

MoldMaking

TECHNOLOGY

Ease Core-Pulling
Installation with Compact
Undercut-Relief Device - 16

How to Optimize Quoting
with Geometry-Guided
Automation - 20

Key Components to Mold
Cleaning and Surface
Treatment - 24

Tax Rule Changes Impact
Moldmaking - 28

DECEMBER 2020 / VOL. 23 / NO. 12

A property of Gardner Business Media

Leadtime Leader Q&A: Correct Selection, Consistency and Coatings

Precise Tooling Solutions shares current capabilities and a glimpse of the changes occurring inside its manufacturing operations when it comes to cutting tools.



Five-axis machining is critical at Precise Tooling; talk about the importance of the cutting tools to that process for the molds you machine when it comes to your quality and consistency.

Don Dumoulin, president/owner: For quality and consistency, the tools must be selected correctly. We strive to keep up with the latest tool technology and use only high-performance tools with a demonstrated track record. We also recognize that today's complex mold designs require that we purchase different tools with optimal geometry for unique customer applications.



The increased complexity of plastic part geometries requires smaller cutting tools that run at significantly higher speeds, which are only 0.125 inches in diameter, generally.

Precise Tooling's Phase 2 (2015-2017) was all about upgrading equipment. You doubled down and invested in the latest and greatest technology. Talk about how cutting tool technology was part of that.

Dumoulin: You are referring to the five-axis Roeders and Fermat machines we installed at our shop. These and other five-axis milling machines run at significantly higher speeds than previous generation machines.

The increased complexity of plastic part geometries requires smaller cutting tools that run at significantly higher speeds. On average, these newer cutting tools are only 0.125 inches in diameter. Although many smaller tools are shorter, we've had success using a heat shrink with a longer holder. This approach eliminates vibration and provides a longer reach, allowing us to reach deep into pockets.

We've also found time savings when running these new cutting tools on our five-axis technology. This means our craftspeople spend significantly less time in the setup, which reduces the price we quote to customers. It also means less downtime for our machines.

What is your number-one challenge with cutting tools, and how are you working toward solving that challenge?

Dumoulin: We operate in a highly competitive market and believe measuring our machining efficiency is enormously valuable. This includes the cost we pay for cutting tools, which is one of our largest operating expenses. Recently, we improved our visibility in this area by installing Amper software to monitor and track production metrics of our

machines. This unique IoT software provides real-time analytics across our entire manufacturing operation. For example, we are currently reengineering our inventory system and will soon have a cutting tool inventory based on usage rather than intuition. We expect continued advances in technology will drive improvements in cutting tool accuracy and increase tool longevity.

Amper software gives us a deep dive capability to have a granular understanding of set up times, causes of machine downtime, tool longevity, etc. We also endeavor to stay up-to-date with emerging technology—both hardware and software. To address this challenge, we have become more involved with our vendors. Our objective is to educate ourselves on new products and best practices that improve our capabilities and deliver world-class products to our customers.

How do you see cutting tool technology evolving in the moldmaking industry over the next three to five years?

Dumoulin: We expect continued advances in technology will drive improvements in cutting tool accuracy and increase tool longevity. The first example we'd offer is coatings. We already see new coatings that reduce heat in a meaningful way. Another example is indexable cutting tools. We're now able to get four uses out of each insert, which is a significant efficiency pick up.

More broadly, mold designers will stretch the limits of new software to design even more complex molds for evolving customer (consumer) needs. We also expect molders will be using new compounds. In turn, these developments will require moldmakers to remain agile with their approach to cutting tools, machining hardware and CAM software. [MMT](#)

EDITOR'S NOTES

For more information on how to enter our Leadtime Leader Awards program, or if you have a question for any of the Leadtime Leaders, please e-mail Christina Fuges at cfuges@gardnerweb.com, or visit moldmakingtechnology.com/hashtag/leadtimeleader

FOR MORE INFORMATION

Precise Tooling Solutions / 812-378-0247
info@precisetooling.com / precisetooling.com

MMT
MoldMaking
TECHNOLOGY®

ENGINEER / BUILD / MAINTAIN

WEBINAR

PRESENTED BY:
AGATHON
www.agathon.ch

PRESENTER:

Christoph Meier
Engineering Manager
Special Project Applications

Agathon Guiding and Centering Systems: Cost-Saving Solutions for Demanding Injection Mold Tooling

Injection mold toolmakers and part producers are demanding new cost-efficient solutions from their tooling. Margin erosion, planning security, higher productivity, as well as time pressures for the construction of the mold, alongside increasing costs are some of the daily challenges our customers deal with. Learn how our guiding and centering solutions and market proven tool concepts allow you to increase productivity and planning reliability while helping to reduce costs. Our customers experience a higher level of part quality which remains consistent over longer periods of time and considerably reduces maintenance costs. Customers appreciate the value added solutions of higher quality tools.

You will learn about:

- NEW Guiding System Plus - long lasting reliability for reduced cost
- Fine centering systems - Mini & Plus- trusted alternatives with the Plus
- Ejector guiding - the often forgotten place to save money
- Customized solutions - tailor-made solutions for your highest demands

DATE & TIME:
ON DEMAND WEBINAR
Register at: short.moldmakingtechnology.com/agathon12