

SPE THE SPECIALIST

OCTOBER MINI-SEMINAR

Thursday, October 5, 2006

Hennepin Technical College North Campus

9000 Brooklyn Blvd, Brooklyn Park, MN (corner of hwy 169 & 77th or Brooklyn Blvd.)

1:00 Registration • 1:30 - 4:30 Seminar

Innovative Thermoplastic Elastomers

Raj Varma and Malar Shetty of GLS Corporation

For over 25 years, GLS has established itself as the leader in innovative thermoplastic elastomer (TPE) solution provider. GLS works with the customer to understand their requirements and identify suitable material solutions. When the application demands alternatives to GLS standard products, their state-of-the-art development laboratory will formulate custom TPE optimized to provide the required performance and value for their product. Today, GLS offers the broadest range of TPE materials in the industry. From polymer modifiers to high performance TPE alloys, you can count on GLS for the right material for your application needs.

Raj Varma is currently working as a Commercial Innovation Manager and focus on commercializing new technologies. He has over 12 years of experience working with TPE's in a wide range of markets. He has spent most of his carrier in R&D at GLS in various product and market development roles. He has a MBA from Illinois Institute of Technology, a MS in Polymer Engineering from The University of Akron and BS in Chemical Engineering from Osmania University, India.

Malar Shetty is an application group leader at GLS Corporation. His primary responsibilities are customer support with regard to design and troubleshooting, customer sample preparation and product testing. He has worked for 4 years at GLS. He graduated from UMass Lowell with Masters in plastics engineering and previously worked for Nypro Colorado as a manufacturing engineer.

For reservations or questions,

Email Sean Mertes at sdmertes@ashland.com

If you don't have access to the internet then call Sean Mertes at
612.801.2417. EMAIL IS PREFERRED

\$20.00 Members • 25.00 Non Members

September 2006

Volume 34

Inside:

**Advertisers
Index**

Page 2

**Presidents
Remarks**

Page 3 & 9

Essay Contest

Page 4

**Councilor/
Tom McNamara**

Page 8

**Councilor/
Dave Erickson**

Page 8

**Membership
Application**

Page 10

**Material of the
Issue**

Page 11

ASHLAND

Where you need it. When you need it.
What else do you need?

Ashland Distribution is the leader in the distribution of thermoplastic materials. No matter which process you use, we have the prime thermoplastics you need plus the technical support to back-up the products we sell. One call or click to our www.ashdist.com website is all it takes to handle your material needs.

For more information contact us at 1-800-828-7659 or on the web at www.ashdist.com



Ashland is committed to the continuous evolution of technology and servicesolutions that promote health, safety and environmental protection around the world.

© Registered Trademark, Ashland © Copyright 2005, Ashland

* Responsible Care is a registered service mark of the American Chemistry Council, the Canadian Chemical Producers' Association and of other entities in other countries.

Discover the Difference

at



HennepinTechnical
College

Have we got a career for you in
Plastics Manufacturing Technology!

Learn more about HTC's affordable, accessible, hands-on learning. Full- or part-time courses may be taken individually or applied to the diploma, degree and the Extrusion or Injection Molding certificates.

Your 1st Choice for Excellence
www.hennepintech.edu

Dan Ralph, Instructor

Direct 763.488.2527

Fax 763.488.2944

Polymer Analysis & Testing

- Materials Identification
- Product Deformation
- Mechanical Testing
- Failure Analysis / Product Defects
- Competitive Product Analysis
- Thermal Analysis

FTIR, NMR, GC, GCMS, LCMS, TGA, SEM, HPLC, ICP, DSC, GPC



CHEMIR

Analytical Services

(800) 659-7659

chemir.com

EMPLAST®

www.emplast.com

For all your Custom Injection and
Industrial Blow Molding needs.

Orin Kruschke 952-975-3563 E-mail: okruschke@emplast.com

952-975-3500 800-445-4117 (Fax) 952-975-3501

Emplast, Inc. • 950 Lake Drive • Chanhassen, MN 55317



Imagineering Plastics®

The Global Leader in Specialty Compounding

Contact:

Dave Poinar

Phone: (952) 294-9760

E-mail: dpoinar@rtpcompany.com

Jay Grizzle

Phone: (952) 368-3840

E-mail: jgrizzle@rtpcompany.com

Corporate Headquarters: 580 E. Front Street • Winona, MN 55987
Tel: (507) 454-6900 • (800) 433-4787 • Web: www.rtpcompany.com

