2024

Fall Newsletter

spe PRODUCT DESIGN & DEVELOPMENT

Letter from the Chair

By: Erik Foltz

Hello Product Design and Development Division (PD3) Members!

It's that time of year, when individuals invest in themselves and head back to school to continue to learn new tools that will help establish a good foundation for when they enter, or re-enter, into industry. Some of these tools and concepts may be something that others in the industry already utilize and have mastered, while others may be new tools that will help keep us moving forward. This is one of my favorite times of the year, as I had a great experience throughout school and was fortunate to connect with teachers and professors who invested in me and grew my passion for science, manufacturing, and polymers—special thanks to Tim Osswald, Lih-sheng (Tom) Turng, and Roxann Engelstad.

Looking at our division, we pride ourselves on being a source for continuous learning and bringing the right concepts and data to our membership and the industry. Given that objective, the division has decided that the theme for our activities this year is "Getting the Right Data to Achieve the Right Design". The theme is in part to honor the late Mike Sepe who always pushed us in the industry to stop blindly believing preconceived theories and instead generate data to support one's theory and design direction. Whether he pushed us to generate data that allowed us to understand how our design and material would respond not only on Day 1 but also on Day 1,000 or pushed us to explore mold and melt temperatures that were outside the typical processing window to benefit our part performance, Mike was always more interested in seeing the data rather than listening to opinions. Despite individuals like Mike preaching what data is important for design, we still struggle as designers and engineers to find and apply that data correctly. Having a good understanding of the fundamentals and having access to good data will be critical for us to apply and harness the power that artificial intelligence (AI) and machine learning offer. Therefore, throughout the year, we will highlight technical content that provides insight into what data is important and how to read it. We will also generate content that will highlight what can go wrong if we don't apply these principles in our designs. If you are interested in contributing to these articles or want to see content specifically about a topic, please reach out to us and we will try our best to integrate/curate good content.

One of the other ways that we, as a division, are looking to get the "right data", is to also look to expand our board of directors. Our board currently has many seasoned veterans that have allowed us to create a good foundation for the board, and make us a great source for curating the material that I mentioned above. (cont'd)

In this Issue:

Letter from the Chair

However, we also recognize that it is important to not only present the right data but present it in the right format. Additionally, there are new topics that our current PD3 membership may be better authorities on than our current board to help us bring those topics to the forefront. I think a prime example of the contributions our “newer” board members can make include Dr. Akanksha Garg’s most recent Design for… webinar, where she spoke about the importance of understanding and overcoming the material quality issues with circular plastics. It was a rare opportunity to talk to a real expert that is passionate about this topic, without being masked by the marketing or public opinion. She brought “the data” and we had a real conversation! To continue expanding our scope and expertise, we will be bringing on four new board members. We are excited to see where their passion and unique areas of expertise will take us to keep us relevant to you, our membership. If you are interested in being more active on the board, please feel free to reach out to me, or any of our board members. We are always excited to connect with passionate design and materials professionals who highlight the benefits that polymers can add to our design community!

Until we connect again, I hope you all enjoy the content of this newsletter!

Erik Foltz

PD3 Chair (2023-2025)
The Madison Group

Letter from the Editors

Dear PD3 Members,

As the leaves begin to change and we find ourselves transitioning into the fall season, it's a time for reflection and renewal. The Product Design and Development Division (PD3) is committed to being your trusted resource as you continue to innovate and push the boundaries of what's possible in our industry.

This fall, our theme, "Getting the Right Data to Achieve the Right Design," resonates more than ever. The importance of accurate data and informed design decisions is at the forefront of our division's mission, particularly as we honor the legacy of Mike Sepe. His relentless pursuit of data-driven design serves as a beacon for us all, reminding us that with the right information, we can achieve remarkable outcomes.

In this issue, we delve into various topics that highlight the significance of understanding and applying the correct data. From technical articles that explore the pitfalls of overlooking critical design principles to webinars that focus on the latest in plastics decoration and design techniques, we aim to equip you with the knowledge to excel in your work.

We also introduce new voices to our board, bringing fresh perspectives and expertise to our discussions. These additions ensure that our division continues to evolve, staying relevant and responsive to the needs of our members. We are excited to see how these new board members will contribute to our ongoing mission of advancing the field of product design and development.

As always, we welcome your feedback and encourage you to participate in our upcoming events and discussions. Your insights and experiences are invaluable to us, and together, we can continue to foster a community of learning and growth.

Enjoy the content, and here's to a productive and insightful season ahead!

