

Technical Tip #37 – Resharpener of Coated Tools

Typically when drills or end mills are resharpened, the coating is removed only from the clearance or flank area of the tool. When resharpened this way, there is still coating protection on the rake face of the tool. Tool life typically decreases by 30% or more but is still much better than an uncoated tool.

If the regrind process removes the coating from the rake face, the tool will perform no better than an uncoated tool. As a general rule, tools should be recoated after resharpening to restore the full protective effect of the coating.

If good metal removal rates are the goal for a reground, not recoated, tool, then speeds and feeds can be left very close to coated-tool parameters.

If maintaining tool life is the goal, then reduce speeds and feeds by 20% to 30% to achieve results close to those of coated-tool life.

Additionally, after multiple recoats, drills, reamers, and other close-tolerance tools can become oversized due to the layering effect of the multiple coatings. In these cases the tools can be stripped, resharpened, and recoated to restore the tool to original specifications.