Advertisers Index

Ashland/General Polymers	Page 2	Omya, Inc.	Page 6
Chemir	Page 2	Orycon	Page 3
Clariant	Page 3	PlastiComp	Page 3
D-M-E	Page 6	Plastic Process Equipment	Page 6
E & O Tool and Plastics, Inc	Page 3	Polymer Resources, Ltd.	Page 6
Emplast	Page 2	QMC Plastic Machinery	Page 3
Hennepin Technical College	Page 2	RTP	Page 2
Mold-Masters Limited	Page 6		

INNOVATION IN HOT RUNNERS
DESIGNED FOR PRODUCTION ENVIRONMENTS

PRE-ENGINEERED SYSTEMS

ORYCON
CONTROL TECHNOLOGY INC.

1-800-HOT-RUN1

Presidents Remarks

Domasius Nwabunma, Ph.D



Greetings fellow SPE Section S22 members! It is my pleasure to present to you the highlights of our section activities since you received the last newsletter. We had our second Technical Seminar of the year on April 17, 2006. The focus of the seminar was on Failure Analysis of Plastics

with Jeffrey Jansen of Stork Technimet, Inc as the presenter. Although I could not be physically present at the seminar since I was on vacation, I was informed that the seminar was a big success with 51 attendees from the following companies: Mikros Engineering, Aroplax, E&O Tool, Action Plastics, Donatelle, Plastic Alternatives, Polaris, Guttenberg, Lake Country Sales, Steinwall, Contour Plastics, Incisive Surgical Inc, Intricon, Honeywell, MME, 7-Sigma, Ashland, I2 Tech, McLean Thermal, Boston Scientific, Materials Evaluation, John Deere, EPC Molding, Starkey Labs, Fargo Electronics, Digital Angel, Fiscars, Imperial Custom Molding, and Plastic Products. Please join me in thanking the seminar organizer (Sean Mertes), the seminar presenter, and the attendees for making the seminar the success that it was. The organizer and the attendees concluded that the success of the seminar hinged on the topic which had a broad coverage. We will keep this mind in selecting the topic for the next Technical Seminar around September/October 2006.

Also in April, our section received results of the SPE Constitution Change Poll which to place in March. We were informed that the motion to dissolve SPE existing Constitution and replace it by new Bylaws passed overwhelmingly by 97% in favor. Effective April 10th, the new Bylaws, which have been previously approved by SPE Council, became the official governing document of the society. The document is available online on the SPE website (www.4SPE.org).

May 7-11 was SPE ANTEC 2006 Conference. I was at the conference in Charlotte, NC, which afforded me the opportunity of meeting many work colleagues, graduate school friends and professors,

Continued on Page 5



**Around The Corner, Around The World,
Right Where You Want Us.**

Michael Murphy 800-328-5589 Jack Peterson 800-328-5589
Marilyn Vierzba 800-328-5589 John Wooten 800-328-5589

www.clariant.masterbatches.com

Complet®
Composite Pellets

PlastiComp

The best source for **Long Fiber Reinforced**
Thermoplastic Pellets for Injection Molding.

www.plasticomp.com

Tel: 507.454.4334 Fax: 507.452.5642 e-mail: info@plasticomp.com

E&O
TOOL AND PLASTICS, INC

ISO 9001-2000 REGISTERED

www.eoplastics.com

- Mold Making • Injection Molding • Over Molding
- Value Added Manufacturing • Insert Molding

19178 Industrial Blvd.
Elk River, MN 55330

763-441-6100 Ext. 132
Fax: 763-441-6452

Advertising Space Available

QMc Plastic Machinery LLC
New and Used Plastic Machinery

Dennis McNevin

Phone: (763) 519-0134
Cell: (612) 805-5041

Don Qually

Phone: (952) 944-7991
Cell: (612) 839-4674

<http://www.qmcplastic.com>

SPE

"Wonders of Plastics"

International Essay Contest

The Society of Plastics Engineers (SPE), with sponsorship from SPE Sections and Divisions, present the 13th annual "Wonders of Plastics" essay contest. Open to all junior high and high school students, the essay must be submitted to the local Section, it can be sponsored by a teacher and must meet certain requirements. The winning entry at the Section level will be published and publicized in the Section newsletter and passed on to the SPE Headquarters for judging at the international level.

Thanks to a donation by the Detroit Section, the student who wins the international competition will receive \$1,000 and a plaque. His/her school will also receive \$1,000 for their educational programming.