Warm regards,

Elizabeth Detampel
Web/Newsletter Editor
SPE Product Design & Development Division

Past BOD Minutes

Meeting Minutes | July 9th, 2024 | PD3 Board Hybrid Meeting

Call to Order and Roll Call

- Meeting started at 1:04 PM Eastern Time
- Present: Erik Foltz, Al McGovern, Jason Suess, Chris Siler, Mark MacLean-Blevins, Glenn Beall, Ed Probst, Larry Schneider, Akanksha Garg, Eric Rose, Vik Bhargava, Kyle Kulwicki
- Excused Absence: Mark Wolverton, Elizabeth Detampel
- Absent: Pavan Valavala, Michael Paloian
- Invited Guests: None

Past Meeting Minutes

- The link to previous meeting minutes was distributed prior to meeting
- Minutes were approved as recorded with motion and support from Eric Rose and Al McGovern respectively.

Treasurer Report

- Provided by Larry Schneider
- Eric Rose and Larry will have a separate discussion to propose a giving plan in a future meeting.
  - It is targeted that a giving strategy be presented at the November meeting so it can be implemented in 2025.

Councilor Report

- Report was distributed prior to the meeting but was not discussed or reviewed during the meeting. The report will be covered in a future meeting.

Website/Newsletter Report

- A summer newsletter is expected to be distributed within the next few months
- Gained 148 new LinkedIn followers in 2024, and 60 new posts within the last 12 months.

Membership Report

- No new membership report was reviewed at this meeting

Past BOD Minutes

Meeting Minutes | July 9th, 2024 | PD3 Board Hybrid Meeting

Old Business

- Design For Webinars
  - Akanksha and her colleague from Dow will present at the next Design for…event on July 18th and the topic will be “Plastics Circularity: Opportunities and Challenges”
- Communication Theme for 2025
  - In consideration for Mike Sepe’s passion, Erik Foltz proposed a theme for 2025 around material data for material selection in design. Positive feedback was provided for this topic, with an understanding that more thought may be required to refine the scope of the idea. A suggestion was made that more time may be needed to consider alternate theme ideas. Erik Foltz will reach out to board members asking for additional input and ideas for the theme. This will be a continued topic in a future meeting.

New Business

- Board Succession Planning
  - Erik shared thoughts that we should attempt to add 3 to 6 more board members that have the desire to be active in the future
  - This will help spread the work of the board over more people and provide a larger pool of people to replace people who will leave the board someday.
  - It was discussed that new board members could be given some responsibility, but not given major responsibility on their own for at least a year or two.
  - Erik asked current board members to reach out to him if they are interested in being the next chair.
  - The idea of having co-chairs was discussed, and comments were made that having the past chair, chair, and chair-elect working together should spread the leadership burden.
  - Erik requested that current board members reach out to their networks to identify good candidates to join the board.

Adjourn

- Meeting ended at 2:05 pm Eastern Time

Submitted by Chris Siler
July 11th, 2024

In Memory of Mike Sepe, 1952-2024...

By: Al McGovern, PD3 Past Chair

On April 28, 2024, my friend Mike Sepe passed away unexpectedly in a hospital in Phoenix, AZ, after a brief illness. Mike and his wife, Audrey, had been married for nearly 47 years and have a daughter, Kristina. They moved to Sedona, AZ, from Wisconsin to escape the snow and cold.

I first met Mike in the late 1990s after moving to Chicago, when Mike was working at Dickten and Masch in Wisconsin. He had established himself as the go-to expert in solving urgent problems with plastic parts—today, he'd be considered a GOAT. For over 20 years, I relied on Mike to solve any problem I brought him, just as countless others in the plastics industry did. His sudden passing leaves a void that will be felt for years.

To learn more about Mike's life, you can read his obituary here: Michael Paul Sepe Obituary 2024 - Greer's Mortuary. You can also read Jim Callari's heartfelt LinkedIn post here.

Mike and I always made time to meet at every ANTEC or NPE show. I'd buy him dinner, or we'd grab a drink to talk shop and catch up on life. Just this past March, we had drinks at the Marriott Hotel lobby bar the night before he spoke at the Glenn Beall Symposium. He was excited about giving his talk the next day. Here's a photo of Mike (in the red sweater) with the other speakers at the event.

Mike and I were both from the East Coast—he grew up in Darien, CT, and I was raised in Bridgeport, CT. He attended Columbia University four years before I did, but he didn't graduate because college wasn't for him. We often shared stories about our time on campus. We were also both New York Yankees fans in our younger days and enjoyed talking about our families. Mike had a unique gift for solving complex problems, but his true superpower was explaining his findings in a way that anyone could understand. His reports were so clear and well-written they could have won a Pulitzer Prize.

I will miss Mike dearly, as will many others. He was truly one of the Good Guys.

