## SME Receives Citation For Training

The Society of Manufacturing Engineers (SME), Dearborn, MI, has received a 2003 Citation for "Excellence in Practice" from the American Society of Training & Development (ASTD). Nancy S. Berg, SME executive director, accepted the honor during the ASTD Annual Awards Ceremony recently in Washington, DC.

The citation honored SME's performance strategies to improve customer value and loyalty. The strategies target four key areas and establish initiatives and goals for each—new product development, improved technical networks, improved member and customer service, and integrated marketing and communication.

Since the initiatives launched, dozens of new products have been developed, a new technical community network has been launched, and service standards were established. Employees have also received service training, and new integrated marketing and communications plans and products have helped SME save expenses while increasing its marketing effectiveness and visibility.

## SVC Awards Scholarships To Coating Students

The Society of Vacuum Coaters Foundation has selected two students to receive scholarships for the 2004-05 academic year. Guillermo Acosta, a graduate student at Brigham Young University, and Allison Caster, a senior at the University of South Dakota, each received a \$5,000 scholarship.

The scholarships are awarded based on academic promise, need and the student's interest in pursuing a career related to vacuum coating technology.

Acosta, a physics major, is studying the fabrication, characterization and optical measurement of thin film optical coatings and extreme ultraviolet (EUV).

Caster is a chemistry major interested in laser assisted chemical vapor deposition (LCVD).

The SVC scholarship program is open to students attending undergraduate and graduate schools, as well as those attending technical colleges. Applicants may come

# Test Your Plating I.Q. #397

By Dr. James H. Lindsay, AESF Fellow

### pН

1. What does pH measure?

2. What is the relation between pH and the quantity measure in Question 1?

3. The pH scale ranges from \_\_\_\_\_ on the acid side to \_\_\_\_\_ on the alkaline side. Neutral pH is \_\_\_\_\_. Can those upper and lower values ever be attained?

4. What are the nominal pH values for:

- (a) Watts nickel
- (b) Acid chloride zinc
- (c) Pyrophosphate copper
- (d) Fluoborate copper
- (e) Sulfamate nickel
- (f) Beer

5. What substance is commonly used to stabilize pH in certain plating baths (*e.g.*, nickel)? What is its functional name?

Answers on page 50

from any number of academic disciplines, including chemistry, chemical engineering, materials science and electrical engineering, provided they have an interest in pursuing a career related to vacuum coating technology.

### **Company News**

□ Rohm and Haas Electronic Materials recently opened a new facility in Dongguan, China. Built on a 33,000 m<sup>2</sup> land parcel, the Dongguan facility is the company's largest operation in Asia Pacific.

Almost 200 people are employed at the site, which includes dedicated technical sales and service, and an application support laboratory.

Products manufactured at the facility support the Rohm and Haas Electronic Materials Circuit Board Technologies and Packaging and Finishing Technologies businesses. The company has five manufacturing facilities in the Asia Pacific region, including Hong Kong, China, Taiwan, Japan and Korea. □ GE, Trevose, PA, has established a Water and Process Technologies Division with the integration of GE Betz, GE Osmonics and GE Glegg. The company's capabilities will provide a comprehensive selection of customized solutions and products available for the treatment of water, wastewater and process systems in industrial, commercial and institutional facilities.

Prior to GE's involvement, the three original companies were commercial, chemical and equipment leaders in their respective fields. GE brings a larger scale of technology and capital capabilities to provide strategic cost and environmental solutions.

□ Uyemura-USA (UIC), Ontario, CA and Southington, CT, has expanded sales and service coverage with the addition of OS-Tech, Dallas, TX. OS-Tech will offer UIC products to companies in Texas, Oklahoma and Mexico, as well as other areas where the company is currently selling products. Uyemura offers a proprietary line of nickel/ electroless gold immersion processes, as well as electroless golds. In North American. UIC is the exclusive representative Umicorefor Galvanotechnik, CL Technologies (both of Germany), and MEC (Japan).

☐ Enthone, Inc., a Cookson Electronics Company, has announced that Shenzhen Huamei



Robert V. Henning, Sr. (second from right), who served nearly 30 years as president of Belmont Metals, Inc., Brooklyn, NY, passed away in May. He had recently celebrated his 65th year of service with Belmont. The family-owned company was founded by his father in 1896. His son, Richard (second from left) succeeded him as president last fall. Shown here with the late Robert Henning is his other son, Robert, Jr. (left), and his brother Theodore, who also remain active in the company.

Electroplating Technology, Ltd., was voted the "best brand" in a survey conducted by the Market Information Centre of People Daily (Beijing, China). Specifically, survey participants ranked Huamei Electroplating as having the best electroplating additives in what was the very first "Chinese National survey on product quality and customer satisfaction of corproate brands" conducted in mainland China.

