

Chair's Message – SPE Injection Molding Division

It's an honor to be serving as your Chair this year. Thank you for the trust.

I'm especially looking forward to the Innovation Summit on October 22 in Cleveland, in Warrensville Heights, to be exact, at the Corporate College Conference Center. It's shaping up to be a strong one. Lynzie Nebel, SPE's Chair, is keynoting, and we've got a great group of sponsors and exhibitors coming out to support it, including Avient, Chase Plastics, Moldex3D, Milacron, Sodick, and Cleveland State University, among others. The agenda's going to dig into some timely stuff too: AI in injection molding, workforce training, sustainability, and where the economy's headed for our industry. If you've never been to one of these regional summits, this is a good year to start. And of course, NPE is on the calendar too. Hope to see a lot of you there as well.

Speaking of new faces: we've brought on several new Board members this term, and their energy has already been a great addition. It's good to see people show up ready to contribute.

We're also doing some real thinking about how the Board operates. Between the aging workforce and the economic uncertainty everyone's dealing with right now, it felt like the right time to ask harder questions about how we support our members going forward. More to come on that.

A bit about where I'm coming from on this: I'm faculty, so I'm talking with industry folks, other academics, and students pretty much constantly. It gives me a good read on where things stand across the board. I also just wrapped up a year long sabbatical in industry, working in injection molding for medical devices, which was honestly one of the more useful years I've had for understanding where our field is headed.

If you've got thoughts, ideas, concerns, reach out. I mean that. And thank you to our Board for the work they put in; it doesn't go unnoticed.

Looking forward to the year ahead.

Davide Masato

Chair, SPE Injection Molding Division

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SEPTEMBER 2026

SPE WORKSHOP: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN POLYMER INFORMATICS

SEPTEMBER 9, 2026 11:00 AM (ET) - THURSDAY, SEPTEMBER 17, 2026 1:00 PM (ET)

ONLINE EVENT

This workshop is designed for professionals working in polymer development, formulation, and data-driven materials innovation, particularly those involved in creating or improving materials. For more information:

<https://www.4spe.org/spe-workshop-artificial-intelligence-and-machine-learning-in-polymer-informatics/>

NATIONAL PLASTICS CONFERENCE

SEPTEMBER 14, 2026 8:00 AM (ET) - THURSDAY, SEPTEMBER 17, 2026 5:00 PM (ET)

HOUSTON, TX

This exclusive event, designed by industry, for industry, unites the entire plastics supply chain for industry-driven education, collaboration, and real-world impact. Join us in Houston, Texas from September 14–17, 2026, to make it happen alongside industry leaders committed to shaping the future of plastics, advancing sustainability, and turning innovation into action.

For more information: **<https://nationalplasticsconference.org/>**

SPE COLOR AND APPEARANCE CONFERENCE (CAD RETEC®)

SEPTEMBER 13, 2026 12:00 PM (EDT) - SEPTEMBER 15, 2026 5:00 PM (EDT)

LOUISVILLE, KY

For more information: **<https://specad.org/>**

IMTS

SEPTEMBER 14-19, 2026

MCCORMICK PLACE, CHICAGO

IMTS 2026 will be held September 14-19, 2026 at McCormick Place, Chicago. As the largest trade show in the Western Hemisphere, IMTS – The International Manufacturing Technology Show, draws the innovators, sellers, and drivers of manufacturing technology together to connect, be inspired, and find new solutions.

For more information: <https://www.imts.com/>

OCTOBER 2026

INJECTION MOLDING INNOVATION SUMMIT

OCTOBER 22, 2026

CLEVELAND, OH

The Injection Molding Innovation Summit is designed for professionals who want practical ideas they can take back to their facilities and apply quickly. Hosted October 22, 2026, at the Corporate College Conference Center in Cleveland, Ohio, the Summit brings together a focused audience of molders, material suppliers, technology providers, and OEMs who are advancing injection molding through innovation, problem-solving, and best practices.

For more information: <https://www.4spe.org/imdinnosummit26/>



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INJECTION MOLDING INNOVATION SUMMIT

OCTOBER 22, 2026 • CLEVELAND, OH
Hosted by the SPE Injection Molding Division & SPE Cleveland Section

The **Injection Molding Innovation Summit** is designed for professionals who want practical ideas they can take back to their facilities and apply quickly. Hosted October 22, 2026, at the Corporate College Conference Center in Cleveland, Ohio, the Summit brings together a focused audience of molders, material suppliers, technology providers, and OEMs who are advancing injection molding through innovation, problem-solving, and best practices.

What you will gain:

High-value networking with the right peers

- Connect with engineers, technical leaders, decision-makers, and innovators from across the injection molding value chain and share practical learnings and real results.
- Real-world takeaways you can use right away. Learn what is next across timely topics such as AI in injection molding, equipment and tooling, materials, sustainability, national security, workforce training, and economic outlook and market trends.

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AGENDA

TIME	TALK TITLE	SPEAKER	AFFILIATION
7:30-8:00 - Registration and Exhibiting Networking			
8:00 - Opening Remarks - Susan Montgomery, SPE Cleveland, and Davide Masato, SPE Injection Molding Division			
8:15-8:45	Heroes are a liability: designing a culture for all	Lynzie Nebel	SPE President
8:45-9:15	How MFI and capillary rheometers fail in characterizing how a polymer will injection mold	Eric Bowersox	Beaumont Group
9:15-9:45	AI-driven control capabilities: advancing efficiency and quality in the molding environment	Eric Anderson	Absolute Haitian
9:45-10:15	AI-assisted mold trialing and process window optimization in injection molding	Yannik Lockner	OSPHIM GmbH
Exhibitor Networking - 10:15-10:40			
10:40-11:10	Bridging research and practice in simulation-based optimization of injection mold cooling systems	Venu Pillai	Thermo Fisher Scientific
11:10-11:50	PANEL AI injection molding simulation panel	Ken Cheng Matt Jaworski Gustavo Mosquera	Moldex3D Autodesk Moldflow Sigmasoft
Lunch and Exhibitor Networking - 11:50-12:45			
12:45-1:15	Creating an injection molding digital twin: achieving accurate warpage predictions with simulation	Hunter Beaumont	Madison Group
1:15-1:45	Systemic process optimization in injection molding through automation, DOE, and digital workflow integration	Ken Cheng	Moldex3D
1:45-2:15	Cavity pressure: the sensor that transformed injection molding - and is powering its autonomous future	Brandon Birchmeier	RJG Inc.
Exhibitor Networking - 2:15-2:45			
2:45-3:15	Advancing lightweight plastics through next-generation foaming technology	Abolfazl Mohebbi	Moxietec
3:15-3:45	The new training reality in injection molding: technology, talent, and trends	Marty Key	Fordham Plastics
3:45-4:30	PANEL Moldmaking with metal 3D printing	Scott Kraemer Scott Peters Weijia Zheng	Xact Metal Molded Marketing Voestalpine
Networking Social - 4:30-5:30 / Drawing 5:30			



ANTEC®

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The Plastics Show | May 3-7 | Orlando, FL

ANTEC@NPE2027 CALL FOR SPEAKERS

For the first time, ANTEC®, SPE's prominent technical conference, will be integrated into NPE2027, taking place May 3–7, 2027, in Orlando, Florida. Produced by the PLASTICS Industry Association, NPE2027 will serve as the official 2027 home of ANTEC®, bringing technical education to the largest plastics trade show in the Americas (51,000+ global leaders across the plastics value chain).

This integration combines ANTEC's® rigorously curated technical content with the unmatched scale and reach of NPE®, creating a unified platform that connects technical innovation with real-world industry applications. If you are solving critical industry challenges, developing breakthrough technologies, or advancing polymer science in significant ways, we want you to present your work at ANTEC® 2027.

Why Present at ANTEC®? Get Your Research in Front of a Global Audience!