In Memory of Mike Sepe, 1952-2024…

By: Al McGovern, PD3 Past Chair

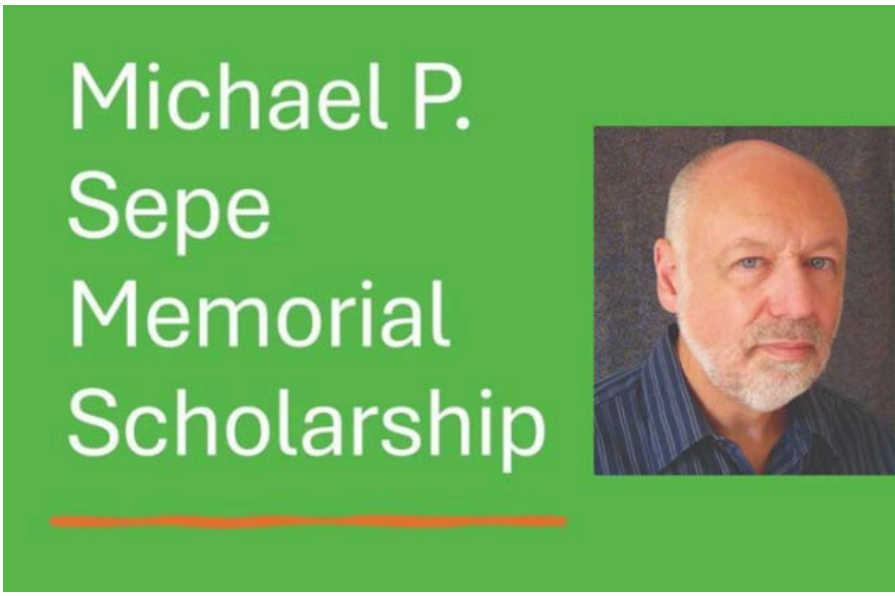
If you've read this far, please consider making a donation to the SPE Foundation Michael P. Sepe Memorial Scholarship here.

About the Scholarship

In honor of Mike Sepe's tremendous contributions to the plastics industry as an expert, teacher, consultant, and esteemed colleague, the SPE Foundation has established the Michael P. Sepe Memorial Scholarship fund.

Mike's closest colleagues are requesting that anyone who benefited from his vast knowledge and expertise consider making a contribution. Through this endowed scholarship, the SPE Foundation will award a scholarship in Mike's memory in perpetuity.

By raising $50,000 by October 1, we can award our first scholarship in 2025.



You can learn move about the SPE Foundations' scholarship program at www.spefoundation.org

Analysis of Everyday Objects that Fail Us-Cellphone Holder

By: Melissa Kurtz, M.S.
The Madison Group

There is nothing more frustrating to a polymer expert than when the failure of a plastic part happens to them firsthand. Adding to this frustration is knowing that the failure could have most likely been avoided. I can say this from experience.

It was a sunny morning; I was driving into the office when it happened. I went to adjust my cellphone in the holder mounted to the HVAC vent. As I was gently performing the adjustments the cellphone suddenly dropped onto the floorboard. When I arrived at the office, I took a closer look and observed that the holder had in fact separated into multiple pieces, Figure 1.

The holder exhibited fracture at the location of four fingers that were to be securely holding onto the swivel ball. Additionally, because of the failure a small hemi-spherical elastomer component between the swivel ball and holder body had been freed. My curiosity grew and I needed to know what had caused this failure.

Compositional Analysis – Cellphone Holder

Multiple analytical techniques were used to determine the composition of the holder material, Figure 2. Fourier transform infrared spectroscopy (FTIR), used to analyze the organic bonds of the material, helped to determine that it was comprised of a polycarbonate resin. Differential scanning calorimetry (DSC), used to investigate the thermal transitions of the material, confirmed a glass transition temperature consistent with that of polycarbonate with no evidence of contamination. Thermogravimetric analysis (TGA) revealed that the polycarbonate resin was essentially unfilled.

Melt flow rate (MFR) testing was also performed to understand the quality of the molded polycarbonate material. This technique measures the flow rate under a specific temperature and load condition and can be used to determine if molecular degradation has occurred during processing. Typically, to perform such a determination, virgin resin of the polycarbonate material used to mold this part is required, or at a minimum a nominal MFR value for the resin provided. Unfortunately, neither of these were available, but it is known that most commercially available unfilled polycarbonate resins have melt flow rates that fall between 10 and 25 g/10 min. Based on this, it may be possible to make some assessment of the quality of the molded holder.

The results of the MFR test are provided in Table 1 and determined an average MFR of 13.265 g/10 min. This result indicated that the cellphone holder material was of good quality and, most likely, did not experience significant molecular degradation during the molding process. (Cont'd)

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Table 1. Results of the MFR testing obtained at 300 °C and 1.2kg following drying to 71 ppm moisture content.

Run	Cellphone Holder g/10 min.
1	13.012
2	13.088
3	12.712
4	13.960
5	12.938
6	13.880
Average	**13.265**

Fractography – Cellphone Holder

Since the material analysis of the cellphone holder itself yielded no clues as to why it had failed it was time to perform an examination of the fracture surface itself. The fracture surface was to be evaluated using scanning electron microscopy (SEM). This technique can be used to determine the origin of a crack as well as the mode of initiation and propagation. It will provide insight into the type of loading as well as possible contributions from chemical exposure or other environmental effects.

