6 Pro Tips to Help Control Burr Size

It's impossible to avoid burrs altogether in most machining processes, but you can design the machining process such that burrs turn out smaller and more manageable. Smaller burrs can make later processes, such as deburring and finishing, faster and more efficient. Reducing burr size can also help you extend the life and efficiency of your deburring and finishing tools.

How to Minimize Burr Formation

1. Replace worn tools

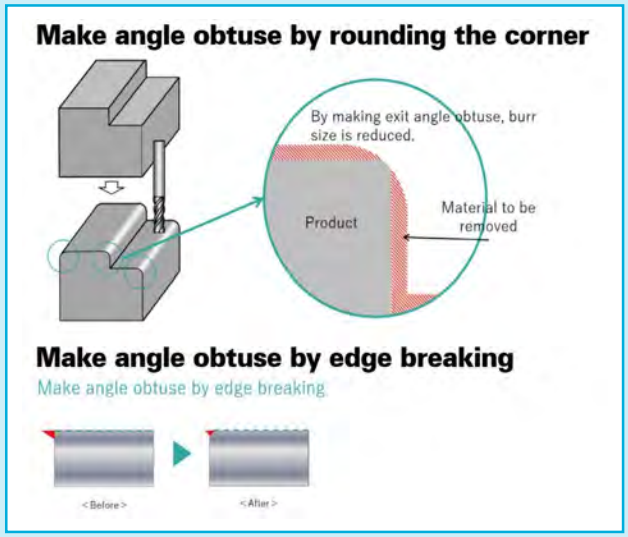
Regular maintenance of your cutting tools will reduce burr formation. Sharp tools with less wear and a clean cutting edge will produce fewer and smaller burrs during processing. Make sure to replace old and worn cutting tools and create a regular schedule for tool maintenance.

2. Change the tool

The style of a tool can affect the generation of burrs depending on the material you're working on. For example, a flat drill may form smaller burrs than a conventional drill.

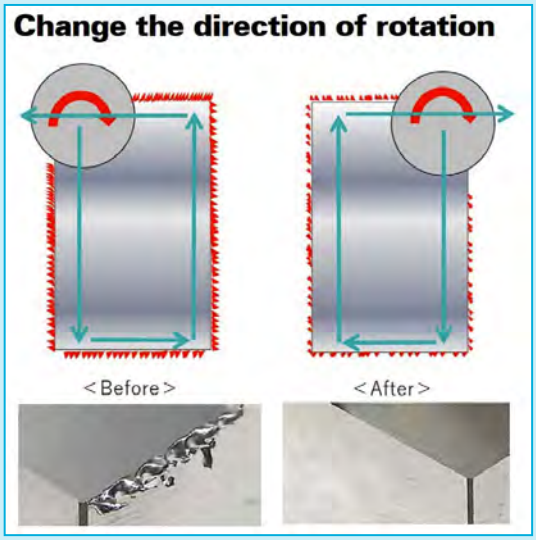
3. Change the angle

Altering the edge shape on a part can help you minimize burr formation. Acute-angled edges tend to turn out larger burrs, where obtuse-angled edges make it easier to control burrs. For example, you might try corner rounding, edge breaking or chamfering to reduce burr size.



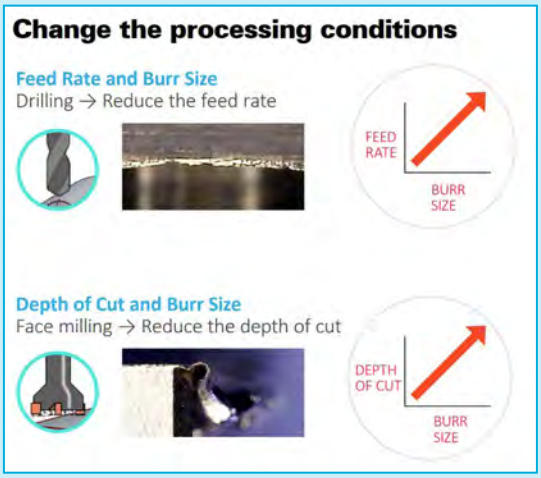
4. Change the rotational direction

Changing the rotational direction can make a big impact on minimizing burr formation. Consider the optimum direction prior to machining your part.



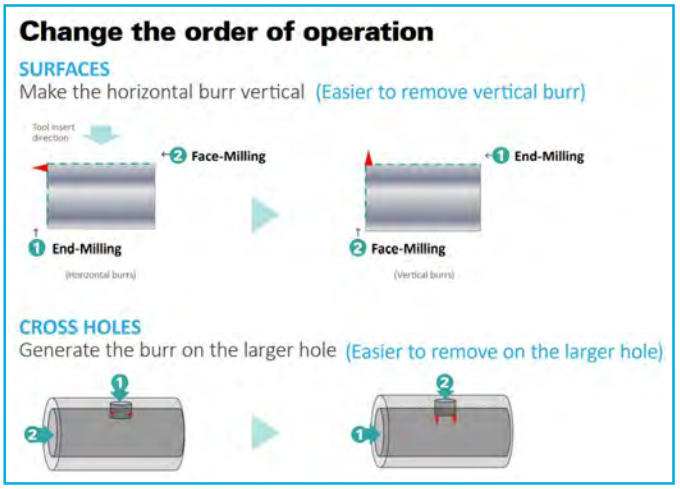
5. Change the feed rate or depth of cut

Typically, increasing the feed rate increases the burr size. Using a reduced feed rate when drilling reduces the burr size, creating secondary burrs that are easier to remove. Reducing the depth of cut when milling also reduces burr size. Finding the right balance will reduce overall production time.



6. Change the order of operation

It's easier to remove vertical burrs. Adjust the orientation of the burr by end-milling first and face milling second. Similarly, when deburring parts with cross holes, it will be easier to remove the burrs inside the larger hole.



By maintaining your cutting tools at their sharpest and making some simple changes to the process, you can minimize burr formation and reduce total production time.