WINTER 2024

MOLD TECHNOLOGIES DIVISION

FORM YOUR FUTURE

Message From The Chair

Division Chair Message – December 2024

First and foremost, here we are in the midst of the Holiday Season for 2024. We celebrated Thanksgiving last month and now have landed somewhere around and between Chanukah, Christmas and Kwanza. Whichever holiday you celebrate, we at the Mold Technologies Division wish you the very happiest and a healthy, prosperous new year in 2025.

As 2024 draws to a close, I want to take some time to reflect on the activities of the year and to prepare for the year ahead.

In 2024, our Education Committee made scholarship awards to 4 students across the USA. The scholarships are in honor of our long-time supporter and board member, Mr. Glenn Beall. Glenn has served our division in many roles over the last 50 years. Currently, he is a mentor and friend to all on the MTD Board, providing guidance and insights into SPE and specifically our division. We cannot say thank you enough to Glenn for all that he does and has done.

In addition to the scholarships, the Education Committee presented a total of $5,000.00 to four schools: Cardinal High School, U-Mass Lowell, Penn-State Behrend, and the Rochester Institute of Technology. Each institution received partial funding of their grant requests and benefited from the generosity of our membership since the inception of the division.

We are again soliciting applications for scholarships and grants in 2024 – 2025. The disbursements will be made late in the operational year, but the recipients will be notified of amounts and planned payment dates by the 30th of June, 2025. Please reach out to Mr. Joe Karpinski at JKarpinski23@Gmail.com or to me directly at Scott.Peters@Molded-Marketing.com.

We are also seeking nominations for four international awards. The awards are:

- **2025 Mold Maker of the Year – sponsored by HASCO-America**
- **2025 Mold Designer of the Year - sponsored by Progressive Components**
- **2025 Mold Repair Person of the Year – sponsored by MoldTrax LLC**
- **2025 Apprentice of the Year - sponsored by PCS Company**

All four awards seek to honor the professional and community involvement of the recipients as they demonstrate the Art and Craft of Mold Making and related professions. Time is short for nominations as we will be presenting the awards at PTXPO 2025 in March. The closing date to submit your nominee for consideration is January 30th, 2025. That will give the board just enough time to review candidates and coordinate the presentations.

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Editor's Commentary

– *Berg's Eye View*

At the start of October, I had the honor and absolute pleasure of spending a few hours at Moraine Park Technical College, in West Bend, Wisconsin. They like to begin Manufacturing Month with a guest speaker, and I was asked to be that guest this year by my longtime colleague and friend Craig Seidel, CNC/Tool and Die Technologies Instructor and Brian Stout, Ed.D., Associate Dean - Manufacturing at MPTC.

Last year, my friend and fellow Dynamic Tool Corporation colleague, Mike Welnak – our Tooling Operations Manager – and his son Jarred, presented "Generational Toolmaking" at MPTC's 2023 Manufacturing Month Kickoff event. Mike discussed the advancements of industry-related machining processes and how our industry has evolved over the decades, while Jared talked about his experience as an apprentice at Dynacast International – where, today, he is now a journeyman toolmaker.

This year, my presentation to the students was about the many career opportunities awaiting toolmakers, designers, and machinists – primarily focusing on the plastics and metals industries. While I very much enjoyed speaking to the students at the MPTC West Bend and Fond du Lac campuses, my favorite part of the visit was the guided tour I was given by yet another longtime friend and colleague, Jim Hokenson, CNC/Tool and Die Technologies Instructor. Jim took the time to walk me through a good selection of the many classrooms, labs, and work settings on campus. From HVAC systems to solar panels to home construction to tool and die shops to many, many more hands-on learning environments, MPTC is built to enable long term success. It would be difficult to imagine not finding several areas of interest for anyone who is keen on developing career opportunities working their minds and hands

The hands-on scholastic opportunities available at MPTC are impressive and inspiring. To describe their educational offerings with a representative list would not do justice to their 2024-2025 catalog, their array of technology resources, and their outstanding team of instructors. Any student and any parent of a student in junior high or high school in our region of southeastern Wisconsin would be remiss in not exploring the resources available at Moraine Park Technical College.

The great news is that MPTC is not alone – we have several outstanding technical colleges in our area. Dynamic Tool makes it a point of actively and regularly engaging with them. We do so because it benefits our business, our workforce, our industry, and our community. From student-teacher-parent facility tours to formal recruiting events to meetings with instructors to help support their curriculum development. Hopefully, there are educational institutions near you that you can support. Make it a point to do so. Find a person or two in your organization that will make the commitment to regularly engage. Encourage their instructors to consider your shop a resource for industry advancements and best practices.

John Berg - Dynamic Tool Corporation
MTD Newsletter Editor

Welcome Peng Gao - New MTD Membership Chair

My name is Peng Gao, and I am an Assistant Professor in the Polymer Materials Engineering program at Western Washington University in Bellingham, WA. I earned my B.S. from Tsinghua University and completed my M.S. and Ph.D. at Lehigh University, followed by a two-year postdoctoral fellowship in the Plastics Engineering Department at the University of Massachusetts Lowell.

My research focuses on advanced injection molding techniques, including vibration-assisted injection molding, pressure-controlled injection molding, and in-loop adjustment using sensor systems in tooling design. I am also deeply committed to sustainability, with expertise in bio-based materials like PLA and PHA, 100% recycled plastics, hard-to-recycle materials, and advanced composites optimized for injection molding applications.

As the Membership Chair of the Mold Technologies Division, I am dedicated to fostering collaboration and building strong connections between industry and academia. I strive to support the professional growth of our members, encourage new membership, and promote the exchange of innovative ideas within our community.

Peng Gao
Assistant Professor - Polymer Materials Engineering / Western Washington University

Message From The Chair

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Included with the first 3 awards is a $1,000 stipend to be donated to the training center or college of the recipient's choice. These contributions are funded through the generosity of the award sponsors.