The examination of the fracture surface is illustrated in the electron micrographs of Figure 3. In the overview of the fracture surfaces, the bottom left fracture surface was selected for higher magnification examination with the area of interest indicated by the red rectangle. This examination revealed multiple origins adjacent to the inner diameter of the finger. Adjacent to the origins were striations, consistent with a cyclic mode of crack propagation, as well as open craze remnants.

These features were characteristic of environmental stress cracking. Environmental stress cracking (ESC) is a failure mechanism whereby a plastic material cracks due to contact with an incompatible chemical agent while under stress. It is a solvent-induced failure mode, in which the synergistic effects of the chemical agent and mechanical stresses result in cracking. This result was curious as the cellphone holder had not been exposed to the treatment of any chemicals from myself in the application. Then I remembered the hemi-spherical elastomer.

Compositional Analysis – Elastomer Component

FTIR analysis was performed on the elastomer component to determine its composition. This test was conducted directly on the elastomer as well as its solvent extract residue. The analysis results revealed that the elastomer was comprised of a polyurethane-based resin with an ester-based plasticizer, such as acetyl tributyl citrate, Figure 4. (cont'd)

Analysis of Everyday Objects that Fail Us-Cellphone Holder

By: Melissa Kurtz, M.S.
The Madison Group

Polycarbonate materials have a well-documented history of experiencing ESC in the presence of ester-based plasticizers. So, the mystery was solved! The cellphone holder failed due to ESC cracking as the result of direct contact with another component, which utilized an incompatible chemical for a plasticizer. However, what is really at the root cause of this failure is that the product development team failed to consider the entire system. Specifically, they did not understand that a component within the assembly contained an ingredient that was chemically incompatible with another component within the same assembly. Every day, there are numerous failures that can be avoided simply by expanding chemical compatibility assessments beyond the application chemicals to include components within the assembly itself.

Figure 1. The cellphone holder components following failure.

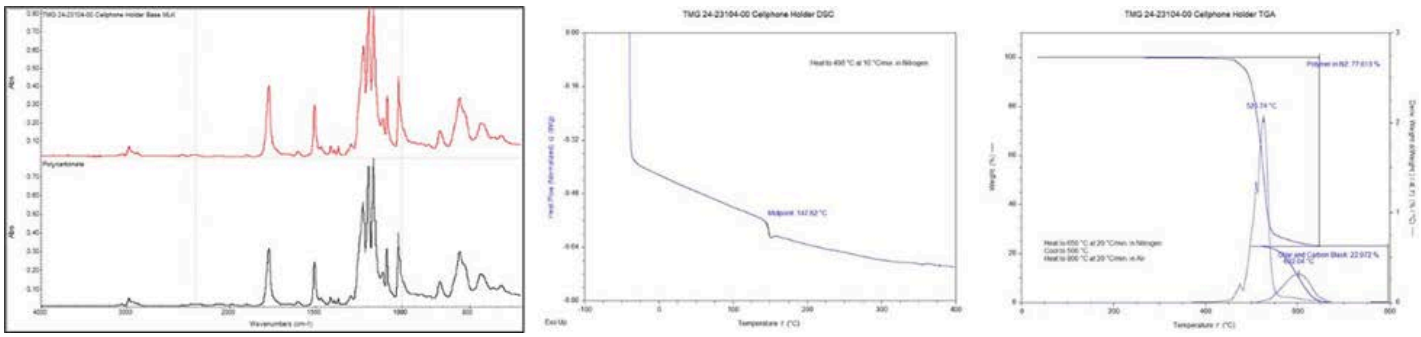

Figure 2. The results of FTIR, DSC, and TGA analyses on the cellphone holder.

Analysis of Everyday Objects that Fail Us-Cellphone Holder

By: Melissa Kurtz, M.S.
The Madison Group

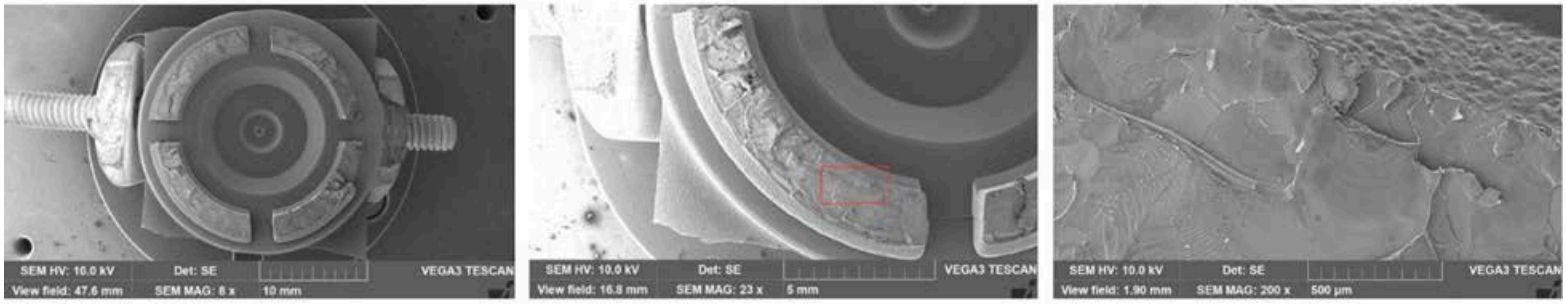

Figure 3. Microscopic images of the cellphone holder fracture surfaces.

