IN THIS ISSUE:

- TOPCON 2014
- Intro to Thermosets Class
- BMC Composites for Lithium Ion Battery Cell Frames
- Zeon Technologies’ Revolutionary Pump Material
- Industry Announcements

Arranged by:
Shelane Nunnery, President, GV marketing & experiences.
KEVIN CASEY
Chair, SPE Thermoset Division
VP Sales & Marketing, Mar-Bal, Inc.
Register now for SPE’s hottest conference, to be held Feb. 24-26 at the Loews Ventana Canyon Resort. SPE Thermoset Division will present the most recent developments in thermoset composite technology. Topics will include composite wind turbines, high heat composites, emerging markets, corrosive materials, mining and more.

- Introduction to Thermosets Class
- SPE Golf Outing
- Outdoor Networking Reception
- Accenture Match Play Championship held weekend prior
- Tucson Rodeo held weekend prior

FEB 24-26, 2014
LOEWS VENTANA CANYON RESORT
SPE Group Rate of $169 per night
Expires Jan. 23!

To Reserve Hotel Online click here
SPE Thermoset Division Takes ‘Introduction to Thermosets Class’ On The Road!

The SPE Thermoset Division is comprised of a dedicated group of individuals who represent key businesses within the thermoset industry. Material manufacturers, raw material suppliers, mold designers and molders have united together through the Society of Plastics Engineers and have a shared interest in increasing composites awareness and providing ongoing education about thermoset materials.

The first ‘Introduction to Thermosets’ class was given in February 2013 at the Thermoset Topical Conference (TOPCON) held in New Orleans, LA. This course covers the chemical make up of thermosetting composites, material properties, part and mold design, troubleshooting and optional secondary finishing techniques. This course will be offered at the February 2014 TOPCON in Tucson. The SPE Thermoset Division is available to deliver this course at corporations and universities.

Most recently, the SPE Thermoset Division took their class to University of Massachusetts Lowell. We are pleased to share the feedback we received from the university.

SPE Thermoset Division Takes ‘Introduction to Thermosets Class’ On The Road!

The SPE Thermoset Division is comprised of a dedicated group of individuals who represent key businesses within the thermoset industry. Material manufacturers, raw material suppliers, mold designers and molders have united together through the Society of Plastics Engineers and have a shared interest in increasing composites awareness and providing ongoing education about thermoset materials.

The first ‘Introduction to Thermosets’ class was given in February 2013 at the Thermoset Topical Conference (TOPCON) held in New Orleans, LA. This course covers the chemical make up of thermosetting composites, material properties, part and mold design, troubleshooting and optional secondary finishing techniques. This course will be offered at the February 2014 TOPCON in Tucson. The SPE Thermoset Division is available to deliver this course at corporations and universities.

Most recently, the SPE Thermoset Division took their class to University of Massachusetts Lowell. We are pleased to share the feedback we received from the university.

SPE Thermoset Division Takes ‘Introduction to Thermosets Class’ On The Road!

The SPE Thermoset Division is comprised of a dedicated group of individuals who represent key businesses within the thermoset industry. Material manufacturers, raw material suppliers, mold designers and molders have united together through the Society of Plastics Engineers and have a shared interest in increasing composites awareness and providing ongoing education about thermoset materials.

The first ‘Introduction to Thermosets’ class was given in February 2013 at the Thermoset Topical Conference (TOPCON) held in New Orleans, LA. This course covers the chemical make up of thermosetting composites, material properties, part and mold design, troubleshooting and optional secondary finishing techniques. This course will be offered at the February 2014 TOPCON in Tucson. The SPE Thermoset Division is available to deliver this course at corporations and universities.

Most recently, the SPE Thermoset Division took their class to University of Massachusetts Lowell. We are pleased to share the feedback we received from the university.

SPE Thermoset Division Takes ‘Introduction to Thermosets Class’ On The Road!

The SPE Thermoset Division is comprised of a dedicated group of individuals who represent key businesses within the thermoset industry. Material manufacturers, raw material suppliers, mold designers and molders have united together through the Society of Plastics Engineers and have a shared interest in increasing composites awareness and providing ongoing education about thermoset materials.

The first ‘Introduction to Thermosets’ class was given in February 2013 at the Thermoset Topical Conference (TOPCON) held in New Orleans, LA. This course covers the chemical make up of thermosetting composites, material properties, part and mold design, troubleshooting and optional secondary finishing techniques. This course will be offered at the February 2014 TOPCON in Tucson. The SPE Thermoset Division is available to deliver this course at corporations and universities.

