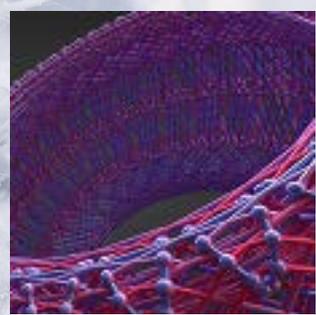




Q1 2018

THERMO SETTINGS

YOUR SOURCE FOR THERMOSET TECHNOLOGY AND EVENTS



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LETTER FROM THE CHAIR

Len Nunnery, VP Minnesota Rubber & Plastics



Join the SPE Thermoset Division's 2019 conference in beautiful Charleston, SC. Topics will touch on challenges thermoset applications face when exposed to U.V. and saltwater...

Dear SPE Thermoset Division Members & Friends,

Thanks to ALL who participated in a very successful Thermoset Topical Conference (TOPCON) in Indianapolis earlier this year! Indy was, without question, one of the highest quality TopCons the Thermoset Division has ever hosted. With this being said, we plan to better ourselves in 2019!! I am pleased to announce that the Division's next annual event will take place in one of the most quaint and historic cities in the country, **Charleston, South Carolina!** (Feb. 19-29, 2019)

The 2019 TopCon will follow hard on the heels of the Southeastern Wildlife Exposition (sewe.com), also being held at the epic

Belmond Charleston Place. The expo is dedicated to the outdoor sporting life and offers high quality demonstrations, educational opportunities and artisan events. Inspired by this fantastic show, the Thermoset Division will endeavor to extend the outdoors theme with a focus on thermoset applications and the challenges associated with U.V., salt water and weather. We are currently accepting abstracts for consideration. Subject matter pertaining to exposure resistant outdoor applications are of particular interest to us. Presenters with topics related to thermoset materials, additives, extenders, reinforcements, processing methods, tooling, machinery, design software, etc. are cordially invited to submit

abstracts for consideration. Please contact me directly at len@lennunnery.com.

With change being the constant in industry, government and the global economy (tariffs, anyone?), the Thermoset Topical Conferences has become our **unique opportunity** to learn, network and collaborate while forming lasting relationships in the process.

We look forward to seeing you February 19-20 in the charming city of Charleston!

Sincerely Yours,

*Len Nunnery,
SPE Thermoset Division Chair*

INDUSTRY NEWS

Royal DSM & Chromatic 3D Materials Printing Thermosets

Royal DSM, a global science-based company active in health, nutrition, and materials, today announced that it entered a preferred partnership with Chromatic 3D Materials to introduce thermoset materials for 3D-printing of finished manufactured goods. With the collaboration, DSM further expands its portfolio, now offering the broadest selection of 3D printing materials for the broadest range of printing technologies.

“Additive manufacturing or 3D printing technology has the potential to fundamentally change the way products are manufactured - offering consumers personalized and customized products currently not feasible”, says Hugo da Silva, Vice President of Additive Manufacturing at DSM. “This requires that manufacturers have a choice of the best combination of material, printing process and software for their application needs. With this partnership with Chromatic, we can offer our customers industrial-grade thermosets currently not available for additive manufacturing.”

Chromatic 3D is one of the few companies that know how to develop technologies to 3D-print with thermosets, a broad class of materials offering adaptability, durability and resilience not possible with thermoplastics used in conventional 3D printing processes.



Combining DSM’s global market access and expertise with Chromatic’s patented technology, the partners will jointly develop thermoset materials that DSM’s customer’s strategic growth markets are looking for to 3D-print end-use applications. Initial products to be rolled out by DSM include industrial-grade soft and durable thermosets, which are complementary to DSM’s current portfolio of thermoplastics for fused filament fabrication (FFF). Starting immediately, the companies will build a broader portfolio based on customer needs in the strategic markets of footwear (in- and midsoles), transportation (such as in the growing area of automotive electronics), healthcare, electronics, and tooling.

“Chromatic 3D Materials and DSM Additive Manufacturing have a shared vision to deliver high performance, industrial grade 3D Printing solutions to manufacturing. Together, we will make the dreams of industrial implementation of 3D Printing a reality”, said Cora Liebig, CEO of Chromatic.