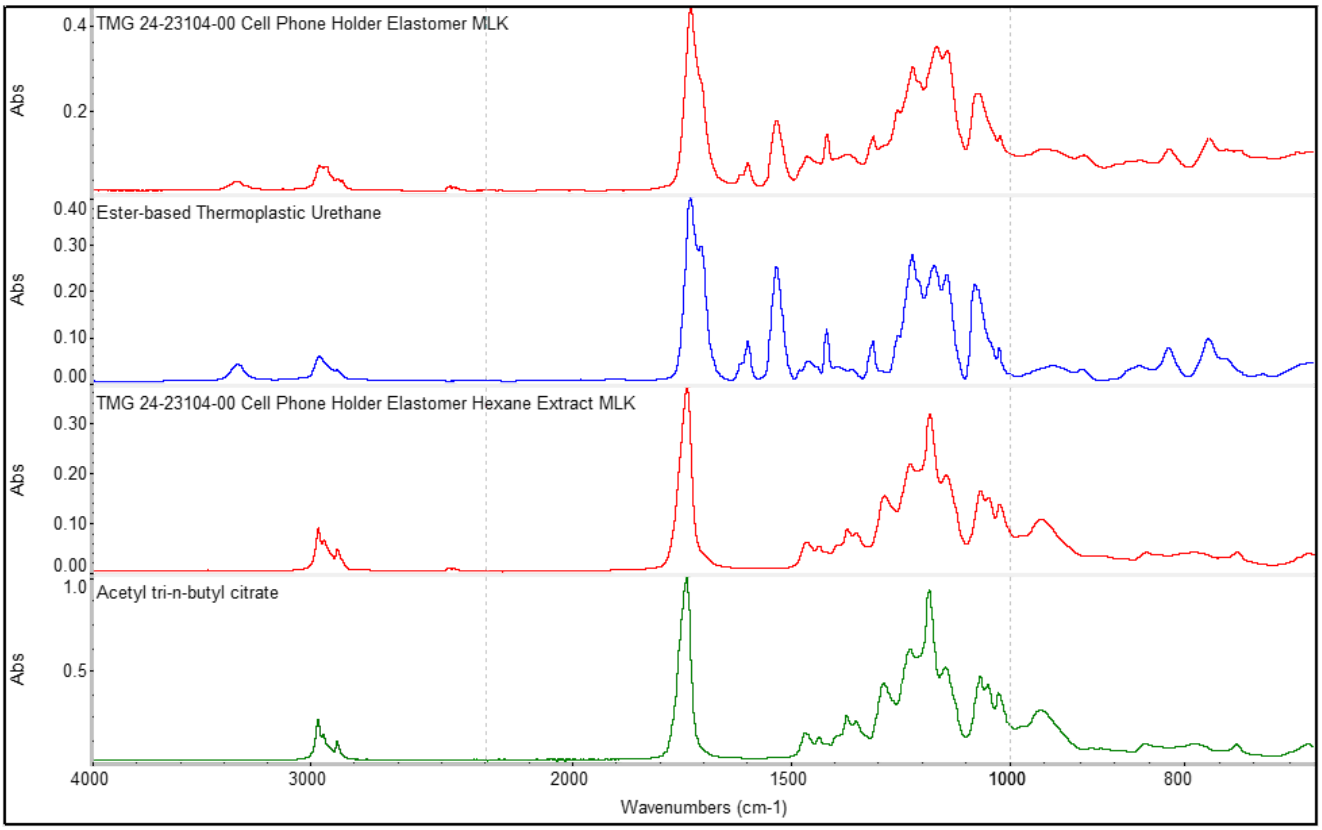

Figure 4. The FTIR results obtained on the elastomer component.

“The Gallery of Goofs”

By: Glenn Beall
Glenn Beall Plastics Inc.

Human beings are not infallible(1). They make mistakes. Plastic product designers are human beings and can therefore be expected to make mistakes. I am reluctant to admit it, but I have made more than my fair share of plastic product design mistakes. My only excuse is that plastic technology was not taught at my university. As a result, I learned about designing with plastic on the job, in the school of hard knocks, by reading the plastics industry magazines and the few relevant books that existed back then.