Suggested Topics:

Plastics in the environment
Creative use of recycled plastics
What plastics has done for me
How plastics improve our lifestyle

Plastics usefulness in society
How plastics benefit humankind
Why the bad reputation of plastics is wrong
Advantages of plastics in food packaging

All essay submissions must be received at the SPE Section address, along with entry form, by the Section deadline which is usually December or January.

Essay Contest Requirements

Length: Between 500 and 1000 words

Format: Typewritten in English on 8 1/2 x 11 paper (for North America), title to appear as heading on each page; no name on any page except entry form that must accompany each essay: 1-inch margins minimum on all sides.

Deadline: Decided by the individual SPE Sections (Section Contacts). Entry forms may be copied, but each essay must be attached to a form; essay will not be returned and will become property of SPE. Essays may be co-authored.

Organization: The organization structure of the essay will be "logical," including the following considerations:

Introduction: (optional)

Thesis paragraph: several sentences

Development (body): this section will be several paragraphs and will discuss the theme, analyze it, feature informal research about the theme, etc.

Conclusion: this section will be at least one paragraph in which the author summarizes the ideas presented in the essay

Mechanics: Spelling will be correct; syntax will be readable; punctuation will be conventional. Essay will be free of sentence fragments.

Diction: (word choice) will be appropriate to the subject and the writer's understanding of the topic. Point of view will be appropriate to the topic/subject and will remain constant and consistent. A mixture of first and third person is acceptable if it is appropriate to the voice of the essay, however, the use of second person ("you" either stated directly or implied) will change the "voice" of the essay in a manner damaging to its effectiveness. Footnotes and references must be included when necessary.

Judging: Essays will be judged by a panel consisting of SPE members, an editor and science teacher. In order to be a finalist, the essay must meet all the conditions as stated in the organization and mechanics above, with only incidental errors in mechanics. It must meet the assigned minimum length and must be submitted following the prescribed format.

ANTEC 2006 HI-LIGHT

Board Members at Work

Four Board members were Moderators for sessions at ANTEC 2006, held at Charlotte, North Carolina, May 7 - 9th:

Richard Bopp – T22 - Engineering Properties & Structure Determination of Polymer Properties

David Erickson – W16 - Undergraduate Students Mold Design and Blow Molding

Eric Hochert – T10 - Medical Plastics • Specialty Polymers for Biomedical Applications

Thomas McNamara – M17 - Undergraduate Students • Processing and Material Properties

This does take extra commitment and time. Thanks to them for their dedication.

ALL MEMBER NOTICE

We are working hard to take full advantage of Electronic Communication.

Please make sure we have your updated E-mail address.

Please forward to :Society of Plastics Engineers, Inc.

www.4SPE.org

Online Presentation Opportunities

For the last three years, SPE has provided an opportunity for exceptional technical papers to be presented over the internet through the SPE e-Learning Center's Online Presentations Program. Offered three to four times per month, the presentations are recorded and archived for access by viewers who missed the live event. The list of archived presentations is available in the [e-Learning Center](#) and you can find the schedule for upcoming presentations on the [SPE homepage](#).

SPE relies on its membership to provide the content for this program and offers anyone who would like to be a presenter, and who has a suitable presentation, a one-year free membership in the Society in exchange for his/her participation. If you see a particularly interesting presentation, approach the presenter and suggest that he or she contact us. Or you can fill in our suggestion form or drop us a line with your recommendation at elearning@4spe.org. We'll be very happy to hear from you, and you will be enabling us to continue and expand these offerings in the future.





**For six decades,
the mold tooling advantage.**

- Hot Runner Systems
- Mold Bases
- Machining Services
- Mold Components
- Electronic Controls
- Moldmaking Supplies
- Applications Engineering
- Service & Support

**Every D-M-E product comes with your
satisfaction 100% guaranteed.**

ISO 9001



DNV Certification, Inc.
REGISTERED FIRM
Member of DNV Group

800-626-6653 • www.dme.net



POLYMER RESOURCES LTD.

The Leader in Classic Engineering Plastic Compounds

- PRL PC – Polycarbonate
- PRL PPX – Modified PPO/PPE
- PRL TP – PBT Polyester
- PRL ABS – ABS
- PRL PC/TP – PC Polyesters
- PRL PC/ABS – PC/ABS Blends
- PRL PEI – Polyetherimide
- PRL NY – Polyamide

RANDY RITCHEY

OFFICE: 847-742-3141

E-MAIL: rritchey@PolymerResources.com

FAX: 847-742-3181

CUSTOMER SERVICE: 800-243-5176

www.PolymerResources.com



Kevin Krummel
Regional Sales Mgr.
kevin.krummel@omya.com

Omya Inc.