The Apprentice of the Year award includes a $500.00 cash contribution to the apprentice as well as an In-Kind donation of $500.00 in tools to help outfit the apprentice's toolbox as they prepare for their career ahead.

When speaking about these awards, I always like to share my experiences and insights related to presentation of the stipends or the apprentice awards. On October 24th, I had the opportunity to join our Mold Repair Person of the Year – Scott Phipps of United Tool and Mold in Liberty, South Carolina – as he presented his 2024 award stipend to Pickens County Career and Technology Center, also located in Liberty. Let me tell you, from the moment you enter this "Technical School" you will be impressed – from Skills USA pendants highlighting the many achievements of the student body, to the laboratory spaces in the various skills centers, to the enthusiasm of the instructors, and to the students themselves. Everything is "Top Shelf" and leaves visitors with a sense of awe.

Every student at Pickens County Career and Technology Center

- Applies for transfer from the high school to the Technology Center (Placement is not guaranteed)
- Has a Career Pathways Advisor
- Competes in Local, State and National Skills USA competitions as available
- Works towards a solid career in industry

Metal Working Students:

- Participate in NIMS Credential Training
- May earn Journey Level Credentials in their Technology Sector

Pickens County Career and Technology Center boasts a 99% Graduation Rate!

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Message From The Chair

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While I was there, Scott and the United Tool Team along with Glenn and Don Starkey, of Progressive Components, added to the donations with a $5,000 honorarium in United Tool's name for being named the Tooling Trailblazer of the Year in 2024. Scott and his team are heavily involved in the programming and development of the Machine Tooling Trades Program at PCCTC and it shows.

We congratulate the entire community on such amazing results.

As an aside, three students in the current class at PCCTC are apprentice employees at United Tool and Mold. In addition, the school. along with the Alliance Pickens Workforce Development Office. was instrumental in the relocation of a major manufacturing company from Columbia South Carolina to Liberty. This was made possible by the reputation of the program and the ready availability of skilled workers in the region, thanks in no small part to the leadership at the school and that of industry leaders such as Scott and United Tool and Mold!

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Message From The Education Chair

Joe Karpinski

As we near the end of another year (WOW!) the SPE Mold Technologies Division continues to see a surge in youth involvement in the manufacturing industry. October's Manufacturing month across the industry experienced record participation in their respective industries. There are many great things happening at the elementary, middle school, and high school levels which are contributing to that success. STEM programs, FIRST Robotics, BotsIQ, and LEGO brands are all supporting those efforts because "we" as an industry need to start the conversation early about how important manufacturing is to our daily lives.

The SPE Mold Technologies Division is accepting applications for their Grant and newly named Joseph Prischak Student Scholarship for 2024-2025. Each year, the chapter will recognize an influential individual from the plastics industry and will share with our community how that individual has made an impact in the industry.

The Chapter tries to recognize all the industry pioneers and leaders, especially those individuals that have made major contributions to their communities, their organizations, their employees, and their families.

The Joseph Prischak scholarship, in the amount of $3,000, is open to undergraduate students pursuing degrees in plastics manufacturing engineering or other STEM-related disciplines. Applicants must submit a completed application, including academic references and a transcript, by May 31, 2025. The award will be applied to the Fall 2025 academic term.

The chapter awarded multiple individuals in 2024 and one of those individuals is Luke Hodges. Luke was awarded the 2024 Glenn Beall scholarship for his academic achievements along with his contributions to his community. In addition, Luke has been nominated for the honor of being named one of MoldMaking Technology's 30-Under-30 (https://form.jotform.com/202995668256067). MoldMaking Technology is looking for 30 individuals under the age of 30 making a difference in mold making, both in their company and in the mold making community. The emphasis is on leadership and potential leadership—whether for a current employer or overall involvement in the industry, but they also may be hardworking industry volunteers and community members who know how to give back to the mold making industry.

In closing, The Mold Technologies Division of the Society of Plastics Engineers is seeking nominations for the following International Awards for 2025: Mold Maker of the Year, Mold Designer of the Year, Mold Repair Technician of the Year, and Rising Star in Moldmaking (Apprentice Award). These awards will be presented at the upcoming PTXPO on March 18-20, 2025, in Rosemont, Illinois. This event provides a global stage to showcase the pinnacle of mold making talent and expertise.

Contact Chair Scott Peters for more information: Scott.Peters@MoldedMarketing.com or 330-201-3751.

Respectfully,
Joe Karpinski
MTD Education Committee Chair - 2023 to 2025

2025 SPE MTD Golf Tournament

Regrettably, this year's tournament was canceled due to unusually high temperatures and forest fires.

The venue experienced weeks long temperatures exceeding 110 degrees, rendering the fairways unplayable. Additionally, multiple forest fires significantly diminished the air quality to dangerous levels.

We would like to express our gratitude to everyone who showed interest in participating and those who offered support through sponsorships.

We are planning next year's event, We are looking at several venues. These courses will be located near or in Los Angeles.

We are looking at 2 types of courses.

Private - Price range of $150 to $200 per player.
Course availability, typically Mondays.

Public - Price range $80 to $120.
Course availability any day of the week.

Please reply with your preference.

Kerry Kanbara - pius.sales-outlook.com@shared1.ccsend.com

Innovative Cooling Tornado Z9665/... - Saving energy directly in the mold

With the new HASCO Cooling Tornado, HASCO is providing an innovative solution for increasing efficiency and saving energy during the cooling of the mold.

The Cooling Tornado Z9665/... offers a variety of application possibilities and can be used both in combination with runners in core cooling systems and directly in the corresponding cooling bores. Through the production of turbulent flow, the effectiveness of the cooling is increased by up to 20 % (depending on the flow l/min). This turbulence interrupts the laminar lower layer of the cooling medium and has the effect that also the inner core of the cooling medium flows to the outer sheath, and thus considerably improves the heat transfer.

