MFSA Releases New *QMF Guide*

The Metal Finishing Suppliers' Association (MFSA) has released a first of a series of new *Quality Metal Finishing* (QMF) guides. The Publication, titled "Zinc, Zinc Alloy and Cadmium Coatings" is 22 pages and includes production photographs and several tables for fast reference of technical data.

Other new guides will address several topics, including surface preparation, decorative copper-nickel-chromium, decorative precious metal plating, hard chrome, tin and tin-alloy coatings, and pretreatment for paint and powder coatings.

MFSA publishes *Quality Metal Finishing* guides to promote technically sound standards and specifications for use by design engineers and buyers of metal finishing products. Additional guides are planned for release in 2003.

Major Shift Predicted For R&D Funding in 2003

Outside factors are impacting the levels of funding for scientific research, according to "R&D Forecast," a joint effort of Battelle and *R&D Magazine*. Total R&D expenditures in the U.S. are expected to increase about 3.4 percent, to nearly $302 billion in 2003, according to the forecast.

A key factor in the 2003 forecast is that industrial support, even though stagnant, continues to dominate the amount of R&D spending. It is the increase in government spending, however, that will shape the near future:

- Federal spending on R&D is expected to be $89 billion—an increase of 10.5 percent.
- Industrial spending on R&D for 2003 is expected to be flat at $195 billion—an increase of less than one percent (0.13 percent).
- Universities and other non-profit organizations are projected to spend more than $18 billion on R&D—an increase of about seven percent.

Federal Outlook

The combined forces of responses to the buildup in defense expenditures and the continuation of strong support in basic sciences and health-related research will lead to the 10.5 percent increase federal spending.

The creation of the Department of Homeland Security and the reorganization of the federal government will lead to both shifting of funds and responsibilities, as well as the creation of new funding programs. The integration of research, applications, and activities will not be accomplished immediately, but will evolve over the next few years.

Early optimism relative to the use of budget surpluses to advance science and technology has significantly abated. In spite of the major increases in R&D funding, these will be unevenly distributed across the whole spectrum of government activities, according to the report.

Industrial Outlook

The increase of less than one percent of total industrial support of R&D is far less than has been seen in recent years. It is a reflection of the economic factors that have emerged in the past year, and the uncertainties that are inherent in the stock market. The industrial expenditures were expected to level off, falling from a rate of growth that was difficult to sustain.

The revelations regarding significant irregularities in company bookkeeping and the damage to major companies has had a far-reaching impact on U.S. businesses.

Academic/Non-profit Outlook

The support of R&D in the academic sector has undergone changes over the past several years. The percentage of government support for academic R&D has been declining, being almost entirely replaced by increases in the self-funding of academically performed works.

This self funding has been steadily increasing as a result of major fund-rais-

Test Your Plating I.Q. #381

By Dr. James H. Lindsay, AESF Fellow

Historic Process Names

What are the following and how did the name arise?

1. Watts nickel
2. Sherardizing
3. Flow melting
4. Sargent chromium
5. Tainton anode

Answers on page 34

ing efforts in the academic sector, the expansion of development offices, and the promotion of new initiatives in industrial cooperative funding of pre-competitive research projects. There is also an increase in state government support of universities, over and above the basic support from the state legislatures to public colleges and universities.

Company News

Roger Shukla, founder of Reliable Silver, Inc., Naugatuck, CT, has resumed ownership of the company from Westbury Metal Group.

Shukla, who serves a president, founded the business in 1978, naming it Reliable Business Services, In 1981, he moved the business to Naugatuck where it was established as a producer of high purity silver anodes for the electroplating industry.

AESF Garden State Branch member Robert Audette, former national sales manager of the company, was promoted to executive vice president of Reliable.

The company produces rolled, extruded and continuously cast silver anodes, as well as silver strip, wire and grain products for a variety of industries.

Phibro-Tech, Inc., Fort Lee, NJ, a subsidiary of Philipp Brothers Chemicals, Inc., and Heritage Technologies, LLC, have announced that Heritage has been licensed for certain etchant products made by Phibro-Tech for the printed circuit board (PCB) industry, at its Joilet, IL, and Sumter, SC, facilities. The two companies also announced that they have agreed to cooperate in assisting etchant customers with the transition of that business to Heritage Technologies, LLC.