Most recently, the SPE Thermoset Division took their class to University of Massachusetts Lowell. We are pleased to share the feedback we received from the university.

SPE Thermoset Division Takes ‘Introduction to Thermosets Class’ On The Road!

The SPE Thermoset Division is comprised of a dedicated group of individuals who represent key businesses within the thermoset industry. Material manufacturers, raw material suppliers, mold designers and molders have united together through the Society of Plastics Engineers and have a shared interest in increasing composites awareness and providing ongoing education about thermoset materials.

The first ‘Introduction to Thermosets’ class was given in February 2013 at the Thermoset Topical Conference (TOPCON) held in New Orleans, LA. This course covers the chemical make up of thermosetting composites, material properties, part and mold design, troubleshooting and optional secondary finishing techniques. This course will be offered at the February 2014 TOPCON in Tucson. The SPE Thermoset Division is available to deliver this course at corporations and universities.

Most recently, the SPE Thermoset Division took their class to University of Massachusetts Lowell. We are pleased to share the feedback we received from the university.
BMC for Lithium Ion Battery Cell Frames

Lithium ion batteries require cell frames that provide a unique set of performance characteristics. More than 200 repeating pouch battery cells are stacked together in a lithium ion assembly. The structural frame components must maintain the integrity of all seals and electrical connections under mechanically loaded conditions. To meet the functional demands of these high capacity cells, extreme flatness, (as molded) dimensional accuracy and reduced weight are critical. Other ‘in battery’ environmental conditions demand high dielectric strength, not to mention heat, flame and corrosion resistance to ensure the safe, long term performance of the battery assemblies (lifespan expectation greater than ten years).

Citadel Thermosets recommended BMC 1412 (20% glass filled, unsaturated polyester) material due to its UL recognized 5-V flame ratings, ultra-low shrink performance and >500°F heat deflection temperature (HDT). BMC 1412 provides a low coefficient of thermal expansion (CLTE) providing operational dimensional stability across a range of use temperatures superior to most other plastics. Additionally, BMC 1412 is injection moldable and effectively fills complex battery frame designs (without strength issues associated with flow/knit lines).

The Citadel team developed this new composite application through its complete range of support services (including part design, FEA, mold flow, prototype tool design/production and part design/production for initial battery builds).

Citadel Plastics delivers complete composite solutions to the rapidly growing lithium ion battery market space.
Zeon Technologies has introduced a new material used to produce wear-rings and bushings for the pump industry made from Carbon Fiber-Ceramic or Kevlar-Ceramic. In five years in the field, no measurable wear has been found on either the wear components or the pump shaft on which they ride.

For years, the pump industry has been challenged. The need for a new wear material product, providing better performance, dimensional stability at high temperature, and longevity at a lower cost, has always been the dream. Zeon Technologies, a resin and molding compound manufacturer, has made this dream a reality.

Before Zeon Technologies, the industry responded with thermoplastics that worked, but still had challenges of high temperature as well as high pricing. Recently Zeon Technologies of Salisbury, North Carolina, developed a unique thermoset composite that fulfills the basic needs of many wear parts used in the pump industry. The North Carolina based company offers these specially formulated compounds in a variety of fiber and mineral fillers such as Carbon Fiber-Ceramic or Kevlar-Ceramic. Randy Lewis, an engineer for Zeon Technologies, recently said, "Parts from these composites can be easily molded and machined." Field use of nearly five years has shown no measurable wear on pump shafts, wearings, or bushings. Positive feedback from field operations praises the performance of these parts in water pumps and in dry run operations. High temperature resistance is also an outstanding feature of these composite materials. In addition to exceptional performances, the materials are also very cost competitive in comparison to the high priced thermoplastics currently used in the market place.

While change is hard to accept, proactive maintenance engineers and proactive new product designers have taken Zeon Technologies materials and tested these composites in today’s pump market applications. There are no "one product fits all" solutions, but serious attention is being given to Zeon materials as they are establishing themselves as unique materials for rather common pump solutions. Only with forward thinking can new products be incorporated into traditional applications which are hard to change.