Turbulent flow for efficient cooling

The Cooling Tornado allows, through turbulent flow, efficient cooling for shorter cycle times and the avoidance of hot spots, which ensures uniform temperature distribution. Compared with conventional cooling bores, temperature differences of up to 10 °C can be attained. Turbulence of the cooling medium leads to energy savings of between 20 and 40 %. The Cooling Tornado allows easy retrofitting as well as the possibility of customized shortening, making for uncomplicated installation in existing systems.

The installation itself is also extremely simple. The Cooling Tornado can be quickly retrofitted and is simply positioned and fixed at the end via a clamping ring. The mounting can both be carried out in combination with cooling pipes such as Z962/... for core cooling as well as directly mounted in the cooling bores.

Energy saving directly in the mold

Extensive tests confirm the effectiveness of the Cooling Tornado Z9665/.... In a comparison of the cooling circuits with and without the use of the Cooling Tornado, a reduction in the surface temperature of 10 % was measured. With a flow rate of, for example, 6 l/min, the surface temperature of the cavity fell from 86 °C to 78 °C. These results show that, by fitting the complete mold with the Cooling Tornado Z9665/..., an energy saving of 20-40 % can be achieved.

Message From The Chair

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I would be remiss were I not to tell you how it is that we are supported in this effort. Our good friend Steve Johnson and his company MoldTrax LLC sponsor the award and stipend. Steve, we cannot thank you enough for your support and leadership! For more information about Steve and MoldTrax please look him up at www.moldtrax.com or give Steve a call at +1.419.281.0790.

Job Well Done, Team!

For more information about the Alliance Pickens program and Pickens County Career and Technology Center, please visit: www.pickens.k12.sc.us/PCCTC
or email Ken Hitchcock, Director at KenHitchcock@pickens.k12.sc.us, www.alliancepickens.com
or email Jeromy Arnett, Workforce and Industry Development Manager at jarnett@alliancepickens.com

Following the presentations at the school and a tour of the United Tool and Mold facilities, Scott and his team, along with Glenn, Don and Progressive Components, hosted the third I-Warriors Golf Outing of 2024. It was a fantastic outing held on the grounds of Carolina Springs Country Club in Fountain Inn, South Carolina. And once again, the Mold Making Community stepped up the game by donating a whopping $32,537.00 to the I-Warriors Foundation.

I-Warriors exists to provide custom I-Pads and support for wounded warriors returning from the throws of battle and re-integrating into civilian life. It was founded by Kim and Tm Bartz (a mold making couple) in 2011, and continues to support “Heroes from the American Mold” today. The organization is run by a volunteer board (all related to the Mold Making and Design Industry). Our Mold Technologies Division is committed to sponsoring a hole at each of the outings.

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Message from the Chair

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As a division board, we continue looking for new and exciting ways our group can give back to our industry and society. Your thoughts and suggestions are welcome!

iWarriors representatives (far left and right) Progressive Components Glenn and Don Starkey and Rick Finnie and Geri Anderson of M.R. Mold & Engineering present a tablet to USMC Carlos Murillo, a wounded veteran who shared his experience overseas, which earned him two Purple Hearts. Source: iWarriors

Looking ahead into 2025, we are already planning on scholarships and grants from our Education Committee. The Chair, Joe Karpinski, has published several calls for applications and has an article in this newsletter.

Our Technical Program Committee has pulled together a 6-paper presentation for ANTEC ’25. This is the first time in a long while that our division has garnered presentations and space at ANTEC – Special thanks to Davide Masato – TPC (Technical Program Chair) and Shoreh Parandoosh – Assistant TPC, for all of their efforts in securing speakers and high-quality papers for the event. We hope that our membership will carve out time to attend ANTEC and, in particular, these sessions. I am 100% certain that the speakers and attendees will benefit!

Be sure to watch your SPE Email Blasts for more information about ANTEC and the schedule of events. And don’t forget to register early – it can save you some money! ANTEC® 2025 - Registration Information

In addition, we have plans to award four International Awards during PTXPO in March.

That’s right, we will be at PTXPO 2025 - We will have a booth (right next to the Chicago Section of SPE and our hosts MoldMaking Technology Magazine.), number 1239. Be sure to look us up at the show and plan to attend the awards presentation on Thursday afternoon, the 19th of March. The show will run from March 18 – 20 at the Donald E. Stephens Convention Center in Rosemont, Illinois.

When it comes to our supporters in the plastics industry, we cannot forget the team at Gardner Business Media, the publishers of MoldMaking Technology, Plastics Technology, and Modern Machine Shop, and Additive Manufacturing (and others!) Magazines. Their generosity in affording our division and the Chicago Section the booth space and decorations for the show is very much appreciated. So often we overlook these kinds of support – and I for one cannot say “THANK YOU” loudly enough!

So, I will now conclude this message as it started, and that is in wishing you and yours the
Happiest of Holiday Seasons along with a Happy, Healthy, and Prosperous New Year in 2025.

I look forward to seeing you all soon!

Scott
2022-2026 Chair - Mold Technologies Division, the Society of Plastics Engineers

The Mold Technologies Division of the Society of Plastics Engineers is looking for a Few Good Men and Women!

If you have ever wondered, “Is leadership in the Mold Technologies Division for me???”

If you have ever thought, “I have something to contribute to the guidance of our association and industry.”

If you find great fulfillment in collaboration, seeing new things come into practice in our industry, and progressing best practices in mold making, then this is your opportunity to shine.

Each year we seek leaders, some polished and experienced, but more the Diamonds in the Rough that have so much potential and are standing back waiting for an invitation to participate — *This is your INVITATION*.

Please contact—Scott Peters, Nominations Chair at scott.peters@moldedmarketing.com for more information. We are looking for directors to take on rolls in Technical Programming, News-letter Preparation, Division Senior Leadership/Secretary and so on… So please reach out and help us all lead our industry into 2030 and beyond — Leadership Terms are for 3 years and come complete with a mentor to help learn the ropes...

