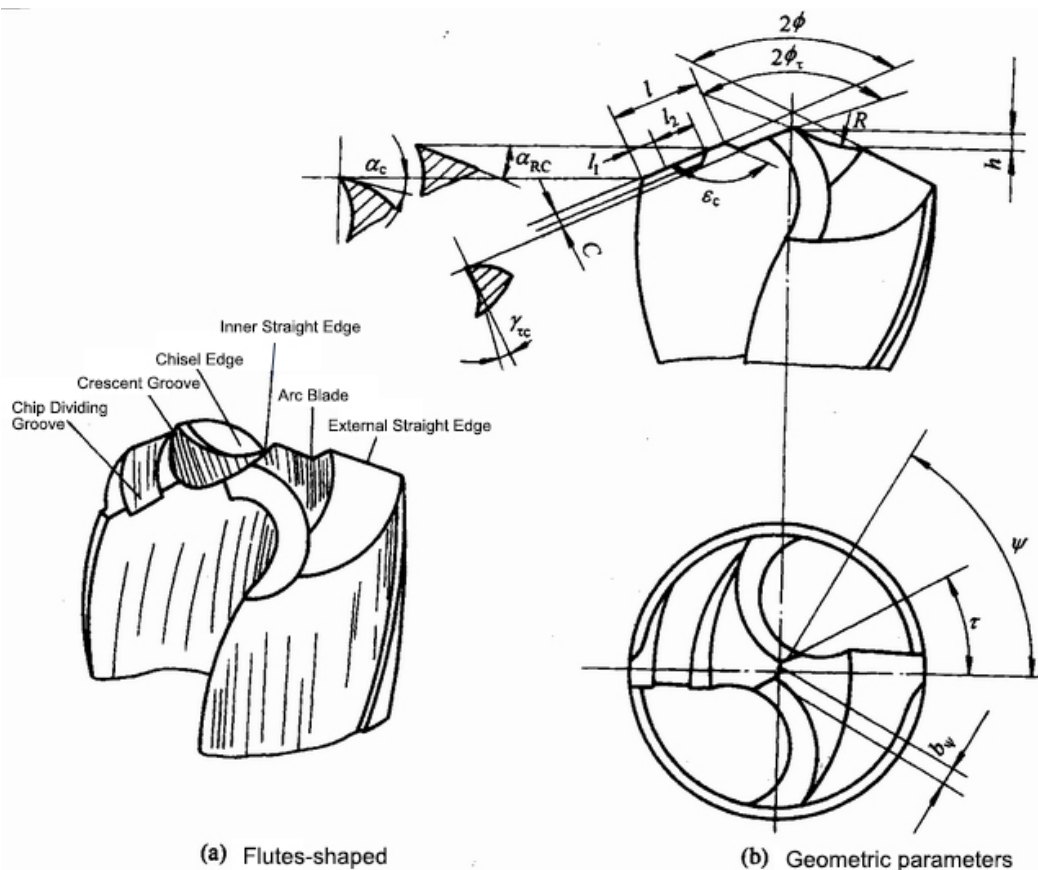


# Cutting performances and Advantages of Ni Zhifu Ordinary Twist Drill Bit

**Definition of Ni Zhifu Ordinary Twist Drill Bit:** Based on standard twist drill that the cutting part is grinded onto a special shaped drill bit. The standard twist drill consist of two major cutting lips (major cutting edges) and a chisel edge. The most fatal weakness is that the negative front angle of chisel edge and dead center are larger, led to the cutting conditions are unfavorable. Ni Zhifu Ordinary Twist Drill Bit is that grinding two symmetrical crescent grooves based on standard twist drill, forming arc blade, and then sharpening two inner straight edges on the chisel edge and dead center. After that, with the chisel edge and original two straight edges, making the standard twist drill into "Three knife-points and seven knife-edges" that is the Ni Zhifu Ordinary Twist Drill Bit.

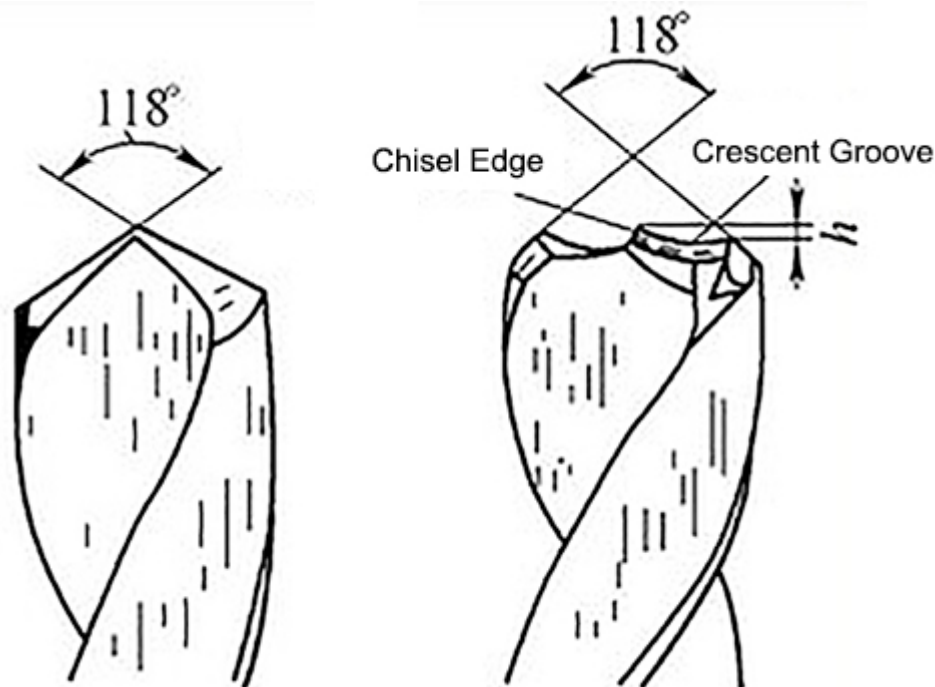


The Flutes-shaped and Geometric parameters of Ni Zhifu Ordinary Twist Drill Bit

After grinding, the tip of drill height reducing, chisel edge length shorter, arc blade, inner straight edge and front angle of chisel edge are bigger than standard twist drill bit. So that,

when Ni Zhifu Ordinary Twist Drill Bit is used to drill steel, axial force and torque are reduced by 30~50% and 10-30% respectively compared with standard twist drill bit, and the heat is significantly reduced during the cutting. A wide spirally shaped and banded filing is formed during drilling by the standard twist drill, against for cutting and cooling. Due to Ni Zhifu Ordinary Twist Drill Bit has the crescent groove is good for chip breaking, chip removal and the cutting fluid enters the cutting zone, and then reduced force and heat of cutting. Because of the above reasons, the tool service life can be improved by 2-3 times and productivity more than 2 times. 3 tips of drill on Ni Zhifu Ordinary Twist Drill Bit are there can improve the centrality and precision during cutting.

## Compared with the common twist drill, the advantages of Ni Zhifu Ordinary Twist Drill Bit



1. The distribution of front angle is more reasonable;
2. The force and torque are reduced;
3. The chip dividing, chip breaking and chip removal were improved;
4. Improved drill bit service life;
5. The quality of drilling is improved;

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