About Zeon Technologies: Zeon Technologies offers ideal materials to replace or create new products for the pump industry. Every application is unique and given utmost attention to implement materials that are best suited for pump operations. Thus, such materials offer the industry a new outlet for obtaining high performance, low maintenance, and cost effective materials for today's and future use. www.zeontech.net
Mar-Bal, Inc Recognized as one of America’s Fastest Growing Private Companies by Inc. Magazine

Mar-Bal, Inc., a Chagrin Falls, Ohio-based leader in the thermoset industry and innovative solutions provider, was recently honored by Inc. magazine at their Annual Conference and Awards Gala held at The Gaylord National Resort & Convention Center in Washington, DC. Mar-Bal, Inc. is listed within the manufacturing industry on the seventh annual Inc. 500|5000, an exclusive ranking of the nation’s fastest-growing private companies. The list represents the most comprehensive look at the most important segment of the economy—America’s independent entrepreneurs. Fuhu tops this year’s list. Mar-Bal, Inc. joins LivingSocial, Edible Arrangements, CDW and Lifelock, among other prominent brands featured on this year’s list.

“Make no mistake: The Inc. 5000 was harder to get into this year than ever in its history … [with] results most companies could only dream of in the economy of the past three years,” said Eric Schurenberg, Inc. magazine editor in chief, in a congratulatory letter to the Inc. winners. "Not all the companies in the Inc. 500 | 5000 are in glamorous industries, but in their fields they are as famous as household name companies simply by virtue of being great at what they do. They are the hidden champions of job growth and innovation, the real muscle of the American economy,” further stated Eric Schurenberg.

“We are so proud to be part of the Inc. class of 2013. Our overall focus on talent development, process innovations and developing a comprehensive one-source solution for our customers has enabled us to experience a three-year organic growth rate and placed us among an elite group of successful companies,” said Scott Balogh, President and CEO at Mar-Bal, Inc.

Mar-Bal’s focus is on talent development, process innovations and developing one source solutions.
In a stagnant economic environment, median growth rate of 2013 Inc. 500!5000 companies is an impressive 142 percent. The companies on this year’s list report having created over 520,000 jobs in the past three years, and aggregate revenue among the honorees reached $241 billion.

“The Inc. 500 | 5000 Conference was a truly incredible experience. The high caliber of speakers provided valuable insights and best business practices that we can evaluate and deploy within our culture to continue our momentum of growth,” stated Steven Balogh, Vice-President of Mar-Bal, Inc.

COMPOSITES GROUP APPOINTS NEW MARKETING COORDINATOR

The Composites Group, a leading supplier of thermoset composite solutions, has appointed Suzanne Scarpino as its marketing coordinator.

In this newly created position, Scarpino will assist with the development and implementation of marketing communications strategies, public and media relations, corporate communications, and outreach initiatives for The Composites Group and its three business units, Premix, Hadlock Plastics and Quantum Composites.

“We are fortunate to have found a high-caliber communications professional such as Suzanne to help shape and lead The Composites Group’s marketing communications efforts,” said Marc Imbrogno, Corporate Director of Market/Product Development.

Scarpino has nearly 15 years of public and media relations and integrated marketing communications experience. She has served as a corporate communications manager for Cleveland Clinic, assistant director of media relations for Villanova University in Villanova, Pa., and coordinator for public information at Penn State Behrend in Erie, Pa. In these roles, Scarpino was responsible for building relationships with key external and internal stakeholders, assisted with the development and execution of public and media relations efforts, including writing and distributing news releases, feature stories, website content, and media pitches, and assisted in strategic decision making for crisis communications and issue management efforts.

Early in her career, Scarpino served as a senior account manager for Marketing Communications Inc. in Washington, Pa., where she handled the public and community relations, global customer communications, and marketing collateral for its manufacturing and specialty chemical clients. She also has served as a public relations writer for Tillman Group in Erie.

Scarpino earned a Master of Arts in Communication Studies from Edinboro University of Pennsylvania and a Bachelor of Arts in Public Relations from Penn State.
JOHN STROH JOINS CITADEL PLASTICS

John Stroh has joined Citadel Plastics’ thermoset division as the R&D Technical Specialist for automotive and fuel cell applications. John will be working on new product and formulation development, analytical testing and provide technical support to customers and manufacturing operations. Stroh brings a diverse technical background including twelve years of focus on the research, development and manufacture of composite materials and components (SMC, BMC, and compression molding). In addition, he delivers 20 years of technical service experience in the product development and manufacture of fiberglass for thermoset applications. John holds a B.S. in Chemistry from Ashland University in Ashland, OH and a Master in Business Administration from Indiana Wesleyan University in Marian, IN.

CITADEL PLASTICS ANNOUNCES GLOBAL SALES AND MARKETING VP

Cole Bailey was recently announced by Citadel Plastics as VP Global Sales and Marketing. Bailey will drive global growth strategy for the company. He has over 24 years of sales and marketing experience and was most recently Director of Marketing and Strategic Accounts at SABIC’s polymershapes business. Prior to that he held several commercial and management roles at GE Plastics and Florida Polymers.