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INDUSTRY NEWS

Mar-Bal, Inc.'s Continued Expansion



"This expansion will add up to 35,000 additional square feet."

Mar-Bal, an Ohio based thermoset plastics firm, is planning to buy a five-acre parcel in Painesville, Ohio to expand operations. The parcel is adjacent to a building that Mar-Bal recently took over for compounding work. The continuing expansion to Painesville will be partially supported by JobsOhio and the city of Painesville and could bring close to 100 additional jobs to the area.

This purchase continues Mar-Bal's expansion to the Painesville area, which is part of an overall strategy change to sell composites to outside firms. In early 2018, Mar-Bal began making compounds in Painesville. This expansion will add up to 35,000 additional square feet which will almost double the space that Mar-Bal currently occupies for manufacturing of BMC compounding material.

Mar-Bal, founded in 1970, is the leading integrated compounder and molder of BMC Thermoset composite products and value-added finishing services. Mar-Bal serves the appliance, electrical, industrial, food service and transportation industries with manufacturing facilities in Ohio, Missouri, Virginia and China.

Mar-Bal's mission is to manufacture engineered composites that will create value for all customers and stakeholders. More information can be found at www.mar-bal.com

Thermoset TOPCON 'Best Paper' Awarded to Steve Wilson, Cold Jet, LLC

Steve Wilson, published author and Director, Global Business Development - Plastics, Rubber & Composites for Cold Jet, LLC, was awarded Best Paper at the 2018 Thermoset TOPCON in Indianapolis



Steve Wilson

this February. The presentation, titled *"Now You See It, Now You Don't: The Magic of Dry Ice in Thermoset Mold Cleaning & Part Deflashing"* is available for online viewing [here](#).

Dry ice cleaning allows molders to clean while molds are still hot and in the press, significantly reducing downtime due to cooling, disassembly, manual cleaning, re-assembly and reheating. The process is non-abrasive (protecting the dimensions on parting lines, sealing surfaces, and various surface finishes) and non-conductive, and will not etch or profile most metals. It is also very effective at keeping vents clean for proper air evacuation during molding. Mold release agents buildup, plastic residue and out-gassing can quickly be removed, and intricate, complex shaped molds are easily cleaned. top 5 reasons for considering this solution for mold cleaning? Part deflashing: improve quality, lower cost, increase productivity, extend the asset life of the tool, and improve worker safety and the environment by eliminating cleaning chemicals.

Mar-Bal Fact:

THE LEADING INTEGRATED COMPOUNDER AND MOLDER OF BMC THERMOSET COMPOSITES

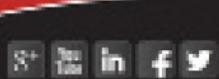
Mar-Bal, The One-Source Solutions provider of BMC Thermoset Composites, continues to research and formulate advanced materials, develop innovative products and has a portfolio of brands and proprietary products delivering composite solutions and enabling our customer's technology and success. Mar-Bal serves the appliance, electrical, industrial, food service and transportation industries from their four facilities in North America and their Asia sales office located in Shanghai, China.

HOW CAN MAR-BAL'S INTEGRATED APPROACH PROVIDE VALUE TO YOU?



The One-Source Solutions Provider
DESIGN | FORMULATE | COMPOUND | MOLD | FINISH
Thermoset Composites

OHIO PLANT Chagrin Falls, OH VIRGINIA PLANT Dublin, VA MISSOURI PLANT Cuba, MO R&D TECHNICAL CENTER Dayton Falls, OH ASIA SALES OFFICE Shanghai, China



mar-bal.com



SCENES FROM THE INDY THERMOSET TOPCON



SPE Thermoset Division was honored to have two of the plastics industry's most celebrated characters at TOPCON this year. Hugh Karraker (left) presented the documentary 'ALL THINGS BAKELITE: The Age of Plastics'. He is photographed with Keynote Speaker Russ Broome (right), Senior Director, Business Development at Plastics Industry Association.

CALL FOR PAPERS - CHARLESTON 2019 TOPCON!!!

The SPE Thermoset Division is now accepting papers for the 2019 annual Thermoset Conference. Please visit www.spethermosets.org for further information or e-mail len@lennunnery.com



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