This unprecedented integration creates a powerful opportunity for researchers, engineers, scientists, and innovators to present their work to a broader global audience that includes manufacturers, processors, brand owners, OEMs, and key decision-makers actively influencing the plastics industry. Presenting at ANTEC® provides your opportunity to:

- Gain visibility and and global recognition
- Establish technical leadership
- Share solutions driving industry progress

ANTEC® Technical Categories include areas such as AI-enabled processing, advanced recycling, sustainability, bioplastics, injection molding, additive manufacturing, polymer analysis, design, materials performance, and more—offering practical insights into current technologies and emerging developments in plastics.

Submission Timeline

- Call for Speakers Opens: August 3, 2026
- Proposal Submission Deadline: October 9, 2026
- Accepted Speaker Notifications: November 25, 2026
- Paper/Presentation Submission Deadline: January 29, 2027

Strong Proposals Share Four Qualities:

- Relevant, timely topics aligned to ANTEC® technical categories
- Actionable insights grounded in real-world experience, case studies, or data
- Forward-looking perspectives that address industry challenges and opportunities
- Clear audience value with practical, take-home learning

For more details of for submission visit: [**www.4spe.org/antec27/**](http://www.4spe.org/antec27/)

Mechanical Recycling of Polyethylene Bottle Caps Characterization of the Various Material States Along the Process Value Chain

By M. Hassan Akhras, Competence Center CHASE GmbH, Linz, Austria

Paul J. Freudenthaler and Joerg Fischer, Institute of Polymeric Materials and Testing, Johannes Kepler University, Linz, Austria

In line with Europe's green deal, a new edition of the European action plan for a transition to a circular economy has been published in 2020 [1]. A great focus in the new action plan is dedicated to plastics and plastic packaging products. Consequently, a set of mandatory and voluntary product requirements and regulations were reinforced or introduced as part of a new framework for eco-design and sustainable products. Furthermore, this legislative initiative also aims to enhance the traceability and the accessibility to product information through the implementation of certain digitalization tools, such as digital product passports (DPP) [1].

Amongst others, plastics have great potentials to achieve a high level of product circularity. In recent years, the plastics recycling industry has gained a great momentum to be one of the drivers towards a sustainable circular economy. However, there is still an abundance of challenges that need to be addressed and overcome in this sector [2,3]. In Europe, packaging applications, which are mostly dominated by polyethylene terephthalate (PET); polyethylene (PE); and polypropylene (PP), account for around 40% of the total plastic demand [4]. Most packaging applications are single-use plastics making the post-consumer packaging waste one of the largest existing waste groups [5,6]. A good example of post-consumer packaging waste that represents the complexity of such a waste stream is plastic beverage bottles. The body of such bottles is typically made of PET, whilst the label and cap are predominantly made of polyolefins (i.e., PE-HD or PP) [5]. The recycling of PET bottles has significantly evolved in recent years and established well-defined recycling paths to give the waste materials a new life including closed-loop recycling [7] (i.e., bottle to bottle) or open-loop recycling into other products (e.g., textile fibers) [8]. In contrast, despite the market size and thus waste streams of such products [9], the recycling routes for the bottle caps seem to be very limited [5].

This paper presents a part of a case study with the aim to demonstrate the recycling potentials as well as traceability of PE-HD beverage bottle caps. Additionally, it concisely compares two different collection strategies and their distinct impact on selective properties of the input streams, and consequently on the resulting recyclate.

Materials and Processing

Regranulation is the core step in the mechanical recycling process. To perform this step in a recycling extrusion system, a minimum amount of 400 kg of the specified input waste stream, in this case PE-HD bottle caps, is required. To meet this requirement within the time frame of the study, two collection strategies were employed. The first was informal collection, whereas the second was formal collection. In the informal approach, materials were collected by pupils and students in Upper Austria region over a period of two months. Collection boxes were distributed to 103 classes at 19 different schools together with the instruction to dispose only

beverage bottle caps in them. In the formal approach, the waste materials were collected and pre-sorted to remove metal contaminants via the conventional techniques by the waste collection centers in Upper Austria. The collection step yielded approximately 486 kg of caps and closure materials. A bit over 50% of this amount was generated by the informal collection, while the rest came from the waste collection centers. Materials were hand-sorted before entering the recycling process to remove any identifiable foreign contaminants, thus enhancing the material purity. Approximately 10% of the collected waste was rejected due to the hand-sorting step. The sorted fraction was then shredded into flakes by an industrial single-shaft Micromat 1500 shredder (Lindner-Recyclingtech GmbH, Spittal an der Drau, Austria). Thereafter, the flakes were re-granulated to produce PE-HD recyclates (rPE-HD) on an INTAREMA 1108 TVEplus recycling extrusion system equipped with filtration and degassing units (EREMA group GmbH, Ansfelden, Austria). Subsequently, the resulting recyclate was used to produce the finished frisbees using injection molding. However, the present paper will focus only on the analysis of the input and output materials of the regranulation step, namely flakes and recyclates in form of pellets. **Table 1** and **Figure 1**, respectively, summarize the key details and show images of the investigated materials.

Designation	Source / Collection	Processing technology	Form
Input-A	Schools / informal	Shredding	Flakes
Input-B	Collection centers / formal	Shredding	Flakes
rPE-HD	-	Regranulation	Pellets

Table 1. Summary of relevant information of the investigated materials.

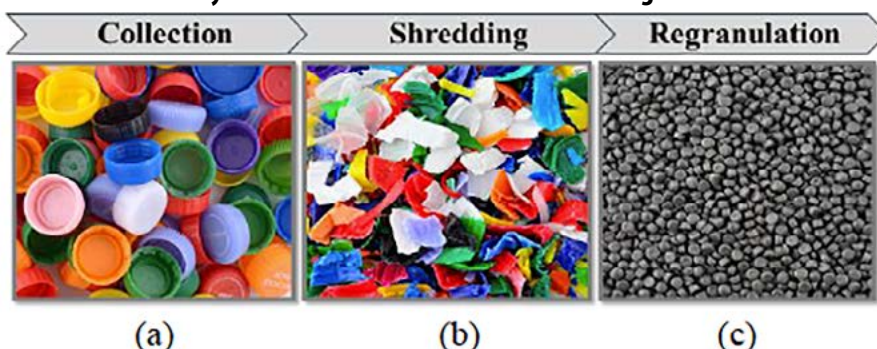


Figure 1. Images of the materials after the different steps of the recycling process, (a) collected caps, (b) shredded flakes, (c) rPE-HD pellets.

Characterization Methods

Sample preparation: Amongst others, melt mass-flow rate (MFR) measurements, differential scanning calorimetry (DSC), and tensile and impact tests were carried out on the various states of the PE-HD bottle cap materials throughout the whole recycling process. Prior to testing, additional homogenization steps were implemented on the input materials to allow the generation of representative material data. Hence, samples of the shredded input fractions underwent a milling step by Retsch SM300 cutting mill (Retsch GmbH, Haan, Germany) to have a maximum particle size of 4 mm, thus make them suitable for analysis and for further processing. The milled materials were then used for the MFR measurements of the input materials. Typically, tensile tests of molding grades are performed on multipurpose specimen (MPS) type A1, which is depicted in ISO 3167 [10]. Therefore, the milled input fractions and the resulting recyclates were injection molded into MPS, in accordance with ISO 17855 – 2 and ISO 294 – 2 [10–12], using a Victory 60 injection molding machine (Engel Austria GmbH, Schwertbeg, Austria). In addition to the tensile tests, DSC measurements were performed on samples taken from the cross-section of MPS. Following the same approach, materials were also

injection molded to produce type 1 specimens for Charpy notched impact tests, as described in ISO 179 – 1 [13]. All injection molded specimens were stored for 3 – 5 days prior to testing at room temperature (RT) and 50% relative humidity.

Melt mass-flow rate (MFR): To assess the materials' processability, MFR measurements were performed at every stage of the process using an Aflow extrusion plastometer from ZwickRoell Group (Ulm, Germany). The measurements were conducted in accordance with the displacement method (B) as described in ISO 1133 – 1 [14]. The test temperature was set at 190 °C. After filling the cylinder, the material was pressed through a die with a height of 8 mm and a diameter of 2.095 mm by a piston with an applied weight load of 2.16 kg. Based on the vertical displacement of the piston, six extrudates were then cut and weighed for the calculation of the MFR value. Three samples of around 4 g each were measured to ensure a good representation of the materials' properties.