2815 Maine Street
Quincy, IL 62301

Tel (217) 224-5198

Fax (217) 224-5198

Cell (802) 345-5847

Supplier of Reliable, High
Quality Calcium Carbonate
to the Plastics Industry

Advertising Space Available

**global hot runner
solutions**

- modular or custom designs
- turnkey hot half packages
- local service supported
- online hot runner design wizard
- temperature controllers

Your regional hot runner specialist:

Gary Seils

(t) 651.451.8558 (f) 651.451.8593

Mold-Masters Limited

233 Armstrong Avenue

Georgetown, ON L7G 4X5 Canada

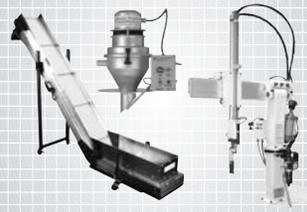
www.moldmasters.com

**Mold
Masters**
performance delivered

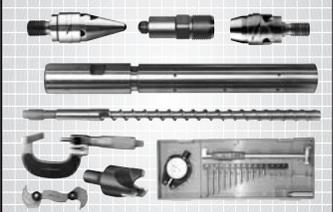
© Mold-Masters is a Registered Trademark of Mold-Masters Limited. © 2003

**FIRST OR LAST... CALL PPE FOR ALL YOUR
PPE MOLDING ACCESSORIES**

MACHINERY



SCREWS-BARRELS-TIPS-NOZZLES



AEROSOLS - CHEMICALS



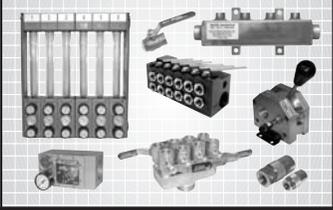
MOLD SUPPLIES



MATERIAL HANDLING



MOLD WATERLINE COMPONENTS



PLASTIC PROCESS EQUIPMENT, INC.

8303 Corporate Park Drive, Macedonia (Cleveland), Ohio 44056, U.S.A.
216-367-7000 • Fax: 216-367-7022 • Toll Free: 800-321-0562

3615 Walnut Avenue
Chino, California 91710, U.S.A.
909-627-8511 • Fax: 909-627-8101
Toll Free: 800-258-8877

5402-D Pioneer Park Boulevard
Tampa, Florida 33634, U.S.A.
813-886-6015 • Fax: 813-886-0960
Toll Free: 800-282-6783

WHO CAN HELP YOU

SOCIETY OF PLASTICS ENGINEERS, INC.
PO BOX 0403, BROOKFIELD, CT 06804-0403
PHONE: 203-775-0471 • FAX: 203-775-8490
WEB: www.4spe.org
Office Hours: 9:00 a.m. - 5:00 p.m (Eastern Time)

EXECUTIVE DIRECTOR Susan Oderwald

ANTEC Conference Management / ANTEC Booth Sales
Lesley Kyle 203.740.5452 lskyle@4spe.org

ANTEC Paper Submission
Peter Boergermann 203.740.5472 pboergermann@4spe.org

ANTEC Registration
Martha Charris 203.740.5458 mlcharris@4spe.org

Awards (Chase, Husky)
Laurie McDougal 203.740.5432 lamcdougal@4spe.org

Awards (STRETCH, PRIDE/Outstanding Division)
Maria Russo 203.740.5431 mrusso@4spe.org

Awards (Essay Contesst, HSM, Newsletter, STAR)
Tricia McKnight 203.740.5430 tmcknight@4spe.org

Awards (Annual awards program)
Gail Bristol 203.740.5447 grbristol@4spe.org

Book Orders
Linda Roos 203.740.5449 lroos@4spe.org

Change of Address/Transfers
Customer Relations 203.740.5403 membership@4spe.org

Council Liaison
Marie Salzo 203.740.5422 mcsalzo@4spe.org

Divisions, Special Interest Groups, Student Chapters
Maria Russo 203.740.5431 mrusso@4spe.org

Dues, Billing & Payments
Customer Relations 203.740.5403 membership@4spe.org

Employment & Classified Ads
Jackie Salzo 203.740.5411 jsalzo@4spe.org

e-Live™ Presentations & Courses
Peter Boergermann 203.740.5472 pboergermann@4spe.org

e-Live™ Presentations Registration
Linda Roos 203.740.5449 lroos@4spe.org

Journal/Magazine Orders
Linda Roos 203.740.5449 lroos@4spe.org

Membership Processing/Questions
Bonnie Kaczowski 203.740.5428 bakaczowski@4spe.org