Christopher Blake, Director of
New Product Development
Maya HTT

How to Quickly & Easily Introduce Conformal Cooling in your Operations

Summary: By the end of this article, you will have learned how to fully benefit from conformal cooling and actually implement it to improve your business operations. To get there, we will review how 3D printing can significantly improve the plastic injection industry, especially molders producing parts. We will also present the challenges that are currently preventing a wider adoption of this technology, including the design freedom. An important problem faced by many is to consistently evaluate whether conformal cooling is relevant for each specific case. You will learn a simple methodology to reliably solve this trade-off and unlock the benefit of 3d printing for your specific cases.

What is Conformal Cooling?

Conformal cooling has the potential to significantly impact the plastic injection industry. This technology consists of using vacuum brazing or metal 3D printing, to create mold inserts with special cooling lines. Additive manufacturing technologies like laser powder bed fusion and selective laser sintering build up the metal insert in layers, allowing more creative and more optimal channel shapes to be manufactured than with CNC machining. Such channels "conform" to the shape of the plastic part to bring water closer to the surface. This helps extract heat away from hot spots that conventionally drilled cooling lines and baffles would struggle to address.

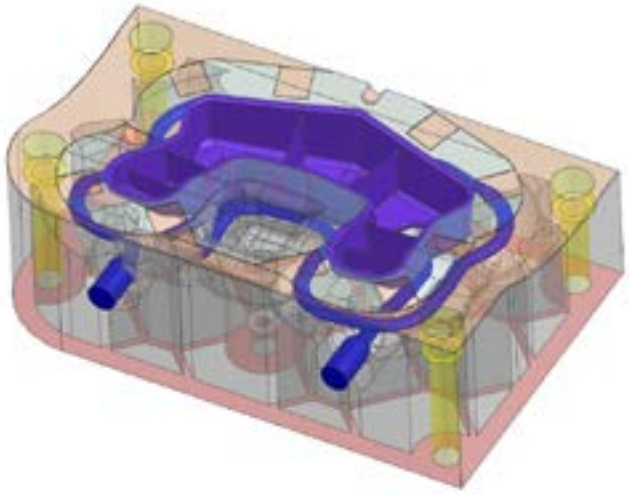

Figure 1: 3D Printed Steel Insert with Conformal Channels and Lightweighting (Courtesy Synergy Molding Technologies)

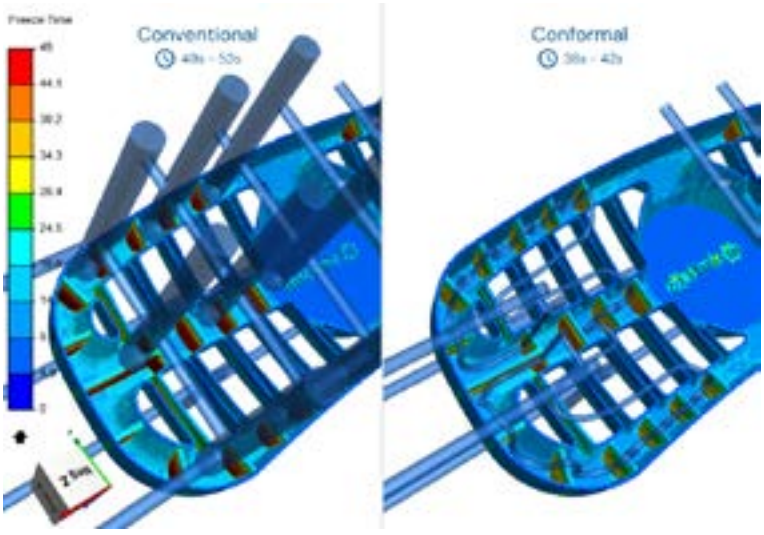

Figure 2: 20% Cycle Time Reduction with a Conformal Cooling Insert instead of Typical Baffles, as predicted by using SimForm.

Benefits of Conformal Cooling

This technology has key advantages. First, conformal cooling usually leads to more uniform part & mold temperatures.

With increased design freedom of conformal channels, mold makers can devise cooling layouts that target hot spots in hard-to-reach locations. This increases the temperature uniformity achievable with conformal cooling and reduces the occurrence of part defects such as warpage and sink marks.

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Second, conformal cooling enables significant cycle time reductions. Cooling can amount to as much as 80% of the overall injection molding cycle time. By removing heat locally, conformal cooling can reduce that cooling time by up to 50%. It reduces part production cost, improves the molders profitability and manufacturing capacity.

Challenges Associated with Conformal Cooling

Conformal cooling is not without its challenges. First, additive manufacturing is still a relatively new process with often a higher manufacturing cost than CNC machining. It requires specific expertise, not to mention the capital expenditure of 3D printers.

Secondly, additive manufacturing has fewer manufacturing constraints than machining. While it gives more flexibility to the tooling designer to create more efficient cooling lines, designers will also tend to spend more time designing inserts, increasing the engineering cost. Many organizations have yet to codify conformal cooling design guidelines, so typically it's not a given that one design will be better than another.

Finally, once produced, conformal cooling inserts can be challenging to maintain as those water lines are more susceptible to scaling or clogging and they require higher quality water with specific filters.

The Conformal Cooling Business Case

With this information, it's difficult for molders to decide whether conformal cooling is relevant for their specific part and whether or not such inserts should be included in their requests for tooling quotations. The key is to realize that the benefits of conformal cooling (cycle time reduction, scrap rate reduction, etc.) are recurring while the up-front expenses are not! Thus, the decision depends on the cycle time reduction achievable, the number of parts to produce, the part price and the extra investment. These inputs are readily obtained, except for the cycle time.

To tackle this problem, it's necessary to evaluate the cooling time (and hence cycle time) reduction earlier in the process - well before manufacturing.

