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Suggestions to increase tool life

Improving tool steel or hardness

Best results are generally attained with good HSS tool steel. However, if tools break or break at the cutting edges due to high punching powers (typically when working with thick or high tensile steels), tool life can be increased by surface treating or coating the tools.

Tools with chamfered profiled edges

If edges are breaking, a chamfered profile edge is recommended.

Using coated tools

If cutting edges are galling too fast when working with abrasive materials or tools break due to high punch pull-out forces, then a TiN or TiCN coating is recommended.

Hardness of TiN coating is 2,400 HV and 3,000 HV for TiCN. Coated tools attain a very high tool life. However they are very sensitive to contamination on the sheet such as dirt, scale, etc. (on the surface or as inclusions). Once the coating is destroyed, the tools are no longer usable.

Grinding of coated tools is possible. You can find PASS TiN and TiCN coating options in our catalog.