Membership programs/retention
Tobi Gebauer 203.740.5457 tgebauer@4spe.org

News Brief emails-sections/divisions/SIGs
Deb Daily 203.740.5468 ddaily@4spe.org

Section & Division Billing
Dolores Pruefer 203.740.5446 dcpruefer@4spe.org

Section & Division Investment Program
Doris Thoren 203.740.5444 dlthoren@4spe.org

Section Administration
Tricia McKnight 203.740.5430 tmcknight@4spe.org

Seminar Program & In-Plant Training
Laurie McDougal 203.740.5432 lamcdougal@4spe.org

Seminar Registration
Martha Charris 203.740.5458 mlcharris@4spe.org

SPE Training Products & Bookstore
Linda Roos 203.740.5449 lroos@4spe.org

The SPE Foundation Scholarships & Grants
Gail Bristol 203.740.5447 grbristol@4spe.org

Topical Conference Planning
Leslie Kyle 203.740.5458 lskyle@4spe.org

Topical Conference Registration
Martha Charris 203.740.5458 mlcharris@4spe.org

Website
Deb Daily 203.740.5468 dadaily@4spe.org

Membership

July 31, 2006

Total539

Welcome New Members

S

P

E

From Your Councilman - *Dave Erickson*

This is my last column as Councilor for the Upper Midwest Section. I have retired, as SPE rules state, after completing six years in the position.

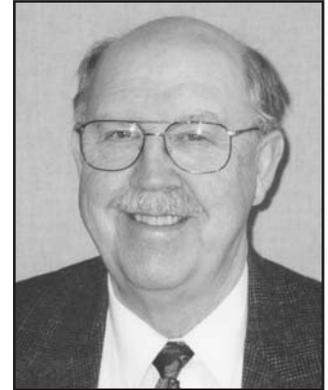
It started for me in Orlando Florida in the year 2000 and ended in Charlotte, North Carolina in 2006. Thanks for the opportunity to serve our Section as your Councilor. I trust I did a good job representing you. Sometimes I didn't agree with proposals from the Executive Committee's and I voted accordingly. I did what our Board indicated they felt was right for our Section. Most things have been good or the Society and a few items need more effort.

Speaking of effort, it gives me a great deal of pleasure to introduce my replacement as councilor, my long time associate and Past President of our Section, Mr. Thomas McNamara. He is a very capable person and I

know he will represent the Upper Midwest Section very well. Welcome Tom. I will say that I am very happy that Tom has willingly accepted the responsibility as our councilor.

All I will report about the last Council meeting is that our new SPE International president will be Mr. Tim Womer. His SPE mantra is "Are You In?". Tom will introduce himself and fill in the details of the last Council Meeting. Thanks Tom, and much success as our Sections Councilor.

Thank you for your support.



Dave Erickson

Councilor's Corner - *Tom McNamara*

This is my first column as your new councilor. To introduce myself, I can tell you that I am a 32-year member of the Upper Midwest Section of the SPE. I have previously worked through most of the offices and many of the chairs on the Board of Directors and was President of the UMW section in 1986-87. It is good to be actively involved again with the Section and I will help the current Board in every way to continue our mission of educating our membership and strive to grow our Section. I appreciate the opportunity to represent our Section at SPE council meetings. I will do my best to bring your ideas, wishes, comments, etc. to the SPE council of the whole as well as interface with SPE headquarters.

Now to update you on the last council meeting, which took place prior to the ANTEC in May, the officers and VP's had the following to report:

- International awards, Fellows, Honored Service Members, and other SPE awards programs have been completed for 2006. They are encouraging submission of names of additional candidates for the coming year.
- The Bylaws and Policy Committee reported work on revision to the Bylaws and dissolution of the Constitution. The vote was overwhelmingly in favor of dissolving the existing constitution. The previously approved Bylaws took effect on April 10.
- The Sections Committee reported discussions concerning regionalization and Section revitalization.
- The Division Committee reported goals to revamp/expand the Speakers List, sponsor new

Divisions/SIGs, and support Sections through MiniTecs.

—The ANTEC Operating Committee provided some data on the ANTEC but with the Council meeting preceding the ANTEC, most meaningful data was not available.

—The International Committee reported on efforts to grow Sections/areas/regions globally. They indicated that a semi-annual newsletter is being published providing summaries of activities throughout the world.