We suggest the following methodology:

1. Identify where cooling is needed for the plastic part, that is identify the hot spots
2. Create a rough conventional cooling layout, often based on experience or company best-practices.
3. Create a rough conformal cooling layout
4. Evaluate the thermal performance and manufacturing cost of each layout
5. Build your business case & select the right approach
6. Proceed to the detailed design of the insert based on the selected approach

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Optimization via Conformal Cooling Technologies

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To help you build your business case and justify the investment in conformal cooling, our company, Maya HTT, has developed a free Conformal Cooling ROI Calculator. Using a science-based approach reduces the risk for molders and enables them to benefit more often from the advantages of 3D printing to improve their profitability. The same calculator can be used for other investments, such as redesigning the cooling lines or adding a copper alloy insert.

The Use of Simulation for Reliable Business Case

To design the rough conformal cooling layout, new technologies based on "Generative Design" are currently being developed. They account for the actual temperature map to recommend where to put cooling lines. Reach out to us to know more about this upcoming technology.

The other critical parameter required to build the business case is an estimation of the cooling time for each layout. Experienced-based estimations are approximate, especially for conformal designs. Detailed mold flow analyses are expensive and time-consuming, and require specific expertise. This is why our software SimForm was developed.

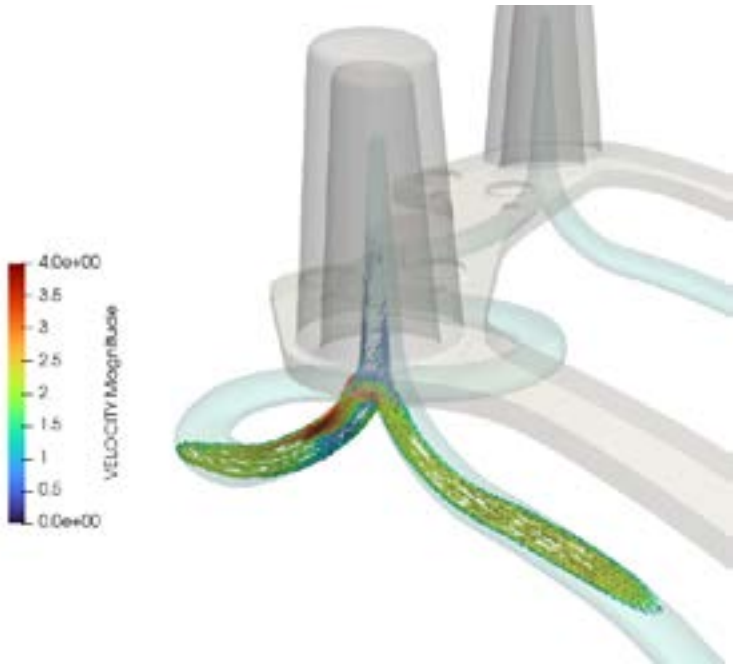


Figure 4: Assess the Effectiveness of Cooling Channels using Maya HTT's Fluid Flow Analysis Software

Advanced yet easy-to-use simulation tools

SimForm makes thermal simulation available to designers so they can easily evaluate the performance of their own design. As it's meant to be used iteratively during the design process, SimForm is extremely fast, providing results in 15 min or less and requiring few hours of training. It provides designers key insights, especially the part temperature, the mold temperature but also the estimated cooling time which can be used to build the conformal cooling business case.

Using Generative Design and SimForm, it's possible to quickly create conformal cooling layouts and evaluate whether the improvements justify the extra investment. Whether or not you are using the tools developed by Maya HTT, the methodology presented here enables you to reliably evaluate if conformal cooling is relevant for your specific part and production needs.

Contact us to find out if your part can be benefit from conformal cooling.

Christopher Blake - Director of New Product Development - Maya HTT
Christopher.Blake@mayahtt.com

Terrence Adams - Director of Sales & Strategy - Maya HTT
Terrence.Adams@mayahtt.com

simform
A Maya HTT Application

THERMOPLASTIC ELASTOMER CONFERENCE

"Compound Interest: TPEs in a Circular Economy"

The **Akron Section of the Society of Plastics Engineers**, along with the **TPE Technical Interest Group of the SPE**, will again be hosting a conference this spring that highlights a unique blend of polymers, Thermoplastic Elastomers (TPEs). It will be held April 8 to 10, 2025 at the Hilton Garden Inn in Akron, Ohio.

Full information can be viewed at http://www.4spe.org/tpe25.

There will be a separate tutorial held on April 8 taught by industry experts. The morning session will be TPE fundamentals while the afternoon session will feature sustainability.

Technical sessions will focus on sessions exploring sustainability, recycling, bio content, composting, part consolidation, efficient design, minimizing machine energy, material formulation and regulatory trends. The topics and speakers can be viewed at the above link using the "Program" tab.

This conference will push the envelope of development as we feature two keynote addresses. Professor Spontak will discuss **"Water-Activated Elastomers to Mitigate Growing Global Environmental, Healthcare and Energy Challenges"**. Kathryn Wright, Kraton R&D VP, will be the second keynote speaker. Her topic will be **"A Sustainable Future Enabled by Six Decades of Innovation"**.

There will be an exhibit area where companies will display their products related to TPEs. In addition there will be two receptions where networking can be done.

Sponsors will be recognized during the conference. If your company would like to be a sponsor and/or exhibitor, please use the above link and click on the "For Sponsors" tab.

Room reservations at the Hilton Garden Inn for a special reduced rate can be made using the link above and clicking on the "Hotel Information" tab.