Differential scanning calorimetry (DSC): DSC measurements were carried out according to ISO 11357 – 3 [15] on a DSC8500 differential scanning calorimeter (PerkinElmer Inc., Waltham, USA). Three samples of approximately 8 mg were taken from three individual MPS of each material and were then encapsulated in aluminum pans. Measurements were performed over a defined dynamic temperature scan, which consisted of an initial heating, subsequent cooling, and a second heating step. The temperature range of all three steps was defined from 0 °C to 300 °C and a constant heating/cooling rate of 10 K/min was used. During the measurements, the instrument was purged with Nitrogen with a constant flow rate of 20 mL/min to maintain an inert atmosphere.

Mechanical tests: Tensile and Charpy notched impact tests were carried out to evaluate the mechanical performance of the materials before and after the recycling process. To determine the materials' tensile properties, 10 MPS were tested at RT by a universal testing machine Zwick/Roell AllroundLine Z005 equipped with a multi-extensometer strain measurement system (ZwickRoell Group, Ulm, Germany). The test settings were defined according to ISO 527 – 1 and ISO 527 – 2 [16,17]. The tensile modulus was determined with a transverse speed of 1 mm/min based on the slope within the strain range from 0.05% to 0.25%. Afterwards the testing speed switched automatically to 50 mm/min until failure for the calculation of the other tensile properties. On the other hand, non-instrumented Charpy notched impact tests were carried out by a pendulum impact tester (ZwickRoell Group, Ulm, Germany) at 23 °C and -20 °C. A V-shaped notch type A ($45^\circ \pm 1^\circ$ 0.25 ± 0.05) was introduced to the finished injection molded specimens. Single-notched specimens were tested with the tests being conducted edge-wise and in accordance with ISO 179 – 1 [13]. In total, 10 specimens were tested at each designated temperature and then the average impact strength was calculated.

Results and Discussion

PE-HD grades which are specifically intended for the production of plastic beverage bottle caps are commonly available in the product portfolios of most polyolefin producers. To have a fundamental understanding of the material property profile of caps & closure (CC) applications, an incompressive yet illustrative review of the technical product sheets of selective PE-HD grades was done. The review included 23 different grades, which are commercially available and offered by three major material suppliers including Borealis Polyolefins, SABIC, and LyondellBasell [18–20]. Accordingly, typical ranges of key properties presented in this article that represent the material's processability and technical functionality are depicted in **Figure 2**. Although, the review was limited to one polymer type and a specific application area, the range of the available properties is substantial.

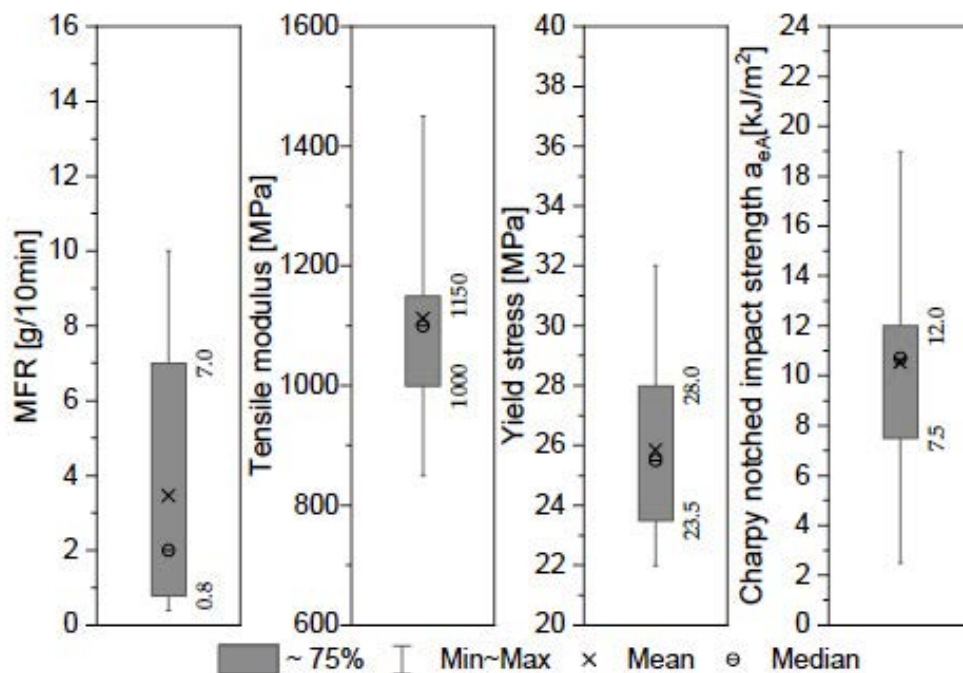


Figure 2. Graphical illustration of the typical ranges of the investigated properties for PE-HD grades that are used for caps & closure applications based on multiple data sheets from major material suppliers [18–20].

Figure 3 shows the experimentally determined MFR values of the investigated materials. Clearly, the values of Input-A (informal collection), Input-B (formal collection), and rPE-HD all fall within the range of the CC commercial grades. The MFR of Input-B is, however, 27% higher than that of Input-A. Given that both material streams were unwashed, this might be because the formally collected material had a higher amount of surface contamination. Another explanation for the increased MFR could be due to a cross-contamination by other polymers. These differences, however, were not reflected on the MFR of the resulting recyclate, as it was even slightly lower than that of Input-A. This can be linked to the usual degradation mechanisms of PE-HD which leads to crosslinking and hence raises the viscosity of the material [21].

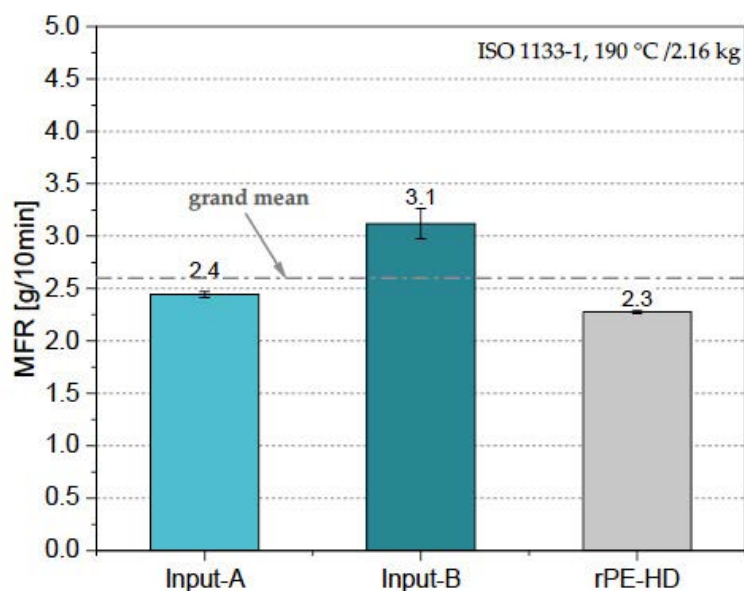


Figure 3. Measured MFR values of the investigated materials.

Furthermore, DSC measurements were conducted to investigate the melting peaks of the materials and to reveal any possible cross-contaminations of other polymers. **Figure 4** shows a single thermogram of each material since no significant variation was observed between their three repetitions.

Sample Temperature [°C]

A prominent endothermic peak can be easily spotted at around 130 °C on all three thermograms, which is in the typical range of the melting temperature of PE-HD [22]. This clearly confirms that the chemical composition of both input materials, and thus the recyclate, is dominated by PE-HD. However, when moving to higher temperatures on the X-axis, a small endothermic peak can be observed on the curves of Input-B and rPE-HD in the range from 150 °C to 170 °C. This peak corresponds to the melting temperature of polypropylene (PP) [23], suggesting a cross-contamination of Input-B by PP, which was transferred to the recyclate as well. The cross-contamination can be attributed to the poor separation between the two polyolefins in the separation step.

