

surfcam

Advantage Metal Products

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Surfcam is a market leading computer aided manufacturing (CAM) system for NC part programming. With unparalleled ease of use and sophisticated toolpath generation, it's the only CAM system you'll need for milling, turning and mill-turn machining.

Advantage Metal Products

Advanced Metal Products Uses the Customization Tools within Surfcam Traditional to Establish Company Standards and Increase Efficiency while Serving Multiple Industries

Advantage Metal Products is the brainchild and ongoing success story of the Segundo brothers, who got their start in the manufacturing business by sweeping the shop floor of their father's metal-fabrication company.

After learning the ropes, the pair were taught to operate machinery and practice the true art and science of manufacturing. They ultimately envisioned making modern improvements to the traditional shops of yesteryear and founded Advantage Metal Products (AMP) in Livermore, California, more than three decades ago.

Today, their business specializes in aerospace and medical-device manufacturing, but serves a multitude of industries, including energy and consumer, both low and high tech.

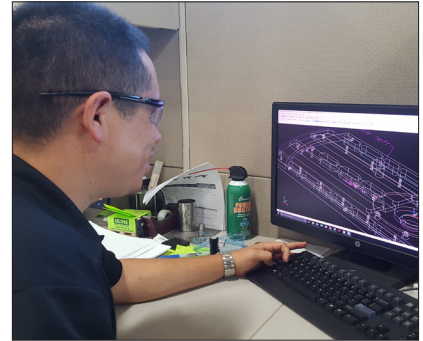
"We are running full shifts for all of our machines, and we do just about any kind of machining that our customers could want," says General Manager Scott Bartlett. "It's a one-stop shop for everything, and we make all parts in house."

In addition to offering a machine shop with milling and turning services, the shop includes extensive sheet-metal fabrication capabilities, as well as powder coating. The company also offers engineering support, assembly, inspection, and project management services.

"Demands are always changing and seem to be increasing as tolerances are getting tighter, so to have to increase efficiency while also meeting all of the demands of our customers," says Bartlett, adding that the company is working to increase machining capabilities.

Staffed by about 90 employees, the shop floor at AMP handles orders that range in lot size from two all the way up to 5,000. While the average part is able to be lifted fairly easily — and is about the same size or small than a breadbox — some can be more than 1,000 pounds at completion. AMP machines in up to three axes and utilizes several CNC lathes and vertical and horizontal mills, including one with a 6-pallet machining center.

Since 1997, the company has used the Surfcam Traditional computer-aided-manufacturing (CAM) solution, by Vero Software, to program its CNC machinery. Today, the company employs three CNC programmers who use Surfcam, including Machine Shop Manager Tino Zarco.



About The Company:

Name: Advantage Metal Products

Business: Milling, turning and extensive sheet-metal fabrication capabilities, as well as powder coating, engineering support, assembly, inspection, and project-management services

Website: advantagemetal.com

Benefits Achieved:

- Implementation and sustainability of company standards
- Ease in shop floor communication and information flow
- Greater efficiency with specialized machining cycles

Comments:

"Everything is custom, from tooling to the set-up sheets. You can really set it up so that you can use it the way that you want to."

Tino Zarco, machine shop manager

To create or edit computer-aided-design (CAD) models that can be imported into Surfcam, AMP uses the SOLIDWORKS® CAD solution, by Dassault Systèmes. Surfcam Traditional's seamless and simple interoperability with the CAD system allows users of both solutions to open SOLIDWORKS files right within the Surfcam Traditional interface. This function increases ease of use while working with the two systems and ensures that CAM data will be easily updated when design changes are made. "I also sometimes use the CAD capabilities in Surfcam," Zarco says.

Zarco takes advantage of the customization tools within Surfcam to establish company standards, which reduces error and ensures greater production consistency, from start to finish. Among the system's customizable features is a tool library in which users can store vital tool data and create custom tools. Storing and selecting tools during the programming process saves time by eliminating the need to re-enter or modify tool data with each new job. It also simplifies the toolpath verification process because all of the data necessary to ensure that toolpath is collision-free is already in the system.

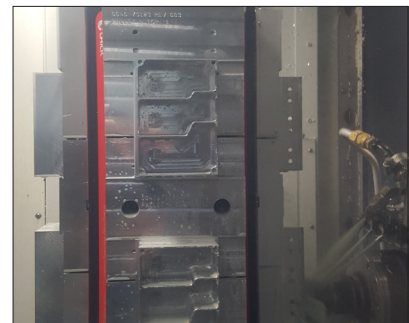
Custom tool creation allows users to define any custom-tool profile using simple 2D geometry. Once saved, the custom tool is represented as a 3D cutter and can be used with the solution's graphical toolpath editor, back-plotter or verification, allowing for accurate material removal simulation with custom tools. For AMP, the ability to customize means that programmers like Zarco have the ability to create a virtual programming environment that truly reflects the environment in which parts will be made.

"Everything is custom, from tooling to the set-up sheets," says Zarco, who notes that customization capability, combined with ease of use, are the two most helpful overarching benefits to using Surfcam Traditional. "You can really set it up so that you can use it the way that you want to. I use all of the hot keys so that I don't even have to touch the mouse."

Zarco also takes advantage of Surfcam's user-configurable set-up sheet generator with cycle times, job travelers, cutting-tool lists, toolpath comments, and more. "It's saving on paper and time because everything is typed already," says Zarco, who adds that the customizable sheets go a long way to increasing efficiency by making sure that important information is accurately relayed to machine tool operators.

When it comes to making chips, the company often utilizes Surfcam Traditional's TRUEMill machining cycle for fast and accurate production. TRUEMill is an optimized roughing toolpath that can be completed with a one-step 3D roughing through pre-finishing operation.

With TRUEMill, Surfcam Traditional delivers a synchronized multiple-tool strategy that coordinates several tools in a single operation. The toolpath creates uniform step height across all surfaces, regardless of how many tools are used. It also removes material at significantly faster rates, and at greater depths of cut.



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