Your participation will support the TPE Technical Interest Group and the Akron Section in their efforts to provide student scholarships and opportunities to participate in plastics industry events.

spe AKRON

PROMOTING SCIENTIFIC AND ENGINEERING KNOWLEDGE RELATED TO PLASTICS

Progressive Components Releases Undercut Style Extended Sprue Bushing

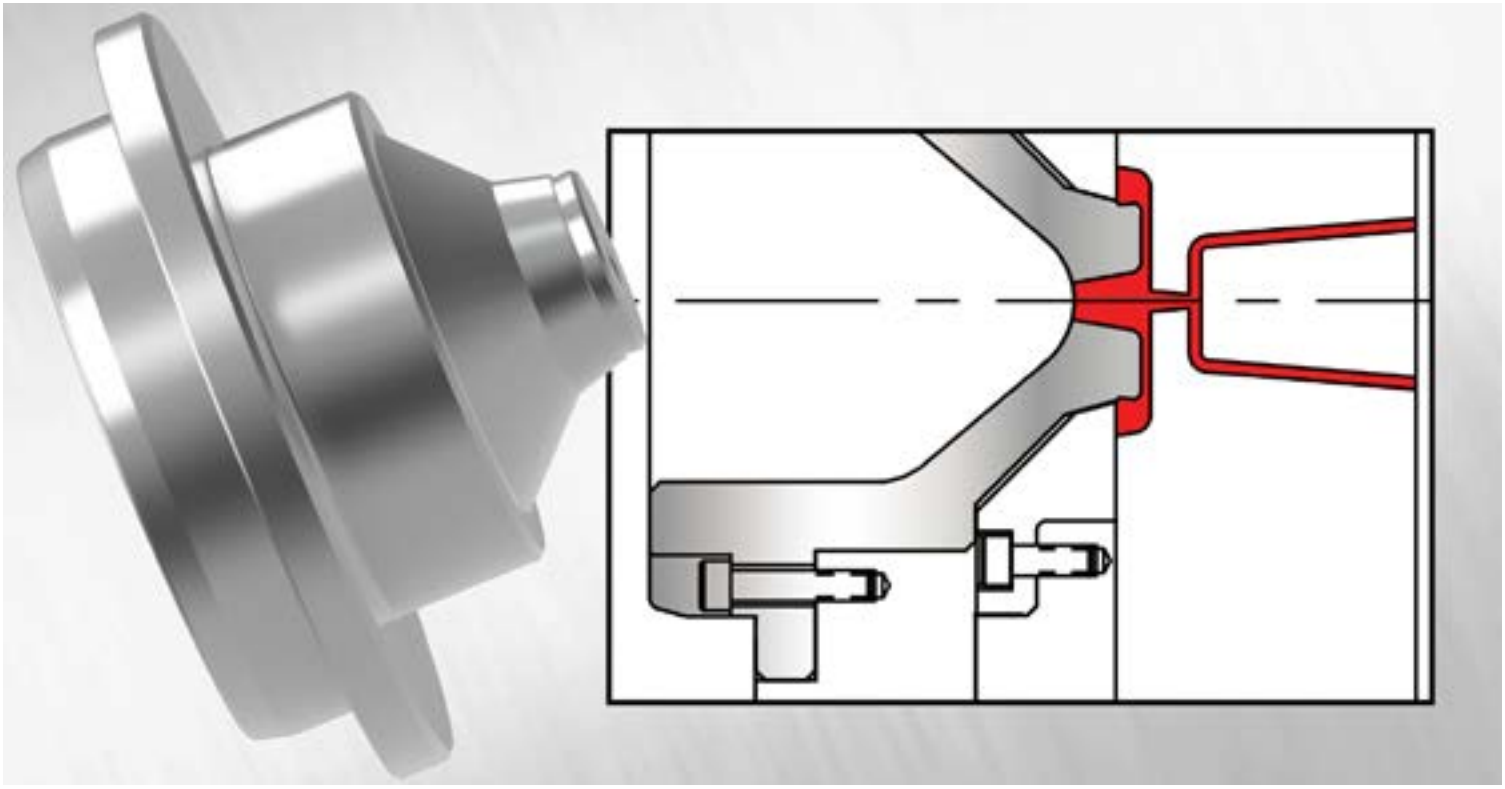
Progressive Components (Wauconda, IL) announces the recent expansion of its Extended Sprue Bushings line in a series called the Undercut Style.

Designed for use with 3-plate molds, Progressive's Extended Sprue Bushings accept the machine nozzle and bring the material to a floating plate above the mold cavity. The undercut feature pulls the sprue and separates the material from the finished part to provide direct gating into single-cavity molds.

Manufactured from 4140 Prehard Steel (HRC 28-32), Pro's Undercut Style Extended Sprue Bushing is a one-of-a-kind offering in the industry. Previously, mold builders had to create it as a custom component. Now, the Undercut Style is exclusively available as a quality part in Progressive's line of Mold Base Components, providing mold builders with an off-the-shelf, standard option for single-cavity molds.

For more information on Progressive's extensive line of standard and exclusive mold components, visit: www.procomps.com, email: tech@procomps.com, or call: 1-800-269-6653

Progressive Components | 1-800-269-6653 | procomps.com



PROGRESSIVE COMPONENTS

HASCO

Enabling with System.

Product Announcement:

HASCO, the Leading Supplier of Standard Components and Accessories for the Tool and Moldmaking Industry, presents an extension to its product portfolio: the New Parking Plate Z80953/

Using the comprehensive multi-coupling system, cooling circuit connections can be made quickly and easily in a single step.

The new HASCO parking plate Z80953/, with locking mechanism allows reliable and separate safekeeping of machine-side multi-couplers. The parking plate allows individual positioning on the injection molding machine by the customer. The parking plate is suitable for all HASCO multicoupling systems and is compatible with all other conventional multi-couplers.

The diversity of the comprehensive multi-coupler range in combination with the new parking plate offers numerous advantages for process optimization for the plant floor.

HASCO 100

The pioneer of moldmaking for 100 years.

www.hasco.com

Join MTD at ANTEC 2025!

The SPE Mold Technologies Division will host a Technical/Practical Session on Thursday morning, March 6, 2025

Christopher Blake - SimForm – A Maya HTT App
Fast Cooling Simulation for the Generative Design of Injection Mold Cooling Layouts that Reduce Cycle-Time and Improve Part Quality

Daniel Fritsche - Institute for Plastics Processing at RWTH Aachen University
Automatic derivation of conventional cooling channels for the digital thermal injection mold design

Clinton Kietzmann - Autodesk Australia Pty Ltd
Automatic cooling channel layout generation for injection molding

Julian Schild - Barnes Group Inc.
Smart Hot Runner for autonomous sequential molding

Simon Wurzbacher- voestalpine High Performance Metals GmbH
Warpage control through parallel conformal cooling channels

Andrea Gruber - University of Massachusetts Lowell
Thermal and flow effects of lime scale on the cooling of slender injection cores: a numerical study

ANTEC® 2025, SPE's Annual Technical Conference, showcases the latest advances in industrial, laboratory, academic, and international work focused on plastics and polymer science. ANTEC® will address a range of plastics technologies, polymer research, new materials, innovative processes, and more. There will also be a focus on scientific, technical, or industrial problems and their solutions.