Mechanical performance of the materials was examined through tensile and impact tests. The essential tensile properties are depicted in **Figure 5**. While the tensile modulus of the recyclate meets the lower limit of the modulus range of the commercial CC grades, the values of both input materials lie outside of it (**Figure 5a**). In terms of the yield stress, the values of the three materials slightly fall below the minimal threshold of the virgin CC grades. On the one hand, Input-B showed slightly higher tensile modulus and yield stress in comparison to Input-A (**Figure 5a, b**). On the other hand, the strain at break of this input stream showed the opposite trend as the strain at break of Input-A was approximately twice as high as that of Input-B (**Figure 5c**). According to Gall et al., and Van Belle et al. [24,25], who examined in their studies the structure-property relationships of virgin and recycled PE/PP blends, the presence of even small fractions of PP in PE-HD leads to higher stiffness and ultimately to lower strain at break values. Hence, the behavior of the input stream can be explained by the cross-contamination of Input-B by PP, which was already shown in the DSC measurements.

The re-granulated material rPE-HD exhibited a slightly higher tensile modulus and yield stress compared to both input materials. In general, since the recycling process was carried out on an extruder equipped with filtration and degassing systems, it may have improved the material's stiffness and yield stress. This is, clearly, due to the enhanced homogeneity and due to the removal of the volatiles and impurities that might act as crack initiators, which make the material prone to premature failure. Nevertheless, this increase could also be a result of the PP fraction coming from Input-B. According to Yin et al. [21], mechanical reprocessing will

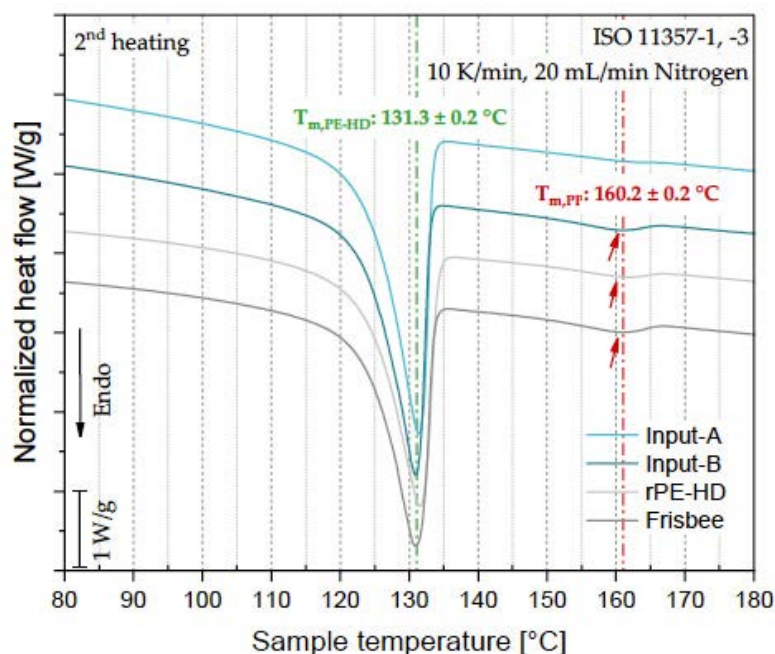


Figure 4. DSC thermograms showing the PE-HD melting peak as well as the presence of PP in one of the input streams and the resulting recyclate.

inevitably cause degradation in polyolefins. However, the degradation mechanisms that occur in PE and PP and their influence on the materials' properties are different. Reprocessing PE-HD results in crosslinking, which lowers the elastic modulus and strength and increases toughness [26]. However, this behavior is only triggered after several reprocessing loops [21]. In contrast, to a certain extent, increasing the recycling cycles of PP leads to higher degree of crystallinity, and thereby increases the tensile modulus and yield stress. However, the material toughness and strain at break sink [21,27]. Therefore, it can be inferred that the presence of the PP fraction in Input-B, and consequently in the recyclate, partially contribute to the higher stiffness and tensile strength and lower strain at break.

The results of the Charpy notched impact tests at two different temperatures are shown in **Figure 6**. The Charpy notched impact strength of the three materials lie within the range of the CC commercial grades. Though, the recyclate's value falls slightly below the 75% range. Furthermore, it is evident that at 23 °C, the impact strength of Input-B is approximately 8% lower than that of Input-A. Moreover, the impact strength of the resulting recyclate rPE-HD is even lower than that of both input streams, respectively by 15% and 8% than Input-A and Input-B. The cross-contamination by PP can also account for the reduced materials' toughness in case of both materials, namely Input-B and rPE-HD. In their study, Van Thoden Velzen et al. [28] evaluated the effect of contaminants, such as PP, on the mechanical performance of recycled PE. They reported a reduction in the material's toughness if PE-HD is blended with various proportions of PP. This confirms the notion that the presence of the PP fraction in Input-B led to a lower impact strength. Furthermore, as already established, when PP is reprocessed, the degree of crystallinity increases accompanied by drop in the material's toughness [21,27]. Hence, the further decline the recyclate's toughness after reprocessing can also be attributed to the PP content which was introduced by the cross-contamination of Input-B.

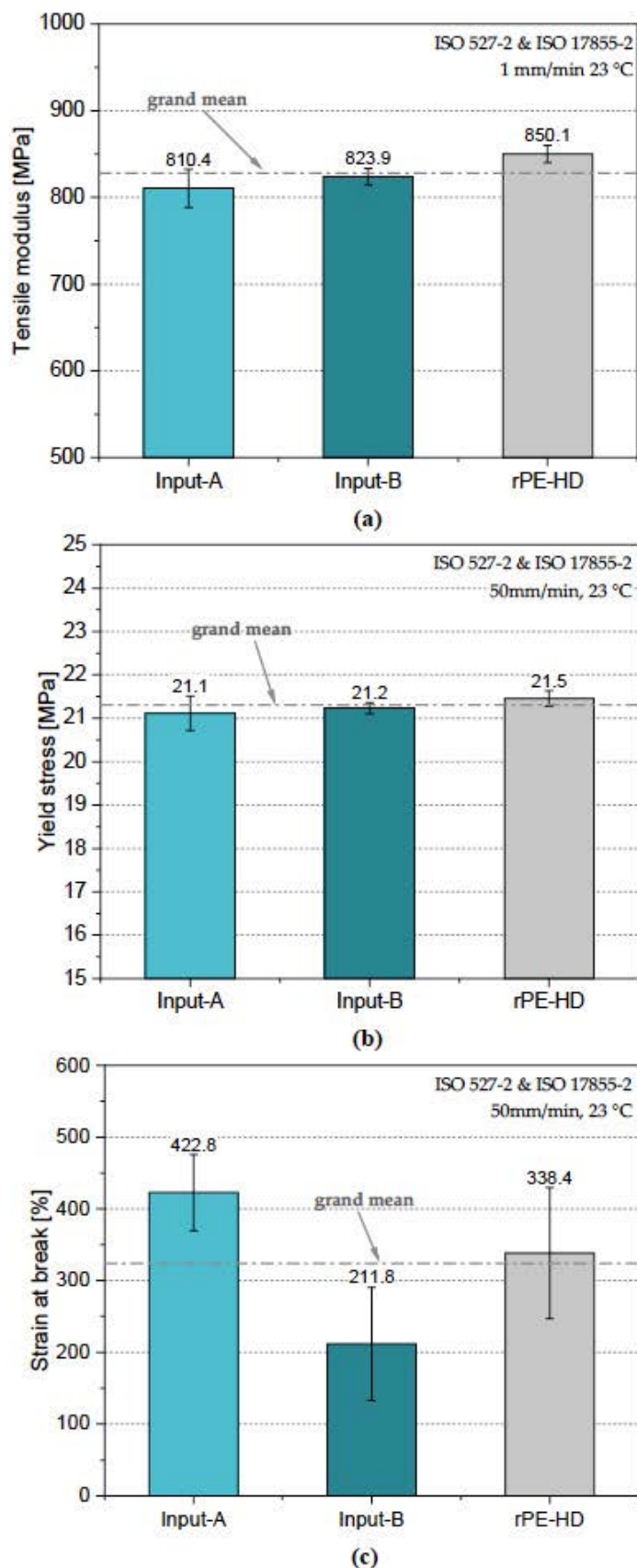


Figure 5. Tensile properties, (a) tensile modulus, (b) yield stress, and (c) strain at break of the investigated materials.

