

No. 043 **Torn thread problems when tapping with large size taps.**

Cutting
Taps

【Question】



I mainly use water soluble oil when tapping larger threads over M30 in 1018 steels but I have a problem with torn threads on the thread surface. Do you know a solution for my problem?



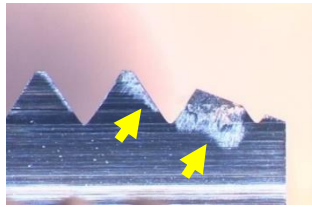
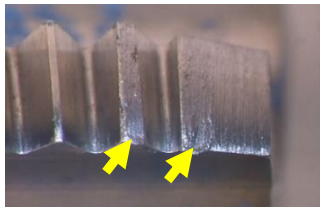
【Answer】

First, Yamawa recommends that you change the tapping fluid from water soluble oil to a straight tapping oil. Also using taps with an oxidized surface will definitely help create a good surface finish.



【Advice】

Using a straight tapping oil adds lubricity to the tapping operation and helps with chip welding problems on the thread portion of the tap. Chip welding causes a torn thread on the tapped thread surface. The water soluble oil is inferior in lubricity because the mixture ratio is normally 5% oil and 95% water. Water soluble oils only act as a cooling agent not a lubricating cutting agent when tapping. See the following pictures showing welding problems on the tap and the threaded portion of the material.



【Advice】

In general, using a straight tapping oil will solve chip welding and torn thread surface finish problems. If you use a straight tapping oil containing an extreme-pressure additive offered for use in stainless steels or other difficult to machine materials, you will see a further improvement in performance and thread surface finish. Using oxidized taps will make even more improvements in your threads, if you are experiencing torn thread problems.



Yamawa's standard oxidized taps for exclusive use in stainless steels on sizes less than M24.