In addition to a comprehensive program, ANTEC® 2025 will offer exceptional networking opportunities, our prestigious SPE awards, symposiums, and our exclusive ANTEC® All-Access VIP Experience.

spe ANTEC® 2025
Philadelphia, PA • March 3-6

March 3-6, 2025 -- Sheraton Philadelphia Downtown
201 North 17th Street, Philadelphia, PA 19103

2023/2024 BOARD OF DIRECTORS

Mold Technologies Division

OUR MISSION: **To be the leading industry resource for technical information and to advance plastic mold engineering technologies, while fostering industry growth, education and leadership.**

— Call for Papers —

A Symposium on

Smart, Innovative, and Low-cost Tooling Systems for Advanced Materials Manufacturing

Sponsored by the ASME Manufacturing Engineering Division's
Advanced Materials Manufacturing Technical Committee
2025 ASME International Manufacturing Science & Engineering Conference (MSEC)
June 23rd – June 27th, 2025
Greenville, South Carolina, USA
Hosted by Clemson University

Technical Focus

The use of additive manufacturing (AM) and other rapid prototyping has not significantly penetrated in sectors like automotive manufacturing due to their high production rate requirements. A paradigm shift from direct production of the final parts to manufacturing tooling systems, like molds and dies, can unlock potential economic benefits. Utilizing AM and new hybrid techniques for creating tools in transformative tool-based processes can lead to reduced tooling costs, shorter lead times, and optimized weight, strength, and thermal management. The journey from concept to mass production for lightweight components, such as advanced high-strength sheet metals, fiber-reinforced composites, or hybrid parts, involves rigorous prototyping. These prototypes need to be manufactured with materials and processes similar to the final products, leading to the substantial cost of prototyping tools. The rise of digital manufacturing has fostered innovations in tool fabrication, active sensing, and data analytics. Tools have evolved with Industry 4.0, becoming pivotal linchpins in product transformation, providing real-time data and efficiency. This symposium invites papers that address theoretical, implementation, and applied aspects of the following topics:

- Low-cost tooling leveraging advancements in AM (metal and plastics) and hybrid technologies
- AI-enabled tooling design, manufacturing, characterization, and quality assurance
- Development and application of new tooling materials
- Integrating sensors, vision-based systems, or self-adjusting actuators in tooling
- Data-driven real-time process optimization and quality monitoring using data from tooling systems
- Developing soft sensors for tooling applications
- Customization of products through innovative tooling systems
- Coating, surface finishing, and functionalization for tooling enhancement
- Application of control and robotics in tooling systems
- Recyclability, reusability, and life-cycle analysis of tooling

Paper Submission (Dates are subject to change.)

Submission of abstract for review (mandatory) ..... November 4, 2024
Submission of full manuscripts for review ..... November 12, 2024
Submission of revised papers for review ..... March 3, 2025
Notification of acceptance for revised papers ..... March 17, 2025
Submission of Copyright Form ..... March 28, 2025
Submission of final paper ..... March 31, 2025

- ***Submissions will only beaccepted via the conference website: https://event.asme.org/MSEC/***.
- No papers are to be submitted to the organizers.
- **Only industry presenters are allowed to present without a paper**.
- The presenting author must register by **April 10, 2025,** or the paper will be withdrawn from the conference proceedings.
- **High-quality MSEC 2025 papers will be channeled to an ASME journal for fast-tracked review and publication.** Accepted papers can be submitted for review to any ASME journal, such as the prestigious *ASME Journal of ManufacturingScience and Engineering* or the *ASME Journal of Micro and Nano Manufacturing*.

Additional Symposium Activities

To highlight advancements in this technical area, symposium organizers will:

- Work to attract a high-profile international keynote speaker
- Organize a special issue in the ASME Journal of Manufacturing Science and Engineering

Organizers

Dr. Saeed Farahani, Clemson University, Greenville, SC, USA, sfaraha@clemson.edu
Dr. Thomas Feldhausen, Oak Ridge National Laboratory, Oak Ridge, TN, USA, feldhausenta@ornl.gov
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Mr. Curtis Krick, Kistler Instrument Corp., Novi, MI, USA, curtis.krick@kistler.com

* The conference is collocated with NAMRI/SME's 53rd North American Manufacturing Research Conference (NAMRC53), which will have a separate call-for-papers. Please note that submission of the same paper to more than one conference is not permitted.

MINUTES
Board of Directors Mold Making and Mold Design Division SPE

	Present	Absent	Excused		Present	Absent	Excused
John Berg	X			Ron Natale	X		
Scott Peters	X			Andy Hartmann		x	
Eric Hecker		X		Brenda Clark	Ex-Officio		
Greg Osborn	X			Davide Masato	X		
Barbara Arnold-Feret	X			Wes Stephens			X
Stephen Hansen		X		Joe Karpinski	X		X
Rich Martin			X	Kerry Kanbara	X		
Craig Crossley			X	Hari Sharma			X
Susan Huang	X			Anthony Bubay			X
Shoreh parandoosh	X						

October 9, 2024

Time 4:00-5:30 Eastern Time – Meeting start

Division Chair – Scott Peters
- Introduced the board to Ron Natale
- Our chapter is sponsoring a hole at iWarrior golf outing next month
- We are looking for division chair-elect

Chair-Elect Report – vacant position
- Nothing new to report

Division Secretary Report – Wes Stephens
- Nothing new to report

TPC Report –Davide Masato
- Davide shared TPC report - conference March 3-6, 2025
- Shared list of topics for which they are having speakers
- Speakers receive a discounted fee of $499
- Davide put out a request for abstract reviewers for ANTEC and scoring of abstracts
- Division can reserve half-day or full-day track – the division must commit to securing 6 presenters and 1 moderator for each half-day track. We need to commit to being active organizers of the event
- 100% of the sponsorship revenue belongs to the division
- Davide will put an email out to see the board's interest
- ANTEC conference, Molding division pay $500 per person to present in ANTEC - the speaker is expected to pay a $500 stipend or $500 fee. The board feels that we would want to support ANTEC through sponsoring speakers- we're asking folks to sponsor their hotel, their meals, and then $500 for a one-day admission.