As expected, after preconditioning the test specimens at -20°C , the notched impact strength of all three materials decreased, on an average, by a factor of two. However, no considerable difference between the three materials was observed. The impact of lower temperature is, therefore, more noticeable than that of any other factors.

Summary and Conclusions

The aim of this project was to collect PE-HD beverage bottle caps and convert them into a pilot product to track the material's journey throughout the whole recycling process. To fulfil the minimum material amount to run a recycling extrusion system, materials had to be collected via two collection strategies, informal and formal. Several measurements were performed on the materials before and after the various processing steps to investigate the possible changes induced by degradation due to processing or by variations in the input streams due to the different collection methods.

MFR, DSC, tensile and impact test results are included in this article. Evidently, the informal collection yielded a cleaner waste stream since the bottle caps were directly separated by the end consumers and disposed in designated collection boxes provided with clear instructions. On the contrary, the formally collected input material was delivered by a local waste management center. Hence, the waste materials were collected via conventional methods and were in contact with external contaminants before undergoing the sorting steps. This was proven by the thermograms of the DSC measurements, which showed a cross-contamination by PP in the formal input stream (Input-B). The MFR of Input-B was also higher than those of Input-A and the resulting recyclate (rPE-HD), which can also be due to higher contamination level. Furthermore, the mechanical properties of both Input-B and rPE-HD were also affected by the cross-contamination by PP, which resulted in higher stiffness and yield stress accompanied by reduced strain at break and toughness. These findings were corroborated by observations reported in other studies in literature.

Acknowledgment

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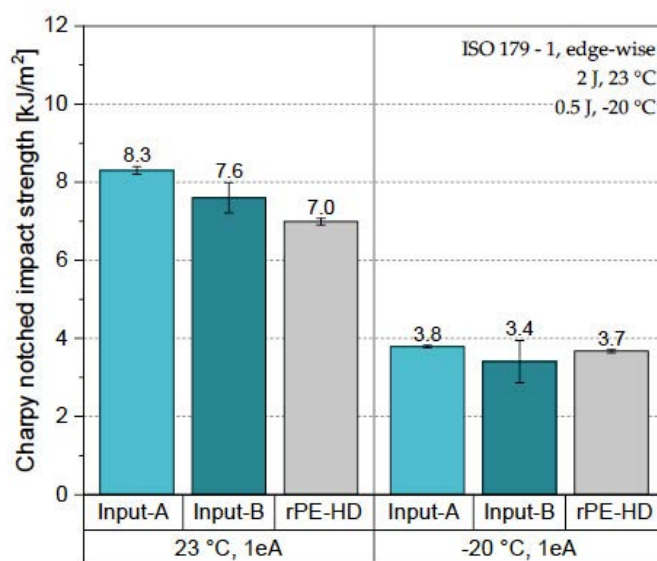


Figure 6. Charpy notched impact strength of the investigated materials at two different temperatures.

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Progressive Components Introduces Innovative System Cooling Connect Controller

Progressive Components introduces System Cooling Connect, an advanced controller engineered for seamless integration with injection molding machines and enhanced data-driven process control.

Since its introduction in 2014, the System Cooling suite has enabled injection molders and mold makers to collect, monitor, and analyze data from cooling lines within molds and during production. The system captures crucial parameters—such as coolant flow, temperature, and pressure—and records time-stamped data for robust historical tracking and process optimization.

The latest addition, System Cooling Connect, links cloud-enabled System Cooling Manifolds (supporting 2 to 12 zones) directly to injection molding machines, providing secure, real-time data acquisition and improved operational efficiency.

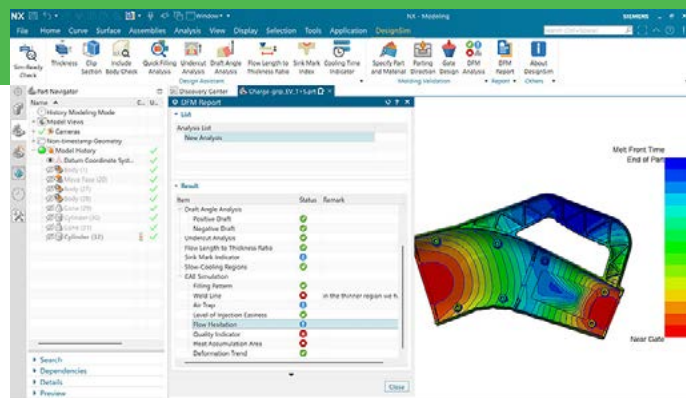


Key features and benefits:

- Secure access to process data (supply temperature and pressure, return temperature by zone, flow by zone, and return pressure), defined limits, and alarm signals.
- Supports Ethernet, Wi-Fi, and 4G connectivity.
- Full OPC UA / EUROMAP 82.1 machine integration.
- Built-in support function for remote assistance, software updates, and troubleshooting.
- Optional port identification faceplates for Connect Manifolds, four Test Rig Connect configurations with an 8-zone manifold and various pump sizes, and Portable Cart available.
- Optional system add-ons:
 - **System Cooling Connect VNC** - extends System Cooling Connect with local visualization capabilities when on-machine display is required. Includes all System Cooling Connect features, supports System Cooling Live Local dashboard visualization via VNC, and enables live monitoring directly on machines that support VNC.
 - **System Cooling Live** - A digital solution that provides centralized monitoring, analysis, and long-term storage of data from System Cooling manifolds and Test Rig systems, providing factory-wide visibility (remotely or from a central control room).
 - **System Cooling Live Local** - offers System Cooling Live functionality without cloud dependency for sites with restricted IT, security, or cloud policies. A System Cooling Live Local dashboard provides access to data analysis and reports, with all data stored locally within the factory network.

To learn more about System Cooling Connect or Progressive's complete range of mold monitoring and asset management solutions, visit procomps.com or ProFile-System.com, email SystemMonitoring@procomps.com, or call 1-800-269-6653.

Coretech System to Officially Launch DesignSim, Delivering Real-Time Injection Molding DFM Validations



DesignSim helps users confirm the status of each validation after the analysis.

CoreTech System Co., Ltd. (Moldex3D) has officially announced the launch of DesignSim, a Design for Manufacturability (DFM) validation tool purpose-built for product and mold designers. Built into Siemens NX, DesignSim allows users to rapidly verify product manufacturability within their familiar CAD environment without switching interfaces, achieving a seamless “design-as-validation” experience. Compared to conventional CAE validation workflows, DesignSim improves overall validation efficiency by up to 4.75x, enabling faster design iterations and shorter development cycles.

Eliminate Complex Setup and Enable Reliable Simulation for Every Designer

Embedded directly within Siemens NX, DesignSim eliminates the need for standalone software installations. Users can execute DFM analyses via an intuitive interface in just four simple steps. Solver settings and mesh sizes are automated based on validated defaults, allowing users to obtain highly reliable results without spending valuable time tweaking parameters. Furthermore, analysis results are presented through a clear interpretation layer, helping users instantly determine whether a design meets its target criteria.

Comprehensive, Designer-Centric DFM Checks

DesignSim offers 17 robust DFM checks. While empowering users to identify potential issues early in the design phase, it also ensures that critical checks seamlessly incorporate human judgment into the decision-making process. Key features include:

- **Geometry Inspection:** Inspect thickness distribution, cross-sections, and internal structure to catch design issues early.
- **Manufacturability Evaluation:** Detect undercuts, evaluate draft angles, predict sink-mark locations, check flow-length-to-thickness ratio, and estimate cooling time.
- **Filling Analysis:** Perform filling simulation to evaluate flow behavior, weld line and air trap locations.
- **DFM Analysis:** Score molding feasibility using a rule-based DFM analysis.

