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Advanced Tool and Die Making

[Sugiyama Industries](#) was founded in 1921 and for more than eighty years the company has been continuously in the forefront of manufacturing technology. Its main production plant is located in the Japanese heartland in blue collar Toyoda City. It is now a leading supplier in the Japanese automotive industry supplying parts to both Toyota and Mitsubishi. The company consists of two main divisions, the Mold and Die division and the Automotive Parts Division. The Mold and Die division is involved in making steel dies for aluminum castings for automotive parts such as engine and transmission components, while the Automotive Parts Division is focused on the design and manufacturing plastic parts for the automotive industry.



Located in bustling Toyoda City, Sugiyama Industries main plant supplies parts to leading automotive and aerospace companies such as Toyota and Misubishi.

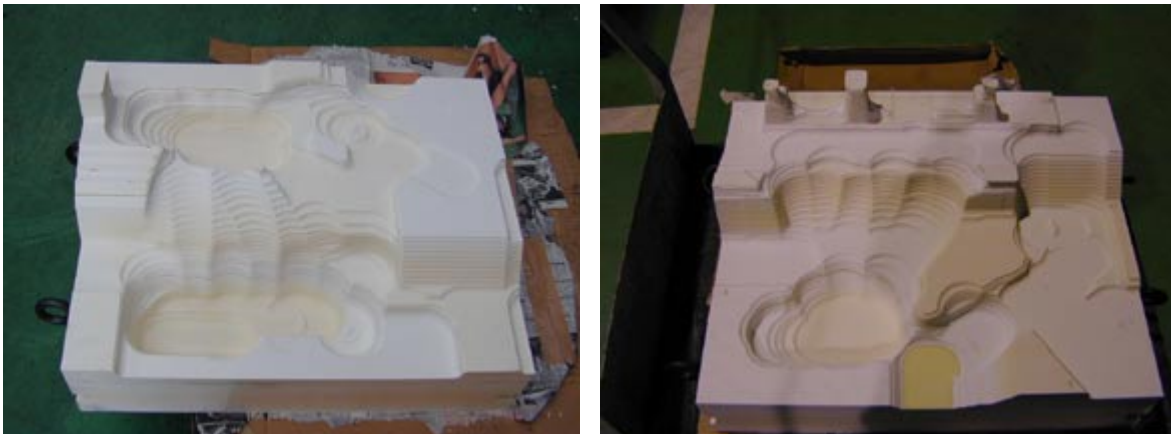
Sugiyama Industries utilizes VisualMill both in the production of the steel dies for the aluminum casted parts as well as the plastic injection molds. Sugiyama Industries has worked closely with MecSoft Corporation to provide their expertise in steel die cutting. This has allowed MecSoft Corporation to incorporate advanced toolpath generation algorithms in VisualMill that are especially suited to cut hard materials such as die steel.

Of special significance is the type of cutters employed in roughing out these large dies. The picture below shows a typical insert cutter that is employed in the roughing operation.



60 mm insert cutter used to rough out the large steel dies used for casting aluminum parts.

The picture below shows the core parts of two dies that are machined out of foam. VisualMill's roughing toolpath methods were used to create the toolpaths for these models. These models were machined out of foam and ren material. Due to contractual restrictions with their suppliers we are unable to show the actual steel models that were produced.



The roughed out foam models of two different automotive dies are shown here. The toolpaths to cut these models were programmed in VisualMill.

MecSoft Corporation continues to work closely with Sugiyama Industries, constantly honing VisualMill's advanced toolpath generation algorithms. With a strong commitment from both the parties, VisualMill is rapidly evolving to be a product of superior technical sophistication and real world practicality.