Division Councilor Report – Barbara Arnold-Feret
- Nothing new to report

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Membership Chair – Eric Hecker
- Nothing new to report

Sponsorship Chair Report – Greg Osborne / Stephen Hansen
- Letters were sent out in July; we have received about half of the payments
- We picked up (2) sponsors this year

RETEC Report – Barbara Arnold-Feret
- Nothing new to report

Newsletter Editor Report – John Berg
- Nothing new to report

Education Chair Report – Joe Karpinski – Scott spoke on Joe's behalf
- Glenn Bealle Scholarships and SPE Grants recipient amounts were read to the board by Scott: Joe sent letters to the recipients to inform them of their award

Web and Public Interest – OPEN
- No Report Presented

Treasurer's Report – Rich Martin – Ron Natale
- Bank of America - Rich is looking into the signature card with Bank of America - – President, Treasurer,

Councilor, and Secretary
- Rich was kind enough to of the duties of the treasurer

International Committee – Davide Masato/Hari Sharma -absent
- No report submitted

Intersociety Liaison Chair – Craig Crossley/Andrew Hartmann - absent
- Nothing to submit

Track the Apprentice – Susan Huang -
- Nothing to report

Social/Golf Outing – Kerry Kanbara -
- Nothing to report

Student Activities – Anthony Bubay - absent

OLD BUSINESS: No Old Business was covered / NEW BUSINESS: No New Business was covered at this meeting

The Meeting adjourned at 5:30 PM Eastern Daylight Time

HASCO America and Canada Assisting with Hurricane Helene Relief Efforts

In the weeks following the devasting hurricane Helene in North Carolina and Tennessee, HASCO America has opened the warehouse space to assist a missionary, MissionX in housing the much-needed donations and supplies. Giving them a hub to collect and distribute items.

Thank you to all who are continuing to contribute more of the needed items daily. A special thank you to the following corporations.

- Stihl USA in Virgina Beach thanks to both Sonny Nguyen and Guido Feit
- AMBA sent an e-mail blast to the members (American Mold Builders Association)
- SLIDE Products thanks to Betsi Burns and Michael Muth
- Tolerance Tool thanks to Greg Kolbeck and his team
- Vincent Tool Technologies Corp. thanks to both Aimee and Kenny Skar and their team

Continued support is anticipated as more supplies are still in need and on the way.

- M.R. Mold & Engineering thanks to Geri Anderson and her team in California
- Orbis Corporation from Lynn Hediger, Beth Bruch and Renee Nehls and their team in Wisconsin
- AMBA thanks to Kym and Susan and their team in Illinois

Many more, including members of The Plastics Industry are helping by reposting to spread the word for supplies via LinkedIn and Facebook. The need will continue in these devastated areas for many more months as the colder weather will start soon. Tiny homes are on their way and need the following:

Plastic tables: 4 and/or 8 feet
Plastic folding chairs

Your support is needed and very much appreciated! If you can help or would like more information, please contact Brenda Clark - bclark@hasco.com

Newsletter Sponsorship

The SPE Mold Technologies Division Newsletter is now issued four times a year, with readership composed of individuals involved in all aspects of the mold making industry. These issues are made possible through the support of sponsors shown in this Newsletter. SPE Mold Technologies Division thanks these sponsors for their generosity and encouragement in the publishing of our Newsletter.

For information on sponsorship of future issues, please contact:

Greg Osborne - mldmkr@yahoo.com

Stephen Hansen - stephen.hansen@cdmtool.com

Publication Release Dates

Winter Issue
February 2024

Spring Issue
May 2024

Summer Issue
July 2024

Fall Issue
November 2024

SPONSORSHIP INFO 2023-2024

Platinum ($2500/year) — Ad Specs: 9.75" H x 7.25" W

- Full page color ad in quarterly newsletter for one year circulated to members and distributed at SPE MTD events
- First right of refusal to a tabletop at Technical Tours to educate participants on new technologies/strategies
- Opportunity to submit a technical article for publication in newsletter
- Company logo on signage in MTD booth at AmeriMold
- Company logo on signage at ANTEC
- Company logo displayed at SPE events

Gold ($1250/year) — Ad Specs: 4.75" H x 7.25" W

- Half page color ad in quarterly newsletter for one year circulated to members and distributed at SPE MTD events
- First right of refusal to a tabletop at Technical Tours to educate participants on new technologies/strategies
- Opportunity to submit a technical article for publication in newsletter
- Company logo on signage in MTD booth at AmeriMold
- Company logo on signage at ANTEC
- Company logo displayed at SPE events

Silver ($625/year) — Ad Specs: 4.75" H x 3.5" W

- Quarter page color ad in quarterly newsletter for one year circulated to members and distributed at SPE MTD events
- First right of refusal to a tabletop at Technical Tours to educate participants on new technologies/strategies
- Opportunity to submit a technical article for publication in newsletter
- Company logo displayed at SPE events

Bronze ($250/year) — Ad Specs: 2" H x 3.5" W

- Business card size ad in quarterly newsletter for one year circulated to members and distributed at SPE MTD events
- Company logo displayed at SPE events

Preferred File Format: Electronic (PDF, TIFF, BMP or PNG)