Powered by the Proven Moldex3D Solver Core for Trusted Results

Instead of relying on simplified or approximate analysis models, DesignSim is built on the same-level solver technology that powers Moldex3D. It leverages decades of CoreTech System’s expertise in injection molding simulation alongside its laboratory-validated material database. DesignSim provides solid, trustworthy manufacturability guidance. By enabling every design decision to be supported by reliable analysis results, DesignSim improves product development efficiency while enhancing overall design quality.

DesignSim is now officially launched, fully supporting Siemens NX (versions 2312 to 2606), and is offered as an annual subscription through authorized channels. For more product information, please visit the following link:

<https://www.moldex3d.com/products/designsim/>

Chase Plastics Awards \$7,500 to Veteran Charities Through Second Annual Veteran Giveback Campaign



Three Organizations Receive \$2,500 Donations to Support Veterans and Their Families

Chase Plastics is proud to announce the recipients of its Second Annual Veteran Giveback Campaign, a customer- and supplier-driven initiative honoring the service and sacrifice of America's veterans. Following four weeks of enthusiastic participation, the company has expanded its original commitment by awarding \$2,500 each to three veteran-focused charities, for a total donation of \$7,500.

Launched on Memorial Day and accepting nominations through June 19, the campaign invited customers and suppliers to recognize US nonprofit organizations making a meaningful difference in the lives of veterans, active-duty service members, and military families. The recipients are being announced just ahead of Independence Day, a fitting time to celebrate the organizations that continue to serve those who have served our nation.

The recipients of the 2026 Chase Plastics Veteran Giveback Campaign are:

- **Homes For Our Troops** – Builds and donates specially adapted custom homes nationwide for severely injured post-9/11 veterans, helping them regain independence and rebuild their lives. <https://www.hfotusa.org/>
- **Project New Hope** – Provides free retreats, wellness programs, educational opportunities, and compassionate support to veterans, service members, and military families, ensuring no military-connected individual faces life's challenges alone. <https://www.projectnewhopema.org/>
- **Warrior Rising** – Empowers U.S. military veterans, active-duty service members, and their immediate families by providing the training, mentorship, and resources needed to become successful entrepreneurs. Through its "Vetrepreneur" program, Warrior Rising helps veterans transition from military service to business ownership, giving them a new mission and renewed purpose. <https://warriorrising.org/>

"Each nomination we received told a powerful story of service, sacrifice, and hope," said Kevin Chase, CEO of Chase Plastics. "We want to sincerely thank everyone who took the time to nominate a deserving veteran organization and share why its mission matters to them. The overwhelming response made it incredibly difficult to choose just one winner, so we decided to recognize three organizations instead. We are honored to support Homes For Our Troops, Project New Hope, and Warrior Rising as they continue serving those who have sacrificed so much for our country. This campaign is our way of saying 'thank you' and helping ensure veterans and their families receive the resources and support they deserve."

Introduced in 2025, the Chase Plastics Veteran Giveback Campaign complements the company's longstanding Chase Giving Card holiday campaign, which has provided support to dozens of charitable organizations over the past decade. Together, these initiatives reflect Chase Plastics' ongoing commitment to giving back to the communities where its customers, employees, and partners live and work.

To learn more about the Veteran Giveback Campaign, visit <https://chaseplastics.com/veterans/>.

chaseplastics.com

SPE Injection Molding Division

August 5, 2026, 8:02 PM ET

SPE Injection Molding Division — Board of Directors Meeting (Virtual)

Meeting Summary

Quorum: Met — 19 of 23 Board Members present (Bylaws require at least 50% attendance).

Summary of the meeting for anyone who did not attend:

- Davide Masato opened his first meeting as Chair with introductions, welcoming new Board members Paige O'Meara, Harshal Bhogesra, Eric Anderson, Julie Stenger, Jono Newlin, and Devin McCarty.
- The Treasurer's proposed 2026–2027 budget was discussed at length, amended twice on the floor, and approved 16–3.
- The Board discussed engaging Angela Cengarle (LadderUp Marketing, Communications Chair) to facilitate the September strategy session; her financial/dual-role conflict of interest was disclosed and openly discussed with Angela temporarily excused from the meeting.
- Richard Voyles volunteered to source an alternative facilitation quote for due-diligence purposes ahead of a final decision.
- The Chair reviewed lessons from the 2023 strategy session and floated a discussion-only idea to consolidate the Division's 9 committees into fewer, team-based groups; feedback was mixed and the topic was deferred to the September strategy session for a decision.
- Susan Montgomery gave an October Cleveland conference update (strong registration/sponsorship trend) and clarified a \$2,397.50 receivable owed to IMD from a shared venue deposit.
- The Chair-Elect and Secretary vacancies for next year were discussed but not decided; the decision was tabled to the September strategy session.
- Lih-Sheng "Tom" Turng gave a Fellow/HSM nomination update, naming one academic candidate and requesting industry nominee suggestions.
- The Chair raised the question of ANTEC/NPE co-location and future Board meeting locations for the group to consider ahead of September.

Attendees and Roles

Present (19):

- Davide Masato — Chair
- Tom Giovannetti — Past Chair (also holding Chad Ulven's proxy)
- Laura Kender — Secretary
- Jeremy Dworshak — Treasurer
- Richard Voyles — Technical Programs Chair (TPC)
- Angela Cengarle — Communications Chair (Principal, LadderUp Marketing); recused during conflict-of-interest discussion
- Hoa P. — Nominations Chair
- Chirag Thummar — Membership Chair

Meeting Minutes

- Lih-Sheng "Tom" Turng — Board Member; Fellow/HSM Nominations lead; former Chair (2008)
- David Kusuma — Board Member; former Chair
- Susan Montgomery — Board Member; Past Chair (two terms); October Conference Co-Chair
- Bradley Johnson — Board Member; hosts the non-NPE-year in-person conference at Penn State Erie
- David Okonski — Board Member and IMD Councilor
- Eric Anderson — Board Member
- Julie Stenger — Board Member (new)
- Jono Newlin — Board Member (new)
- Devin McCarty — Board Member (new)
- Harshal Bhogesra — Board Member (new)
- Paige O'Meara — Board Member (new; one-year Chair appointment)

Absent (Excused):

- Chad Ulven — proxy given to Tom Giovannetti
- Joseph Lawrence

Absent (Unexcused):

- Srikanth Pilla
- Sriraj Patel

Proxies: Chad Ulven → Tom Giovannetti

Motions and Votes

Motion:

Approve the 2026–2027 IMD budget as amended: advertising revenue increased from \$0 to \$5,000 (friendly amendment, D. Kusuma); anticipated conference loss reduced from \$3,000 to \$1,000 (friendly amendment, S. Montgomery). Net projected budget loss: \$3,500.

Moved By / Seconded By Moved: J. Dworshak Seconded: R. Voyles

Vote (Yes-No-Abstain): 16 – 3 – 0

Result: Passed

No other formal motions were put to a vote during this meeting.

Questions and Answers

Q: Why does the proposed budget show a \$10,500 loss?

A: IMD's only guaranteed income is a ~\$3,500 SPE rebate. The projected loss reflects an intentional investment of existing cash reserves into board activity and the strategy session, not overspending against income.

Speaker: J. Dworshak; D. Masato; J. Newlin

Q: Can the anticipated conference loss be reduced given registration and sponsorship trends?

A: Yes — reduced from \$3,000 to \$1,000. Roughly \$23,000 in revenue is already booked against a ~\$25,000 break-even, with another \$5,000–\$6,000 expected.

Speaker: S. Montgomery

Q: Shouldn't the budget reflect anticipated income (e.g., conference receipts, sponsorship) rather than only net figures?

A: Valid governance point. Addressed by adding a \$5,000 advertising-revenue line via friendly amendment, rather than the \$10,000 sponsorship target first proposed.