Past President Donna Davis presented data and progress on reviewing the current governance structure. Review and evaluation for potential changes to the current governance structure is continuing.

Last but certainly not least, on behalf of the entire UMW Section, I would like to offer our sincere thanks to our Past Councilor, Dave Erickson, for an exemplary job representing our Section over the past six years. Dave has not only performed all of the mandatory Councilor duties, but has been instrumental in keeping our Section alive by recruiting not only general members but also people to serve on our Board of Directors and fill other leadership roles. The most amazing thing is that Dave has offered to remain on the Board as a member at large. **So next time you see Dave, offer him a huge THANK YOU.**

Presidents Remarks continued from page 3

and some of our Section S22 members. For those who could not attend the conference, there were a total of 620 podium and interactive technical presentations at the conference. Of this, 562 were podium presentations, while 58 were interactive. The presentations were enriching!

On May 25, we had our Board Meeting. The Board used the opportunity to welcome our new Councilor Thomas McNamara, who replaced the Dave Erickson whose second 3-year term as councilor ended at the May ANTEC Conference. Dave has kindly agreed to continue to serve Board Member-at-Large. Eric our Education Chair resigned his position due to increased involvement with SPE Medical Plastics Division at the national level. The Board had two new volunteers: Rolly Enderes, who will be our Newsletter Electronic/Online Editor and Scott Soderstron who is the new Education Chair. Thomas McNamara will be assisting Scott transition into the responsibilities of the Education Chair. Please join me in thanking Dave and Eric for their services to our Section and to SPE. We wish Eric success in his new assignment. Also join me in welcoming Tom, Rolly and Scott into S22 Board. I very much look forward to working with them.

Also at the May Board Meeting, the Board agreed to some improvements in the Newsletter. First, an online/electronic version of the Newsletter will be made available to members in addition to the hard copy. In future, the body will consider sending only the electronic version to members since this will cut the production and mailing costs of our Newsletter. Beginning with the June Newsletter, the Board agreed to devote approximately a page of our Newsletter focusing on "Polymer of the Month". Dave Erickson has kindly agreed to be the author of "Polymer of the Month". Each Newsletter, Dave will choose a particular commercially important polymer and briefly describe its nature/structure, production/manufacturing methods, properties, and real life applications. I consider this a valuable addition to the quality of our Newsletter. The Board also agreed to in future Newsletter to highlight the acronym "SPE" in the Newsletter name "THE SPECIALIST".

In the last (April) Newsletter, I informed you of my idea to initiate a Medical Plastics Technical Conferencing and the benefits of such a conference. I am glad to report that our Board supports the idea. Ajay Gupta, our Board Secretary, is leading the effort to explore the nature of this conference, when and how it might be staged. From feedbacks received from some of you, there is a need and healthy interest for such a conference in the Twin Cities. The Board agreed to start with a local conference in the Twin Cities some time next year and if interest and participation grows, the conference may be upgraded to an international one involving SPE international. For the local version, we are considering some form of partnership or co-sponsorship for a start. To this effect, Ajay is discussing with Dr. Arthur Erdman, Professor of Mechanical Engineering at the University of Minnesota about our Section partnering with the University of Minnesota "Design of Medical Devices Conference". Please stay tuned for more information on the conference idea in the next Newsletter.

I would like to end by thanking those of you who have sent e-mails to me with ideas and suggestions of how to improve and energize our Section. I would also like to thank our advertisers in our Newsletter, who make it possible to send the Newsletter to you free. As always, I can be reached at dnwabunma@mmm.com.

SPE Website
www.4spe.org



Society of Plastics Engineers

PO Box 403, Brookfield, CT 06804-0403 USA
Telephone: +1.203.740.5403 Fax: +1.203.775.8490
www.4spe.org

