

PowerMILL 2014

Highlights

Faster and more flexible machining

PowerMILL 2014 offers you the tools to machine your parts at unprecedented speed and accuracy. The latest machining strategies provide the optimum tools for high speed machining, reducing manufacturing times whilst increasing tool life. More tool options, toolpath improvements and simulation analysis offer more control with PowerMILL 2014 than ever before.

New features and enhancements include:

- Vortex Machining strategy
- MachineDNA
- New and improved tool options
- Simulation Analysis
- Drilling enhancements
- Improved raster strategy
- Curve editor enhancements
- Fixture offset



POWERMILL
2014

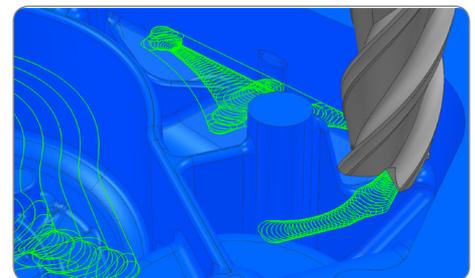
Visit our Learning Zone to see what our customers say
and find out what PowerMILL 2014 can do for you

<http://lz.powermill.com>

Vortex

Vortex is Delcam's latest patent pending high speed roughing technology. Vortex controls the maximum engagement angle of the cutter in the material, such that the angle calculated for the programmed step over is never exceeded, even in internal corners. This allows for optimal cutting conditions to be maintained throughout the toolpath.

By controlling the maximum engagement angle and the load on the tool, Vortex can take deeper cuts than traditionally used in roughing operations. Depths of cut up to the full flute length enable maximum material removal rate from solid carbide tooling and reduce machining times by up to 60%. Vortex technology can be applied to 2 and 3-axis roughing, positional 5-axis roughing and for rest roughing.



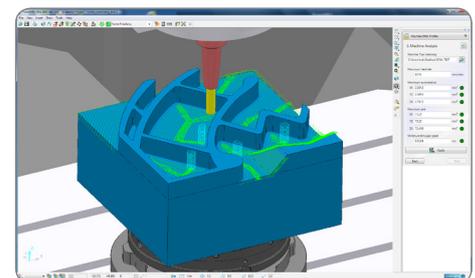
Find out more at www.vortexmachining.com

MachineDNA

Available as a fully integrated solution with any CAM product from Delcam, MachineDNA is groundbreaking patent pending technology that will determine your machine tools' performance characteristics and feedback the data to the Vortex strategy. The toolpaths will then be automatically optimised to account for your specific machine tool, producing better quality parts even faster. No other CAM software in the world offers this type of technology.



Find out more at www.vortexmachining.com/MachineDNA



New and Improved Tool Options

PowerMILL 2014 supports more tool types than ever before. Barrel tools (typically used for the manufacture of blades) are now supported, the geometry of which allow you to achieve a small cusp height while using a relatively large stepover. Dovetail tools are also supported allowing you to machine features, such as undercuts and gears, which would otherwise require a series of more complex toolpaths with multiple tool changes.

Simulation Analysis

A new plugin has been created for PowerMILL 2014 allowing you to accurately analyse the simulation of a machine tool. The plugin provides a graph of the linear and rotary axes of the machine tool which is extremely beneficial when programming in 5-axis. Analysing this graph enables you to locate and correct any unwanted issues such as sudden changes in direction and axis reversal that may be occurring due to part location. Optimising the position of your part and re-analysing the simulation prevents these unwanted moves, improving the surface finish.

Drilling Enhancements

PowerMILL 2014 features numerous drilling enhancements, including each drilling cycle type having its own strategy, external threading, tapered threading, and variable feed rates and spindles speeds when two holes intersect. The new external thread feature offers several settings for you to optimise the strategy. When holes intersect PowerMILL 2014 can automatically scan the part to find hole intersections and then allows you to adjust features such as the break distance, feed rate, and spindle speed through the intersection.

Improved Raster Strategy

Improvements have been made to optimise the raster algorithm. PowerMILL 2014 produces less fragmented toolpaths without overlaps. This helps to eliminate small isolated segments which can leave marks on the part. Removing overlaps also means that cycle times are reduced by preventing over machining of parts and less lifting of the tool.

Curve Editor Enhancements

PowerMILL 2014 has seen significant improvements to the curve editor. It is now possible to insert and edit fillets to a composite curve as well as edit the tangents of a point on a Bezier curve, allowing for more precise tangent editing. You can also now redistribute points, or change the number of points on a curve.

Fixture Offset

Fixture offsets can now be defined for individual toolpaths when outputting an NC Program (e.g. G54, G55). This reduces human error and allows for faster machining as there is no need for the operator to manually edit the NC code when multiple offsets are used.