Speaker: D. Okonski; D. Kusuma; J. Dworshak

Q: Is IMD paying Angela Cengarle / LadderUp for the strategy session, and is that a conflict of interest?

A: Yes — \$3,900 of the \$4,500 session budget line is for LadderUp's facilitation. The conflict was formally acknowledged; Angela was temporarily excused from the meeting during that portion of the discussion.

Speaker: D. Masato; J. Dworshak; D. Kusuma

Q: Has due diligence been done on alternatives to LadderUp?

A: Not yet formally. Richard Voyles will contact a university-affiliated group ("Strategic Doing") for a comparison proposal, copying Davide, ahead of September.

Speaker: Hoa P.; R. Voyles

Q: Would grouping committees into smaller teams actually change how work gets done, or just relabel the same people?

A: Not yet decided — this is precisely the question the September strategy session is meant to answer. No operational model has been defined.

Speaker: Hoa P.; D. Masatos

Action Items

Action Item: Reach out to "Strategic Doing" (university-affiliated group) for an alternative strategy-session facilitation quote, copying the Chair

Assigned To: Richard Voyles

Expected Completion: Before September strategy session

Action Item: Evaluate any alternative facilitation proposal Richard brings back

Assigned To: Officers

Expected Completion: Before September strategy session

Action Item: Solicit and bring forward an industry Fellow nominee (alongside academic candidate Prof. Andrew Hrymak) for a September vote

Assigned To: Lih-Sheng "Tom" Turng

Expected Completion: Before September meeting

Action Item: Gather board input on ANTEC/NPE co-location participation approach

Assigned To: All Board Members

Expected Completion: Before September meeting

Action Item: Gather board input/pre-work on committee structure and priorities ahead of the strategy session

Assigned To: All Board Members

Expected Completion: Before September 24

Meeting Minutes

Action Item: Finalize board meeting calendar/location (Cleveland, NPE, or elsewhere) based on member input

Assigned To: Davide Masato

Expected Completion: Ongoing

Action Item: Distribute meeting minutes

Assigned To: Laura Kender (Secretary)

Expected Completion: Shortly after meeting

Officer and Committee Reports

Treasurer (Jeremy Dworshak):

- Presented the FY2026–2027 budget proposal; motion to approve was amended twice on the floor and passed 16–3 with a net projected loss of \$3,500.

Technical Programs Chair (Richard Voyles):

- Proposed exploring a joint IMD / Additive Manufacturing session at ANTEC 2027.
- Volunteered to source an alternative strategy-session facilitation quote for due-diligence purposes.

Communications Chair (Angela Cengarle):

- Proposed as facilitator for the September strategy session; disclosed the financial/dual-role conflict of interest and stepped out of the meeting while the Board discussed it.

Nominations Chair (Hoa P.):

- Raised governance concerns on both the budget's income assumptions and the proposed committee restructuring; requested the Board diagnose root causes (accountability, goal-setting) before restructuring.

Fellow / HSM Nominations (Lih-Sheng "Tom" Turng):

- Identified one academic Fellow candidate (Prof. Andrew Heimark, Canada Western University); requested industry nominee suggestions ahead of a September vote.

October Conference Co-Chair (Susan Montgomery):

- Reported strong registration and sponsorship trends for the October Cleveland conference (~\$23,000 revenue booked against a ~\$25,000 break-even).
- Clarified that the Cleveland Section owes IMD \$2,397.50 from a shared venue deposit, split 50/50.

Membership Chair (Chirag Thummar):

- Introduced self as new Membership Chair (succeeding Eric Foltz); no formal report given this meeting.

Detailed Meeting Minutes

Executive Summary

This was Davide Masato's first meeting as Chair of the SPE Injection Molding Division Board of Directors. With quorum met (19 of 23), the Board approved the 2026–2027 budget after substantive floor discussion and two friendly amendments, reducing the projected net loss from \$10,500 to \$3,500. The Board also worked through a disclosed conflict of interest regarding the proposed facilitator for the September strategy session,

agreeing to pursue a comparison quote before finalizing that decision. Two significant items — the Chair-Elect vacancy and a proposed committee restructuring — were discussed but intentionally left undecided, both deferred to the September 24–25 strategy session at 3M. The meeting also surfaced that the Secretary role has no identified successor for next year, alongside the existing Chair-Elect gap.

Meeting Overview

- Title: SPE IMD Board Meeting (Virtual) — Board Meeting #1
- Date / Time: August 5, 2026, 8:02 PM ET
- Duration: 1 hour 43 minutes 18 seconds
- Participants: 19 present (see Attendees and Roles); 4 absent
- Objectives: approve the 2026–2027 budget; plan the September strategy session; update on the October Cleveland event; open the Chair-Elect conversation; address open/miscellaneous items

Discussion Highlights

Roll Call and Quorum:

- Laura Kender conducted her first roll call as Secretary. 19 of 23 Board Members present; quorum confirmed. Chad Ulven's absence was excused with proxy to Tom Giovannetti.

2026–2027 Budget:

- Jeremy Dworshak presented a budget proposing an intentional \$10,500 net loss, funded from IMD's cash reserves, to invest in Board activity, the strategy session, and communications.
- Hoa P. and others raised concern about approving a loss budget from a governance standpoint.
- Susan Montgomery reported the October conference is tracking well financially and proposed reducing the anticipated conference loss line from \$3,000 to \$1,000 (accepted as a friendly amendment).
- Jono Newlin reframed the discussion, noting the "loss" is better understood as a planned investment from cash reserves rather than an operating shortfall.
- David Kusuma proposed adding a \$10,000 sponsorship-income target to offset the shortfall; after discussion of feasibility, this was scaled back and adopted as a \$5,000 advertising-revenue line (friendly amendment).
- David Okonski pressed for the budget to show anticipated income/revenue by category rather than only net figures — a point acknowledged as valid for future budgets.
- With both friendly amendments accepted, the motion to approve passed 16–3 (net projected loss: \$3,500).

September Strategy Session Planning:

- The Chair proposed engaging Angela Cengarle / LadderUp Marketing (\$3,900 of a \$4,500 line item) to facilitate the session, given her decade on the Board and industry expertise.
- The dual-role conflict of interest (Board member and paid vendor) was explicitly acknowledged; Angela voluntarily left the meeting so the Board could discuss freely.
- In her absence, the Board discussed alternatives; no one had another facilitator readily available. Richard Voyles offered to contact a university-affiliated group ("Strategic Doing") for a comparison quote, to be copied to the Chair.
- The Board agreed this constitutes reasonable due diligence given the timeline (the session is about one month out).
- Angela rejoined the meeting after the discussion concluded.

2023 Strategy Session Retrospective:

- The Chair reviewed notes from the Division's last strategy session (3M, 2023; facilitated pro bono by then-SPE-CEO Pat Ferry), noting that three priorities were identified at the time but only loosely pursued, with no clear accountability mechanism.

Committee Structure Discussion:

- The Chair presented — explicitly as a discussion-provoking idea, not a formal proposal — the possibility of consolidating the Division's 9 standing committees into fewer, team-based groups, citing single-person committees and low overall Board productivity as the core problems.
- Richard Voyles cautioned that consolidation should be driven by what best gets work done, not headcount for its own sake, and noted that adding coordination overhead can sometimes reduce effectiveness.
- Harshal Bhogesra, Jeremy Dworshak, Lih-Sheng "Tom" Turng, and Paige O'Meara spoke in favor of smaller working teams, citing accountability, engagement, knowledge transfer, and — per Jeremy — a more enjoyable volunteer experience.
- Hoa P. raised repeated concerns: that regrouping people without changing what they do may not solve anything, that added coordination could create new scheduling burdens, and that the Board should first diagnose why current committees aren't functioning (goals, accountability) before restructuring around them.
- No decision was made. The Chair confirmed the number and structure of committees will be decided at the September strategy session, and asked Board members to think it over beforehand.

October Event (Cleveland):

- Susan Montgomery reported strong registration and sponsorship momentum, and later clarified that the shared venue deposit with the Cleveland Section (\$4,795 total, split 50/50) leaves \$2,397.50 owed to IMD.