I like to believe I also learned from my own frequent mistakes. However, it didn’t take very long for me to realize that it would be faster and less costly to learn from the mistakes being made by other designer engineers. I started saving stories of these mistakes in design.

In September of 1981, I had the good fortune to be named the design editor of the highly respected Plastic Design Forum (PDF) magazine. This was a wonderful job that gave me an opportunity and the freedom to promote my design philosophy to the plastics products design community.

In the normal course of events, I wrote an article about a plastic part that failed due to a lack of attention to the basic plastic part design guidelines. That mistake resulted in the death of an innocent person. This article was well-received and the PDF editors asked for more stories about why plastic parts failed and how those failures were eliminated. After a few part failure articles, the editors established a recurring PDF column entitled “The Gallery of Goofs”. They chose the word goof(2) instead of failure or mistake as those words sounded too harsh in the politically correct society we were living in at that time. For obvious reasons, the names of the people, companies, and suppliers mentioned in these articles were changed to protect the guilty. In some articles, the application was also disguised.

I have been designing plastic parts since 1957. Unfortunately, the same mistakes I made over sixty years ago are still being made today. I admit that my work as a consultant and expert witness in plastic product failure litigations brings me into contact with more plastic part failures than the average product designer. Be that as it may, there is obviously something missing in how plastic designers are being educated.

With that thought in mind, SPE’s Product Design and Development Division will be including some of the PDF Gallery of Goofs articles in future newsletters. Hopefully, those reading the newsletter will benefit by learning about these reviews of real-life plastic part failures and how these defects were resolved.

Glenn L. Beall
Glenn Beall Plastics

Webster’s Dictionary
(1) Infallible – incapable of erring.
(2) Goof – an incompetent, foolish, or stupid person.
A careless mistake or a slip.

"The Gallery of Goofs"

By: Glenn Beall
Glenn Beall Plastics Inc.

This is the first in a continuing series that reports on errors of judgment made in the design and engineering of actual plastic parts and products. This case history describes how a lack of awareness of the design requirements for plastic materials, coupled with an accelerated product-development schedule, resulted in a major accident and a large financial loss. The author is Glenn L. Beall, president of Glenn Beall Plastics and a former design editor of Plastics Design Forum magazine. Beall has extensive experience serving as an expert witness in liability cases such as the one presented.

The plastic part involved in this situation was an injection-molded acetal valve body. It was used on heavy earth moving equipment as a part of the hydraulic-oil distribution and control circuit.

While the machinery was in use, the valve body cracked, and hot hydraulic oil sprayed onto the operator, causing severe burns and pain. The operator jumped from the moving machine and received additional injuries. Complications resulting from the treatment of these injuries subsequently led to his death.

The family filed a lawsuit against the deceased's employer and the equipment manufacturer and enjoined all of the related suppliers to the original equipment manufacturer. I was retained as an expert witness by the defense for the custom injection molder who had molded the valve body.

In cases of this type it may be difficult to determine the facts because each of the involved parties understandably attempts to appear blameless. However, based on the data produced during the pretrial litigation, the following scenario was put together.

The original equipment manufacturer had designed and developed the valve body as a minor part of the overall hydraulic-control circuitry. A machined aluminum model of the design was fabricated in the company's model shop. Except for normal minor modifications, the model of the valve functioned as anticipated.

At this point, upper-level management exerted normal influence to reduce both the cost and the delivery time for the new and improved hydraulic-control circuit. Model shop drawings of the machined aluminum model were submitted to custom injection molders for cost quotations. As was expected, the injection-molded parts turned out to be significantly less costly than the machined aluminum valve bodies.

During the course of the quoting procedure, the original-equipment manufacturer asked the various molders for suggestions on which plastic materials would be suitable for the application. A variety of high-temperature plastics, including acetal, were suggested. It appears as though the original equipment manufacturer specified acetal for the valve body; however, it was difficult to prove who actually specified the plastic material that was subsequently used. There was no question, though, that the OEM approved the plastic material and the molded parts.

In retrospect, acetal was a good choice for this application. Acetal is a strong, high-temperature material that is not affected by hydraulic fluid.

Trial moldings of the valve body, made after the accident, did not reveal any defects in the mold or the molding process. The molded parts, however, were another matter. The parts contained obvious weld lines, sink marks, and internal voids that could not be eliminated by molding-cycle adjustments. (cont'd)

“The Gallery of Goofs”

By: Glenn Beall
Glenn Beall Plastics Inc.

The valve body was a boxy, solid part with a wall thickness ranging from 0.300 to 0.800 inch. No attempt had been made to core out or reduce the walls to a more appropriate thickness. All indications pointed to the probability that the mold cavity had been cut according to the original drawing intended for the aluminum valve body, which was to have been machined from bar stock.