More than 70 industrial trade associations and publications, as well as a number of related Web sites, sponsored the survey. More than 800,000 industry professionals completed the survey, which contained 200 product categories.

Shenzhen Huamei Electroplating Technology, Ltd., is a joint venture of Enthone, Inc., the Second Research Institute of China Electronic Technology Group, China Zhenhua Electronics Group and Shenzhen Special Economic Zone Development Group. The company was founded in 1984 as the first joint venture company in China specializing in electroplating additives.

□ Faraday Technology, Clayton, OH, recently filed a patent for a plating cell design that can greatly enhance the uniformity of copper electro-deposits on printed circuit boards (PCB).

Past patent filings at Faraday have strictly protected processes. The recent filing to protect its invention of a specific plating cell design, also called a super cell, is a new move for the company.

"This represents a natural evolution for us, and it has been driven by the market. We have found a way to solve a significant problem that has brought great concern to the PCB industry," said **Dr. E.J. Taylor**, founder and chief technical officer of Faraday. As electronic interconnects continue to get smaller and more complex, traditional methods of plating PCBs are yielding substandard results. In conventional methods, specific brightener and leveling chemistries are utilized with direct current (DC) to plate PCBs. Faraday's patented process uses electrically mediated, or pulse, current rather than direct current. That eliminates the need for chemical additives and provides greater control over processes. The patented method it said to yield uniform plating, even on PCBs with small and complex features and trenches.

□ Nationwide Installation Corp., Grand Rapids, MI, recently opened a new office in Killington, VT. The company opened the office to better serve its customers in the New England area.

□ **BASF** Argentina S.A. recently received Ford Motor Company's Silver World Excellence Award for its superior performance in 2003.

Ford's World Excellence Awards provide recognition to its suppliers based on



1. pH is a measure of the concentration of hydrogen ions (H<sup>+</sup>), or protons, in solution.

2. It is a logarithmic relation. The formula for calculating pH is:  $pH = -log_{10}[H^+]$ 

3. where  $[H^+]$  indicates the concentration of  $H^+$  ions, measured in moles per litre (also known as molarity).

3. Zero to 14; 7.0; No

- 4. (a) Watts nickel, 1.5-4.5
  (b) Acid chloride zinc, 4.5-5.5
  (c) Pyrophosphate copper, 8.0-9.0
  (d) Fluoborate copper, 0.5-1.5
  (e) Sulfamate nickel, 3.0-5.0
  (f) Beer, 4.5
- 5. Boric acid; buffer

quality, cost and delivery performance. In 203, 42 suppliers from 16 countries won awards in various categories.

BASF Argentina S.A. is part of BASF Coatings AG, a part of the global Coatings Division of the BASF Group.

□ Laurel Steel, Burlington, Ontario, Canada, recently achieved ISO/TS16949 certification, a standard that will be required of all tier one automotive suppliers (those selling directly to Ford, GM and Daimler Chrysler) by 2006. The company says it's the first cold-finisher in North America to receive the certification.

ISO/TS16949 is a quality and business standard. Based on QS-9000, it includes additional, stricter requirements that satisfy the standards of almost all automobile manufacturers around the world.



#### Anodizing & Coloring of Aluminum Alloys, S. Kawai, Ed.

Published 2002 by ASM (Soft cover; 165 pages)

This book describes the theory and practice of anodizing and electrolytic coloring of aluminum. Every effort has been made to present the process sequence in user-friendly form, especially for engineers and technicians new to the field. Also described are some functional applications involving composite coatings with plated metals. Includes a CD-ROM featuring a database that contains more than 8,000 records (literature abstracts and patents from around the world), covering all aspects of the surface treatment of aluminum. Requires Windows 95 or later version. In addition, the CD-ROM also includes a picture gallery (PDF format) showing examples of colored aluminum, mainly in architectural applications and giving an indication of the range of colors available.

Contents: Basics of Al anodizing; Al alloys for anodizing; optimizing pretreatment; methods of coloring anodized aluminum; some properties of anodic oxides formed on Al; practical comments; principles & background of electrolytic coloring of anodized Al; importance of efficient rinsing; sealing processes; practical aspects of electrolytic coloring; electrolytic coloring treatments; interaction with electrophoretic coating; combined anodizing & metal deposition; thermal absorbance of anodized coatings; anodized finishes for selective solar absorbers; magnetic properties of anodized coatings; lubricity of anodized Al coatings; performance of other metals deposited onto anodized Al; and electroless Ni deposition over anodized coatings.

Order number 10-080 Members/\$150.00; Non-members/\$180.00 To order call the AESF Bookstore 1-800/334-2052 (by credit card)