The transition will not affect Phibro-Tech, Inc.'s other businesses at Joliet or Sumter, or facilities at other locations.

Phibro-Tech is a manufacturer, recycler, and marketer of performance chemicals for industry, including metal finishing and PCB.

CASTion Corporation, Ludlow, MA, and Tenergy Water LLC, New Britain, CT, have announced a collaborative agreement to give customers a broader range of wastewater treatment solutions.

The alliance is a direct result of previous successful turnkey, zero-discharge projects developed by the two companies.

Tenergy Water LLC provides ultra-pure water, industrial wastewater treatment and reuse systems, service deionization, and the distribution of water treatment systems for residential and light commercial applications.

CASTion develops, manufactures and installs zero-discharge wastewater and process chemistry recovery systems, from 100 gal/day to more than 300,000 gal/day, utilizing a patented process.

Medina Plating Corporation, Medina, OH, has achieved registration for ISO 9001:2000. Medina Plating has been providing rack zinc and zinc-iron alloy plating since 1962. The company supports the automotive, industrial and consumer industries.

RBP Chemical Technology, Milwaukee, WI, has achieved ISO 9001:2000 registration. The company produces proprietary chemical products for circuit board processing.

Shipley Company, LLC, Marlborough, MA, has signed a joint development agreement with Therma-Wave, Inc., Fremont, CA. The companies plan to develop scatterometric methods to better measure 130nm photoresist features for poly silicon gate and shallow trench applications.

Shipley Company, LLC, is well known for its electronic materials and process technology development. As part of the Rohm and Haas Company Electronic Materials Group, Shipley delivers innovative technologies across a broad range of applications. The platforms include advanced circuit board technology, semiconductor manufacturing and advanced packaging. The company's products are used in cell phones, smart cards, computers, flat panel displays, automotive electronics, and equipment that powers the Internet.

Therma-Wave, Inc., provides process control metrology systems through innovative proprietary products and technologies. The company develops, manufactures, markets and services process control metrology systems used in the manufacture of semiconductors.

R&D/Fountain Industries, Minneapolis, MN, recently expanded to create a new industrial division. The company says the new division will move the organization out of the maintenance area and onto the production floor.

John Bloomgren has been appointed vice president of the division, and Geoff Tuttle will serve as technical director.

The company has 35 years' experience producing quality parts cleaning machines and systems specializing in the maintenance, repair and overhaul markets.

Surface Technology, Inc., Trenton, NJ, has entered into a joint technology and market development agreement with GE Superabrasives, Inc., for the development of composite diamond coating applications. The proprietary process is a composition of fine diamond particles in a hard electroless nickel matrix.

GE Superabrasives, Inc., Worthington, OH, is a supplier of manufactured diamond, cubic boron nitride and polycrystalline products.

Surface Technology offers a full line of electroless nickel plating solutions and coating services . *P&SF*

In Memoriam

George J. Nikolas, Sr., chairman of the board and CEO of G.J. Nikolas & Co., Bellwood, IL, died in July. He was 79. The company was started by George's grandfather in 1890 and is still owned and operated by the Nikolas family today. The company provides durable and protective coatings for decorative metals.

Answers to I.Q. Quiz #381

(1) Named after Professor O. P. Watts of Wisconsin, who in 1910 published the standard formulation of a nickel plating solution based on 240 g/L sulfate, 20 g/L chloride and 20 g/L boric acid.

(2) A zinc diffusional process for steel especially screw threaded parts. Uses zinc powder at 350-400°C (662-752°F) for 3-10 hr in a closed space. Named after the inventor (~1900) Sherard Cowper-Coles (GB).

(3) Process for brightening matte electrodeposited tin on steel by momentary melting. It also causes inter-layer alloying, which enhances adhesion and corrosion performance.

(4) G. J. Sargent of Cornell proposed (1910-1920) the first hexavalent chromium electrodeposition process based on chromic acid and chromium sulfate. The name is widely mis-used for the chromic-sulfuric acid solution.

(5) An insoluble anode of lead containing 0.5-1.0% silver developed originally by U. C. Tainton for the electrowinning of zinc at Trail, British Columbia and Anaconda, Montana. It has since been widely adopted for high current electrogalvanizing of steel wire.