Although acetal was a good choice of material for the application, it was not a good material for a thick-walled part such as this valve body. Acetal has a high mold shrinkage factor. Highly crystalline materials such as acetal change abruptly from a liquid to a solid with only a few degrees change in temperature. During the cooling portion of the molding cycle, the plastic material that is in immediate contact with the relatively cool surfaces of the mold’s cores and cavity sets up quickly and becomes rigid. This happens long before the center of the 0.800-inch-thick sections have had a chance to cool.

As the center section slowly cools, it contracts or shrinks and attempts to pull the outer walls inward. The outer walls, which already have become rigid, resist this force. This results in the creation of a negative internal pressure as the centers of the thick sections continue to cool and contract. The negative internal pressure draws unreacted monomers, volatile gas, or moisture out of the plastic material to relieve the negative internal pressures. This condition results in a high level of molded-in stress and the voids that are shown in Figure 1. (Cont’d)

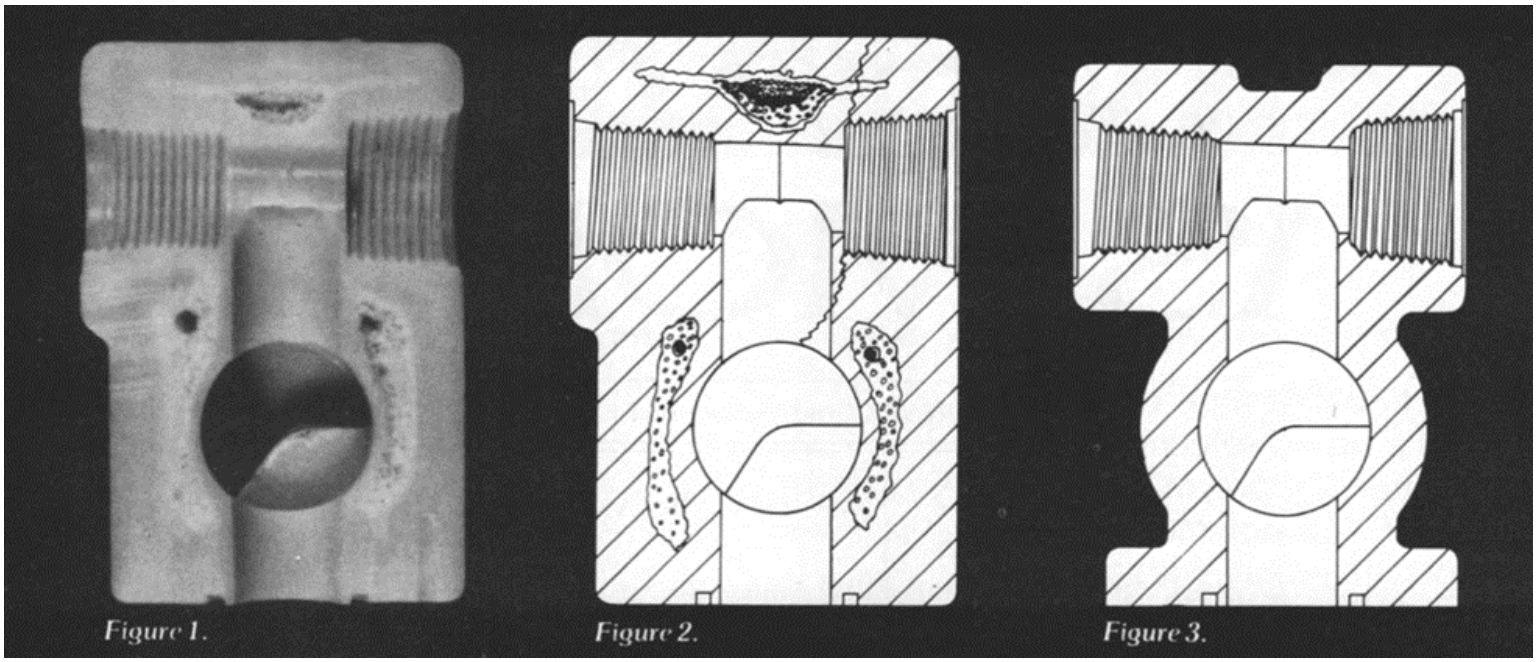

Figure 1. *Figure 2.* *Figure 3.*

"The Gallery of Goofs"

By: Glenn Beall
Glenn Beall Plastics Inc.

The prosecution jumped to the conclusion that the internal voids, which obviously are not shown on the part drawing, were a manufacturing deviation that rendered the valve body unreasonably dangerous. If these accusations could be proved, the custom molder would have been guilty of having produced a defective part.

Careful examination of the part involved in this accident revealed that the valve body leaked through a crack that was in no way associated with the internal voids (Figure 2).

The cause of the crack through the side wall of the valve was traced to a sharp transition between the innermost thread and the valve body in a location near an abrupt change in wall thickness. The force that caused this sharp, stress-rising comer to develop a crack was provided by a threaded metal fitting that had been driven too deeply into the inside thread on the valve body. The threaded metal fitting had actually left an indentation on the valve body at the bottom of the thread.

