

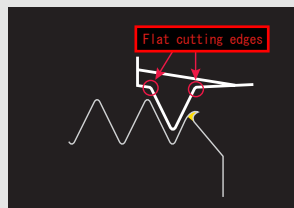


Here, we introduce the knowledge and various knowledge about the product TAKAMAZ a variety of machine tools. I hope you will help the daily work of customers.

The 4th Thread cutting —For coping with burrs—



During thread cutting, deburring is performed by flat cutting edges.



As illustrated, however, a burr remains on the thread ridge that does not come into contact with flat cutting edge.

Burr left on a thread ridge

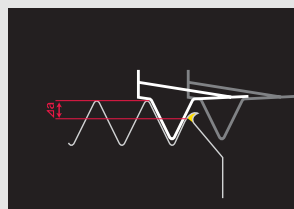


Enlarged view ↓



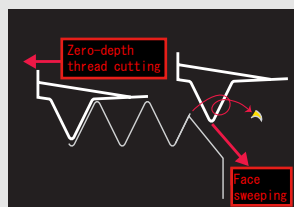
If burrs are left on screws, they cannot be tightened firmly and runout may result.

Thread ridges that exceed the nominal length are deburred by flat cutting edges. But the flat cutting edge cannot reach the ridge at the end (equivalent to one lead of the screw) that is made lower (Δa).



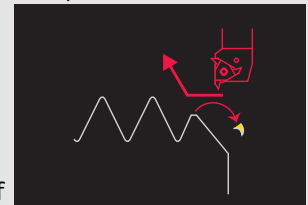
◎General measures against burrs◎

Deburring will be accomplished to an acceptable level by means of face sweeping and zero-depth thread cutting. However, for high-precision products, runout resulting from slight remnants of burrs and deformation (such as a dent) caused on the top of a ridge are not tolerated.



◎High-level measures against burrs◎

High-quality thread cutting is implemented by cutting the top of a ridge where a flat cutting edge usually does not reach. Such removal cutting will prevent a burr from being left and will thereby enhance the strength of the screw. This method, however, has been considered impossible because of the difficulty in control.



Our NC lathes that use and control a grooving tool easily remove the portions where burrs are likely to be left and consequently provide products with minimized burrs.

The top is cut together with its burr on the ridge at the end.

Enlarged view ↓



Removing both the top and its burr finishes the ridge to a trapezoidal shape. As a result, the screw is made resistant to deformation (dents) with minimized

Remarks

- The removal cutting takes approximately 6 seconds.
- The removal cutting is possible with both internal and external threads.
- A grooving tool is used for removal cutting.
- The removal cutting can usually be executed by entering setting values. (Note: FANUC optional settings may be required, depending on the NC model.) This removal cutting is one feature of our new machine models.