Chair-Elect and Secretary Vacancies:

- The Chair presented three options for filling the Chair-Elect vacancy (left open when Saeed resigned): (1) any Past Chair stands for election as Chair-Elect for 2026–27, with a standard election for 2027–28; (2) Davide serves two terms as Chair, with a volunteer needed for Chair-Elect (requires 2/3 Board vote); (3) extend current roles, with Davide as Chair-Elect and Tom G. continuing as Chair (requires 2/3 Board vote).
- Richard Voyles conditionally volunteered for Chair-Elect if the role carries no active duties this year.
- Tom Turng and David Kusuma both spoke in favor of Davide serving a second term as Chair.
- The Chair also flagged that the Secretary role has no identified successor for next year — a second officer gap alongside Chair-Elect.
- No vote was taken; the decision was explicitly tabled to the September strategy session.

ANTEC / NPE Co-location and Board Meeting Location:

- The Chair noted that ANTEC and NPE are now co-located and that SPE headquarters is soliciting full proposals rather than abstracts, which he flagged as a change worth the Board's attention.
- He asked Board members to think ahead of September about how IMD wants to participate (own sessions, networking, etc.), and separately requested input on where to hold the next Board meeting (Cleveland, NPE, or elsewhere).

Fellow / HSM Nomination Update:

- Lih-Sheng "Tom" Turng, who leads the Fellow and Honored Service Member nomination process, identified one academic candidate (Prof. Andrew Hrymak) and asked the Board for industry nominee suggestions, with discussion and a vote planned for September.

Action Items

See the Action Items table in Section 5 above.

Timelines

- September 24–25, 2026 — Strategy session at 3M (Jeremy Dworshak hosting); evening of 9/24 includes an informal group activity.
- Before the September meeting — Richard's facilitator due-diligence outreach; Tom Turng's Fellow/HSM industry nominee search; Board input requested on ANTEC/NPE participation, board-meeting location, and committee structure.
- October 2026 — In-person conference in Cleveland, OH (Susan Montgomery, Co-Chair).
- Fiscal year: July 1, 2026 – June 30, 2027 (per Bylaws).

Follow-Up Requirements

- Secretary to distribute these minutes to the full Board.
- Chair to finalize the Board meeting calendar/location based on member feedback.
- Chair-Elect and Secretary succession to be resolved at or before the September strategy session.
- Officers to evaluate the alternative strategy-session facilitation proposal once Richard Voyles returns information.

Supporting Details

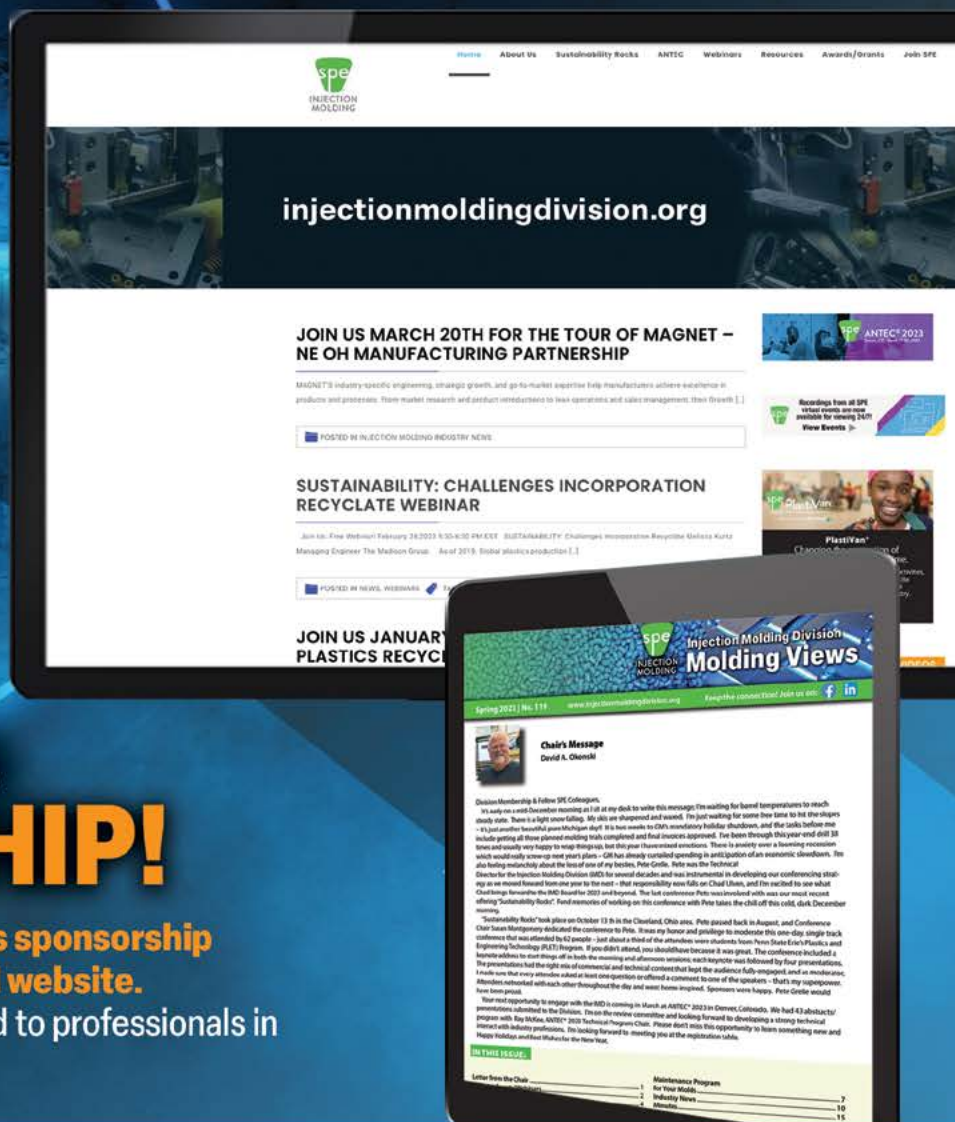
- Approved FY2026–2027 budget: net projected loss reduced from \$10,500 to \$3,500 via two friendly amendments (16–3 vote).
- Strategy session facilitation budget line: \$4,500 total (\$3,900 to LadderUp).
- October conference financial split: 35% IMD / 40% Cleveland Section / 25% Molding Technologies Division (per Susan Montgomery); shared venue deposit \$4,795, of which \$2,397.50 is owed to IMD.
- 2023 strategy session (3M, hosted by Jeremy Dworshak) was facilitated pro bono by then-SPE-CEO Pat Ferry.
- Fellow nomination candidate: Prof. Andrew Hrymak, Canada Western University; Fellow, Canadian Academy of Engineering and Chemical Institute of Canada.
- IMD Bylaws cited during the meeting: Robert's Rules of Order (motions/seconds), Board composition and quorum requirements.



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- Technical article in newsletter & website
- Company press releases for website, social media and newsletter

OPTION 3: \$1,000/yr

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- Company press releases for website, social media and newsletter

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Division Officers 2026-2027:

Officers:

Chair:	Davide Masato
Past Chair:	Tom Giovannetti
Secretary:	Laura Kender
Treasurer:	Jeremy Dworshak
Technical Director:	Chad Ulven
TPC:	Richard Voyles

Committees:

Communications Chair:	Angela Cengarle (Rodenburgh)
Councilor:	David Okonski
BOD Elections:	Hoa Pham
HSM & Fellows:	Tom Turng
Membership:	Chirag Thummar

Board Members

Eric Anderson
Angela Cengarle (Rodenburgh)
Bradley Johnson
David Kusuma
Joseph Lawrence
Susan Montgomery
David Okonski
Sriraj Patel
Hoa Pham
Srikanth Pilla
Tom Turng
Chirag Thummar
Julie Stenger
Jono Newlin
Deven McCarty
Harshal Bhogesra

Emeritus

Vikram Bhargava
Larry Schmidt



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