MEMBERSHIP APPLICATION

Applicant Information

Name: first _____ last _____ mi _____		Home Address: <i>(please provide)</i> address: _____ address: _____ city: _____ state: _____ zip: _____ country: _____	
Applicant Type: <input type="checkbox"/> Member <input type="checkbox"/> Student (must supply graduation date _____)		Preferred Mailing Address: <input type="checkbox"/> Home <input type="checkbox"/> Business	
Job Title: _____		Job Function: <i>(choose only one)</i> <input type="checkbox"/> Consulting <input type="checkbox"/> Design <input type="checkbox"/> Education <input type="checkbox"/> General Management <input type="checkbox"/> Library <input type="checkbox"/> Manufacturing <input type="checkbox"/> Marketing/Sales <input type="checkbox"/> Purchasing <input type="checkbox"/> Quality Control <input type="checkbox"/> R & D <input type="checkbox"/> Retired <input type="checkbox"/> Student <input type="checkbox"/> Tech Support <input type="checkbox"/> Other	
Company Name and Business Address (or College): company/college: _____ address: _____ address: _____ city: _____ state: _____ zip: _____ country: _____		Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	
Work Phone: () ()		Birth Date: (mm/dd/yyyy)	
Fax: () ()		The SPE Online Membership Directory is included with membership. Your information will automatically be included. <input type="checkbox"/> Exclude my email from Online Member Directory <input type="checkbox"/> Exclude all my information from Online Member Directory <input type="checkbox"/> Exclude my address from all 3rd party mailings	
Home Phone: () ()			
Email: <i>used for society business only</i>			

Payment Information

New Member 1 Year <input type="checkbox"/> US (\$120.00) <input type="checkbox"/> Canada (\$160.00) <input type="checkbox"/> Euro (€123.00)	New Member 2 Years * <input type="checkbox"/> US (\$208.00) <input type="checkbox"/> Canada (\$277.50) <input type="checkbox"/> Euro (€215.00)	Student Member <input type="checkbox"/> US (\$28.00) <input type="checkbox"/> Canada (\$37.50) <input type="checkbox"/> Euro (€24.00)	Membership Amount _____								
My Primary Division is (Division names are below) _____			Primary Division FREE								
Additional Divisions are available for a fee. Check below to select Additional Divisions.			Additional Division(s) _____ cost for each Additional Division								
<input type="checkbox"/> Automotive (D31) <input type="checkbox"/> Mold Making & Mold Design (D35) <input type="checkbox"/> Blow Molding (D30) <input type="checkbox"/> Plastics Environmental (D40) <input type="checkbox"/> Color & Appearance (D21) <input type="checkbox"/> Polymer Analysis (D33) <input type="checkbox"/> Composites (D39) <input type="checkbox"/> Polymer Modifiers & Additives (D38) <input type="checkbox"/> Decorating & Assembly (D34) <input type="checkbox"/> Product Design & Development (D41) <input type="checkbox"/> Electrical & Electronic (D24) <input type="checkbox"/> Rotational Molding (D42) <input type="checkbox"/> Engineering Properties & Structure (D26) <input type="checkbox"/> Thermoforming (D25) <input type="checkbox"/> Extrusion (D22) <input type="checkbox"/> Thermoforming, European (D43) <input type="checkbox"/> Flexible Packaging (D44) <input type="checkbox"/> Thermoplastic Materials & Foams (D29) <input type="checkbox"/> Injection Molding (D23) <input type="checkbox"/> Thermoset (D28) <input type="checkbox"/> Marketing & Management (D37) <input type="checkbox"/> Vinyl Plastics (D27) <input type="checkbox"/> Medical Plastics (D36)			<table border="0"> <tr><td>1 year</td><td>2 years</td></tr> <tr><td>US \$6.00</td><td>\$12.00</td></tr> <tr><td>Canada \$8.00</td><td>\$16.00</td></tr> <tr><td>Euros €5.00</td><td>€10.00</td></tr> </table>	1 year	2 years	US \$6.00	\$12.00	Canada \$8.00	\$16.00	Euros €5.00	€10.00
1 year	2 years										
US \$6.00	\$12.00										
Canada \$8.00	\$16.00										
Euros €5.00	€10.00										
			TOTAL _____								

CHECK VISA AMEX MASTERCARD

card number _____

expiration date (mm/yyyy) _____

PAYMENT MUST ACCOMPANY APPLICATION
Sorry, No Purchase Orders Accepted

Checks must be drawn on US or Canadian banks in US or Canadian funds.
Dues include a 1-year subscription to *Plastics Engineering* magazine.
SPE membership is valid for twelve months from the month your application is processed.
*save over 10%

By signing below I agree to be governed by the Constitution and Bylaws of the Society and to promote the objectives of the Society. I certify that the statements made in the application are correct and I authorize SPE and its affiliates to use my phone, fax, address and email to contact me.

signature _____ date _____

recommended by member (optional) _____ id # _____

WWW 04

MATERIAL OF THE ISSUE

This will be a new series of articles on plastic materials (polymers), covering a different material each issue. The articles will be primarily on thermoplastic materials but don't be surprised to see a thermoset from time to time. Our first material is ABS (Acrylonitrile-Butadiene-Styrene). This material was introduced to the market place in the late 1940's and is the most widely used Engineering Thermoplastic in the world today.