The molding experiments indicated that it was not possible to mold the valve body as designed without internal voids, weld lines, and high levels of molded-in stress. The printed literature from the material supplier indicated that internal voids were to be expected on thick-walled parts such as this valve body. These voids were due to the design of the part. If the voids rendered the part defective, then that defect must be considered a design defect. The sharp stress-rising corner at the bottom of the thread was also a design defect. Overtightening of the threaded metal fitting also contributed to the problem.

The part design and the assembly operation were both clearly the responsibility of the original equipment manufacturer.

The custom molder's attorney took the position that the cause of the accident was a design and assembly defect for which his client had no responsibility. The case was favorably settled from the molder's perspective.

This case was settled before it went to trial, and the diverse opinions expressed by the opposing expert witnesses were never tested. However, it is reasonably safe to assume that this accident could have been avoided by proportioning the part design for the plastic material chosen and the manufacturing process being specified.

The weld-line weakness and high levels of molded-in stress could have been minimized and the internal voids could have been eliminated by redesigning the part to have uniform, thinner walls (Figure 3). Stress at the sharp junction between the innermost thread and the valve body could have been reduced by replacing the sharp corner with a radius. A shorter threaded metal fitting or a deep inside thread on the valve body would have prevented the threads from bottoming out.

The valve body may have been properly designed for a metal part that was to be machined from bar stock. However, the part was not designed according to the state of the art for an injection-molded, high-mold-shrinkage, crystalline plastic material. It is a simple fact that all parts must be specifically designed to accommodate the special limitations and peculiarities of the material, process, and tooling approaches that will be used to produce the part. (cont'd)

“The Gallery of Goofs”

By: Glenn Beall
Glenn Beall Plastics Inc.

Similar errors in judgment have been made in producing plastic parts by using part drawings originally prepared for cast iron, wood, glass, diecast aluminum, and fabricated sheet metal. The undesirable practice may appear to save the time and cost of preparing new part drawings. More often than not, the resulting parts turn out to be of lower quality and higher cost than a properly designed part.

Any plastic part worth producing deserves to be properly proportioned for the combination of the manufacturing process and the plastic material that will be used to produce the part.

Design For..
Webinar Series

By Design....Decoration Technique Selection

with: Jim Naatz and Matt Rosner

Sussex IM, Inc.

October 24, 2024 @ 12 CST

Join Sussex IM's Jim Naatz and Matt Rosner for an insightful webinar on plastic product design, where we will explore various decoration techniques, including pad printing, hot stamping, heat transferring, and in-mold labeling. Learn how these methods can enhance the aesthetic appeal and functionality of your plastic products. Whether you're looking to improve durability, achieve high-definition graphics, or streamline your production process, this webinar will provide valuable insights into the best practices for each decoration type.

SussexIM.com

SUSSEX INJECTION MOLDING

About the Speakers

Jim Naatz: With over 30 years of experience in the manufacturing industry, Jim has played a pivotal role at Sussex Injection Molding for the past 18 years. A graduate of AIT Milwaukee in Mechanical Design and Tooling Design, Jim's journey began with an apprenticeship in Injection Mold Design, earning him the title of Journeyman Mold Designer in 1997.
His roles marked Jim's early career as an Injection Mold Designer with leading Mold Builders in Menomonee Falls, WI. His expertise led him to Sussex IM in 2006, where he served as a Project Engineer. Throughout his tenure, Jim has been instrumental in launching numerous large-scale projects, encompassing both manual and automated assembly processes. His work has included decoration techniques such as pad printing, hot stamping, and In-Mold Decoration.

Register Here

CLICK HERE

Design For.. Webinar Series

Since transitioning to the Commercial team in 2012 as a Sales Engineer, Jim has leveraged his deep industry knowledge and experience to drive business growth. In 2018, he advanced to his current role as Business Development Leader, where he continues to play a crucial role in shaping Sussex IM's strategic direction and expanding its market presence

Matt Rosner: Matt Rosner is the Vice President of Technical Services at Sussex IM. He has been in the manufacturing industry for over 30 years and has been at Sussex IM for over 25 years. During this time, he has designed and built over one hundred custom automation cells. Many of the automation cells he's designed feature advanced decoration techniques, including pad printing, IMLs, hot stamping, and heat transfers. He currently leads a team of engineers and maintenance technicians, designing new automation and optimizing production. Matt earned his undergraduate degree in mechanical engineering from the University of Wisconsin-Milwaukee and his MBA from Marquette University.

Register Here

CLICK HERE

CALL FOR NEW BOARD MEMBERS!

Minimal Commitment

- All Meetings are Virtual
- 2+ Hours Required per Month

Join the PD3 Board!

Email Mark MacLean-Blevins or Erik Foltz:

- Mark@maclean-blevins.com
- Erik@madisongroup.com

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