

No. 109

Horizontal processing with a SP tap

Cutting tap

【Consultation】



We are tapping a M12 × 1.75 on a workpiece material made of S45C on a horizontal machining center. I have been using a normal SP tap but long chips wrap around the tap and tool holder, and I can not perform continuous processing without clearing the chips. Any solutions?

【Answer】

When tapping on a horizontal machine with a normal SP tap, the long chips that are discharged and to hang down from gravity and often wrap around the tap or the tool holder. If you are having such problems, we suggest using the Yamawa LO-SP (Low Spiral Tap) or the LS-LO-SP (Long Low Spiral Tap) with spiral flutes and a slow helical twist. I think your problem of chip wrapping will improve.



【Description】

Example: Improvement from a change to a spiral flute tap with a slow helical twist angle

Current chip configuration.



The chip does not eject from tapping the first hole and wraps around the tap and the tool holder. Therefore, if continuous tapping is performed, the tap may be broken or a problem may occur in the internal thread quality. Currently, in order to prevent problems we are removing chips after each hole is processed.

Please change to a Yamawa LO-SP and try processing.



Chip configuration with the LO-SP tap



The chips change from a continuous shape to a broken shape as the helical twist angle of the tap's flute decreases. The LO-SP combines moderate chip control with the effect of spiral flutes and causes the chip discharge to be centrifugally discharged away from the tap and tool holder.

【Reference】



1. LO-SP Low Spiral Tap is offered in 3 types of helical twist angles, an 8°, a 15° and a 20°. Please select and process accordingly.

2. If the discharged chips get wrapped around the tap or interfere with the tool holder, the long LS-LO-SP with an 8° helical flute twist angle will be more effective.