The ABS popularity is due mostly to the resins balance of end use properties. The ratio for each of the three ABS components greatly determines the resins final properties. Acrylonitrile brings heat stability and chemical resistance. Butadiene offers toughness and impact resistance and styrene brings stiffness and processibility. The versatility in ABS formulation provides a broad range of end use properties. ABS is a versatile, lower cost, lower end performance material but, many areas of end uses. Blending ABS and other plastics produces alloys combining the best of both resins. ABS and Polycarbonate, ABS and Nylon, to mention a few, all expand the versatility of ABS. ABS offers a broad processing window with resins tailored for injection molding, profile extrusion, sheet extrusion (thermoforming) plating, rotomolding, compression molding, cold forming and blow molding. ABS is a very versatile material.

TWIN CITY AREA CALENDAR

Mini Seminar October 5, 2006

WESTERN WISCONSIN CALENDAR

SOUTHEAST MINNESOTA CALENDAR

www.4spe.org

Upper Midwest Section Board of Directors 2006 - 2007

PRESIDENT

Domasius Nwabunma
3M
3M Center Bdg 201-1N-34
St. Paul, MN 55144-1000
651-736-5354
651-736-2590 FAX
dnwabunma@mmm.com

PAST PRESIDENT

Michael Sandeen
Victrex USA, Inc.
935 8th Avenue SW
Rochester, MN 55902
507-285-3333
michaelsandeen@msn.com

PROGRAM CHAIR

Sean Mertes
General Polymers
19095 Wells Lane.
Jordan, MN 55352
612/801-2417 MOBILE
952/492-3885 FAX
sdmertes@ashland.com

PROGRAM CHAIR

Mark Citsay
Aspen Research Corp.
1700 Buerkle Road
St. Paul, MN 55110
651-264-2130
651-264-6270 FAX
mark.citsay@aspenresearch.com

PROGRAM CHAIR

Jeff Voelker
MME Group
1025 Kristan Court
Vadnais Heights, MN 55110
651-483-0965
651-483-3257 FAX
jvoelker@mme-groupinc.com

TREASURER

Marv Grussing
7-SIGMA
4832 Winterset Drive
Minnetonka, MN 55343
612/252-6242 W
952/933-8008 H
612/252-6292 FAX
mgrussing@msn.com

EDUCATION CHAIR

Scott Soderstrom
PolyOne
3160 Neil Armstrong Blvd.
Egan, MN 55121
651-393-2227
651-495-9250 FAX
scottsoderstrom@polyone.com

EDUCATION CHAIR

Dan Mishek
Vistatek
651-303-7654
dan@vistatek.com

ONLINE EDITOR

Rolly Enders
Chemstock Inc.
824 West Grand Avenue
Chippewa Falls, WI 54729
715-726-1437
715-726-1440 FAX
rge@chemstock.com

NEWSLETTER

Nancy Kochenderfer
2210 Aquila Avenue N.
Golden Valley, MN 55427
763-544-2676
nancykochend@aol.com

INTL. COUNCILOR

Thomas McNamara
Thermotech
1202 S. Fifth Street
Hopkins, MN 55343
952-933-9438
952-933-9499 FAX
thomas.mcnamara
@thermotech.com

MEMBERSHIP

Richard C. Bopp
NatureWorks LLC
P.O. Box 5830, MS #114
Minneapolis, MN 55440-5830
952-742-0454
952-742-0481 FAX
richard_c_bopp@natureworksllc.com

AT LARGE

Brice Dimond
Alcoa Kama Corp.
22101 Industrial Blvd.
Rogers, MN 55374-2116
763-428-7221
763-428-9051 FAX

AT LARGE

Dave Erickson
13502 Essex Court
Eden Prairie, MN 55347
952/937-0960
952/829-5966 FAX

SECRETARY

Ajay Gupta
Boston Scientific
Two Scimed Place
Maple Grove, MN 55311
763-494-1510
gupta@bsci.com

Western Wisconsin Branch Board of Officers 2006 - 2007

Southeast Minnesota Branch Board of Officers 2006 - 2007



SOCIETY OF PLASTICS ENGINEERS

Upper Midwest Section
Richard Bopp / Nature Works, LLC
PO Box 5830 MS 114 • Minneapolis, MN 55440-5830

FORWARDING SERVICE REQUESTED

PRESORTED
FIRST CLASS MAIL
U.S. POSTAGE PAID
MPLS., MN
Permit No. 1024